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CATALOG 102

53RD YEAR

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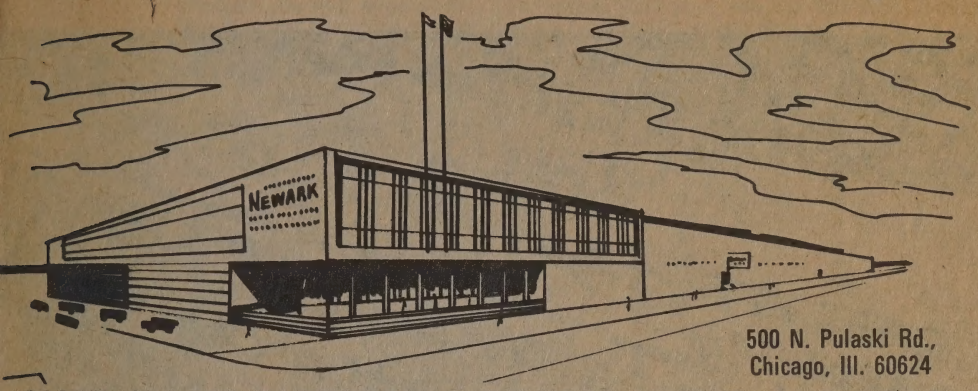

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COVER: Semiconductor devices in kaleidoscopic design. Courtesy of Motorola Semiconductor Products, Inc.

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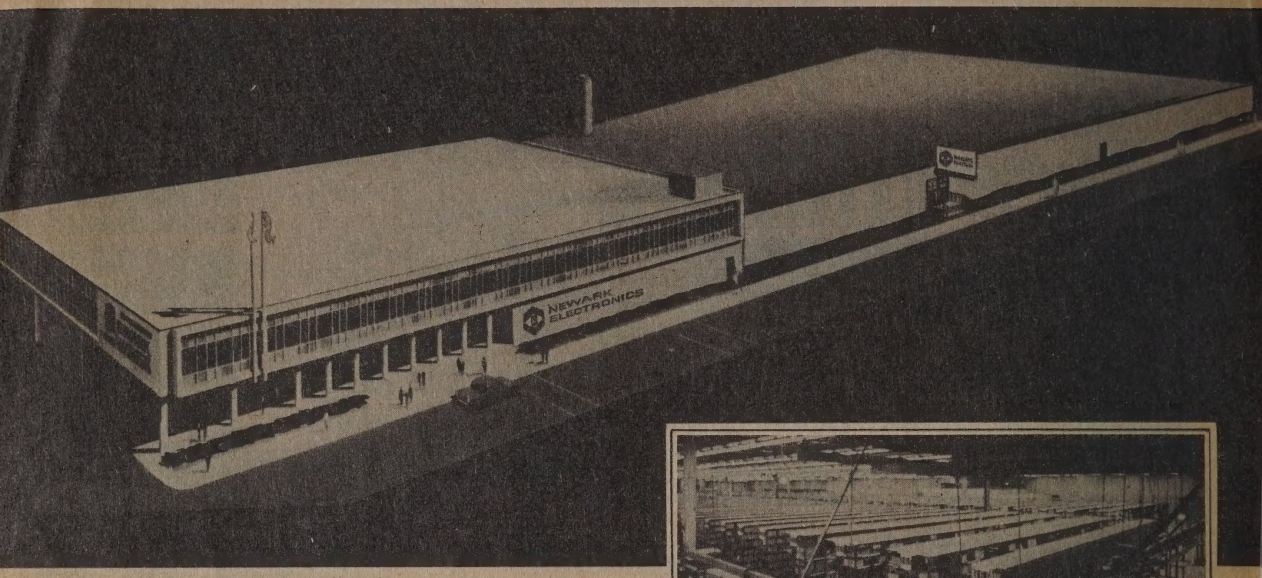

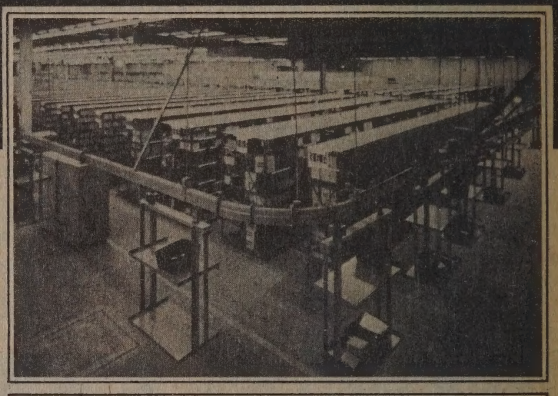

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Type	Mfg.	*1-24
CA2111AE	RCA	1.73
CA3000	RCA	3.80
CA3001	RCA	5.55
CA3002	RCA	3.71
CA3004	RCA	3.71
CA3005	RCA	2.48
CA3006	RCA	5.80
CA3007	RCA	5.35
CA3008	RCA	3.14
CA3008A	RCA	5.10
CA3010	RCA	.89
CA3010A	RCA	1.07
CA3011	RCA	1.47
CA3012	RCA	1.82
CA3013	RCA	2.15
CA3014	RCA	2.48
CA3015	RCA	2.14
CA3015A	RCA	3.05
CA3016	RCA	4.30
CA3016A	RCA	6.52
CA3018	RCA	1.45
CA3018A	RCA	2.06
CA3019	RCA	1.62
CA3020	RCA	2.56
CA3020A	RCA	3.26
CA3021	RCA	3.14
CA3022	RCA	2.64
CA3023	RCA	2.56
CA3026	RCA	2.06
CA3028A	RCA	1.47
CA3028AS	RCA	1.47
CA3028B	RCA	2.06
CA3029	RCA	.81
CA3029A	RCA	.98
CA3030	RCA	1.82
CA3030A	RCA	2.72
CA3033	RCA	4.79
CA3033A	RCA	8.09
CA3034	RCA	2.53
CA3035	RCA	2.48
CA3035V1	RCA	2.48
CA3036	RCA	1.47
CA3037	RCA	2.80
CA3037A	RCA	4.29
CA3038	RCA	4.29
CA3038A	RCA	5.78
CA3039	RCA	1.61
CA3040	RCA	4.87
CA3041	RCA	2.06
CA3042	RCA	2.06
CA3043	RCA	2.81
CA3044	RCA	2.31
CA3044V1	RCA	2.31
CA3045	RCA	2.47
CA3046	RCA	1.45
CA3047	RCA	2.61
CA3047A	RCA	4.79
CA3048	RCA	4.04
CA3049	RCA	3.22
CA3049T	RCA	2.52
CA3050	RCA	3.71
CA3052	RCA	3.14
CA3053	RCA	.81
CA3054	RCA	2.06
CA3059	RCA	3.20
CA3060AD	RCA	5.78
CA3060BD	RCA	9.80
CA3060D	RCA	8.16
CA3060E	RCA	3.25
CA3062	RCA	4.86
CA3064	RCA	2.31
CA3065	RCA	2.31
CA3066	RCA	4.29
CA3067	RCA	4.46
CA3068	RCA	4.95

Type	Mfg.	*1-24
CA3070	RCA	3.47
CA3071	RCA	3.30
CA3072	RCA	3.38
CA3075	RCA	2.31
CA3076	RCA	2.64
CA3078	RCA	3.95
CA3078AS	RCA	8.17
CA3078AT	RCA	8.17
CA3078T	RCA	3.95
CA3079	RCA	1.63
CA3080	RCA	.97
CA3080A	RCA	3.22
CA3081	RCA	2.40
CA3082	RCA	2.40
CA3083	RCA	2.06
CA3084	RCA	2.95
CA3085	RCA	.98
CA3085A	RCA	2.39
CA3085AS	RCA	2.39
CA3085B	RCA	6.52
CA3086	RCA	.81
CA3088E	RCA	2.31
CA3089E	RCA	3.63
CA3090Q	RCA	7.43
CA3091D	RCA	10.70
CA3093E	RCA	2.23
CA3094AT	RCA	1.63
CA3094BT	RCA	2.29
CA3094T	RCA	.90
CA3102E	RCA	3.75
CA3118AT	RCA	2.31
CA3118T	RCA	1.62
CA3121E	RCA	5.52
CA3146AE	RCA	2.31
CA3146E	RCA	1.62
CA3183AE	RCA	2.48
CA3183E	RCA	2.06
CA3458CS	RCA	1.47
CA3458T	RCA	1.40
CA3541D	RCA	9.90
CA3558T	RCA	4.10
CA3741CS	RCA	.80
CA3741CT	RCA	.80
CA3741T	RCA	2.50
CA3747CE	RCA	2.10
CA3747CT	RCA	2.10
CA3747E	RCA	2.70
CA3747T	RCA	5.45
CA3748CS	RCA	.97
CA3748CT	RCA	1.30
CA3748T	RCA	2.00
CA6078AS	RCA	8.37
CA6741T	RCA	5.45
CD2150	RCA	3.96
CD2151	RCA	3.96
CD2152	RCA	3.96
CD2500E	RCA	4.62
CD2500F	RCA	4.62
CD2501E	RCA	4.62
CD2502E	RCA	4.95
CD2503E	RCA	4.95
CD2503F	RCA	4.95
CD4000AE	RCA	1.17
CD4001AD	RCA	4.95
CD4001AE	RCA	1.17
CD4002AD	RCA	5.10
CD4002AE	RCA	1.17
CD4004AD	RCA	13.50
CD4004AE	RCA	6.00
CD4004AK	RCA	14.75
CD4004AT	RCA	13.50
CD4006AD	RCA	10.25
CD4006AE	RCA	3.38
CD4007AD	RCA	3.95
CD4007AE	RCA	1.17

Type	Mfg.	*1-24
CD4008AD	RCA	15.20
CD4008AE	RCA	6.03
CD4009AD	RCA	7.90
CD4009AE	RCA	2.54
CD4009AK	RCA	7.90
CD4010AD	RCA	5.94
CD4010AE	RCA	2.54
CD4010AK	RCA	7.90
CD4011AD	RCA	4.95
CD4011AE	RCA	1.17
CD4012AD	RCA	5.20
CD4012AE	RCA	1.17
CD4012D	RCA	3.38
CD4013AD	RCA	7.10
CD4013AE	RCA	2.43
CD4013AK	RCA	7.10
CD4014AD	RCA	15.20
CD4014AE	RCA	6.35
CD4015AD	RCA	15.20
CD4015AE	RCA	6.35
CD4016AD	RCA	7.75
CD4016AE	RCA	2.43
CD4017AD	RCA	15.90
CD4017AE	RCA	6.35
CD4018AD	RCA	13.90
CD4018AE	RCA	6.35
CD4019AD	RCA	7.55
CD4019AE	RCA	2.86
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CD4021AD	RCA	14.70
CD4021AE	RCA	6.35
CD4022AD	RCA	14.40
CD4022AE	RCA	6.14
CD4023AD	RCA	5.20
CD4023AE	RCA	1.77
CD4024AD	RCA	10.80
CD4024AE	RCA	4.55
CD4024AT	RCA	13.50
CD4025AD	RCA	5.20
CD4025AE	RCA	1.17
CD4026AE	RCA	8.48
CD4027AD	RCA	7.92
CD4027AE	RCA	3.76
CD4028AD	RCA	11.88
CD4028AE	RCA	5.51
CD4029AD	RCA	17.21
CD4029AE	RCA	9.52
CD4030AD	RCA	5.69
CD4030AE	RCA	2.45
CD4031AD	RCA	18.76
CD4031AE	RCA	11.65
CD4032AD	RCA	10.37
CD4032AE	RCA	6.35
CD4033AD	RCA	18.00
CD4033AE	RCA	8.37
CD4034AD	RCA	18.00
CD4035AD	RCA	9.48
CD4035AE	RCA	6.25
CD4036AD	RCA	17.19
CD4037AD	RCA	8.86
CD4037AE	RCA	4.55
CD4038AD	RCA	10.37
CD4038AE	RCA	5.08
CD4039AD	RCA	17.19
CD4041AD	RCA	8.86
CD4041AE	RCA	5.08
CD4042AD	RCA	8.86
CD4042AE	RCA	5.08
CD4043AD	RCA	8.86
CD4043AE	RCA	5.08
CD4044AE	RCA	5.08
CD4045AE	RCA	6.30
CD4046AE	RCA	6.75
CD4049AE	RCA	2.25
CD4050AE	RCA	2.25

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MIL	Microsystems International Ltd.
MOT	Motorola
PMI	Precision Monolithics Inc.
RCA	Radio Corp. of America
SG	Silicon General Transistor
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
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CMP-01J	PMI	18.00
CMP-01Y	PMI	21.75
CMP-02CJ	PMI	4.95
CMP-02CY	PMI	6.35
DAC100ACQ1	PMI	78.75
DAC100ACT1	PMI	39.00
DAC100BBQ1	PMI	100.00
DAC100BCQ1	PMI	65.55
DAC100BDQ1	PMI	51.30
DAC100CCT1	PMI	24.00
DAC100DDT1	PMI	22.50
DAC-01CP	PMI	33.25
DAC-01CS	PMI	18.75
DAC-01FP	PMI	51.60
DAC-01HP	PMI	26.25
DAC-01HS	PMI	13.95
DAC-02ACU1	PMI	90.00
DAC-02CCU1	PMI	67.50
DAC-100ACQ1		78.75
DAC-100ACT1		39.00
DAC-100BBQ1		100.00
DAC-100BCQ1		65.55
DAC-100BDQ1		51.30
DAC-100CCT1		24.00
DAC-100DDT1		22.50
DAC-100DQ1	PMI	39.70
HC1000	RCA	29.00
HC2000	RCA	29.00
HC3100	RCA	6.90
HC4012	RCA	11.00
HEP556-S	MOT	3.87
HEP570-S	MOT	2.10
HEP572-S	MOT	3.90
HEP580-S	MOT	.95
HEP584-S	MOT	1.89
HEP590-S	MOT	3.99
HEP592-S	MOT	3.25
HEP593-S	MOT	7.95
ITT74H00J	ITT	.90
ITT74H00N	ITT	.75
ITT74H01J	ITT	.90
ITT74H01N	ITT	3.80
ITT74H04J	ITT	1.15
ITT74H04N	ITT	.93
ITT74H05J	ITT	1.15
ITT74H05N	ITT	.93
ITT74H10J	ITT	.90
ITT74H10N	ITT	.75
ITT74H11J	ITT	1.10
ITT74H11N	ITT	.90
ITT74H20J	ITT	.90
ITT74H20N	ITT	.75
ITT74H21J	ITT	1.10

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ITT74H21N	ITT	.90
ITT74H30J	ITT	.90
ITT74H30N	ITT	.75
ITT74H40J	ITT	.90
ITT74H40N	ITT	.75
ITT74H50J	ITT	.90
ITT74H50N	ITT	.75
ITT74H51J	ITT	.90
ITT74H51N	ITT	.75
ITT74H53J	ITT	.90
ITT74H53N	ITT	.75
ITT74H54J	ITT	.90
ITT74H54N	ITT	.75
ITT74H60J	ITT	.90
ITT74H60N	ITT	.75
ITT74H72J	ITT	1.30
ITT74H72N	ITT	1.05
ITT74H73J	ITT	1.95
ITT74H73N	ITT	1.55
ITT74H74J	ITT	1.70
ITT74H74N	ITT	1.35
ITT930-5N	ITT	.52
ITT932-5D	ITT	.60
ITT932-5N	ITT	.52
ITT933-5N	ITT	.52
ITT935-5N	ITT	.56
ITT936-5N	ITT	.56
ITT937-5D	ITT	.60
ITT937-5N	ITT	.56
ITT941-5N	ITT	3.80
ITT944-5D	ITT	.60
ITT944-5N	ITT	.52
ITT945-5D	ITT	.90
ITT945-5N	ITT	.80
ITT946-5D	ITT	.60
ITT946-5N	ITT	.52
ITT948-5N	ITT	.80
ITT949-5D	ITT	.60
ITT949-5N	ITT	.52
ITT950-5N	ITT	3.80
ITT951-5N	ITT	3.80
ITT961-5N	ITT	.52
ITT962-5D	ITT	.60
ITT962-5N	ITT	.52
ITT963-5N	ITT	.52
ITT7400J	ITT	.75
ITT7400N	ITT	.60
ITT7401J	ITT	.75
ITT7401N	ITT	.60
ITT7402J	ITT	.75
ITT7402N	ITT	.60
ITT7403J	ITT	.75
ITT7403N	ITT	.60
ITT7404J	ITT	.93
ITT7404N	ITT	.75
ITT7405J	ITT	.93
ITT7405N	ITT	.75
ITT7406J	ITT	4.00
ITT7406N	ITT	3.30
ITT7407J	ITT	4.00
ITT7407N	ITT	3.30
ITT7408J	ITT	.98
ITT7408N	ITT	.78
ITT7409J	ITT	.98
ITT7409N	ITT	.78
ITT7410J	ITT	.75
ITT7410N	ITT	.60
ITT7411J	ITT	.98
ITT7411N	ITT	.78
ITT7412J	ITT	.75
ITT7412N	ITT	.60
ITT7413J	ITT	2.55
ITT7413N	ITT	2.10
ITT7416J	ITT	3.65
ITT7416N	ITT	2.90
ITT7417J	ITT	3.65
ITT7417N	ITT	2.90
ITT7420J	ITT	.75
ITT7420N	ITT	.60
ITT7421J	ITT	.98
ITT7421N	ITT	.78
ITT7430J	ITT	.75
ITT7430N	ITT	.60
ITT7432J	ITT	1.10
ITT7433N	ITT	.95
ITT7437J	ITT	1.20
ITT7437N	ITT	1.00
ITT7438J	ITT	1.20
ITT7438N	ITT	1.00
ITT7440J	ITT	.75
ITT7440N	ITT	.60
ITT7441AJ	ITT	6.05
ITT7441AN	ITT	5.40
ITT7442J	ITT	5.15
ITT7442N	ITT	3.30
ITT7447J	ITT	8.90
ITT7447N	ITT	4.45
ITT7448N	ITT	3.70
ITT7450J	ITT	.75
ITT7450N	ITT	.60
ITT7451J	ITT	.75
ITT7451N	ITT	.60
ITT7453J	ITT	.75
ITT7453N	ITT	.60
ITT7454J	ITT	.75
ITT7454N	ITT	.60
ITT7460J	ITT	.75
ITT7460N	ITT	.60
ITT7470J	ITT	1.25
ITT7470N	ITT	1.00
ITT7472J	ITT	1.15
ITT7472N	ITT	.93
ITT7473J	ITT	1.95
ITT7473N	ITT	1.50
ITT7474J	ITT	1.65
ITT7474N	ITT	1.35
ITT7475J	ITT	3.70
ITT7475N	ITT	2.73
ITT7476J	ITT	2.05
ITT7476N	ITT	1.65
ITT7480J	ITT	3.20
ITT7480N	ITT	1.98
ITT7481N	ITT	3.40
ITT7491AN	ITT	4.30
ITT7491N	ITT	1.55
ITT7493J	ITT	3.70
ITT7493N	ITT	3.00
ITT7494N	ITT	3.45
ITT7495J	ITT	5.75
ITT7495N	ITT	3.25
ITT9093-5N	ITT	1.15
ITT9094-5D	ITT	1.35
ITT9094-5N	ITT	1.15
ITT9097-5N	ITT	1.15
ITT9099-5N	ITT	1.15
ITT74107J	ITT	1.95
ITT74107N	ITT	1.68
ITT74121J	ITT	1.87
ITT74121N	ITT	1.65
ITT74124J	ITT	5.25
ITT74150J	ITT	5.74
ITT74151J	ITT	5.80
ITT74151N	ITT	4.65
ITT74156N	ITT	4.45
ITT74157J	ITT	3.80
ITT74157N	ITT	3.50
ITT74161J	ITT	7.50
ITT74161N	ITT	3.40
ITT74180J	ITT	7.80
ITT74180N	ITT	6.20
ITT74192J	ITT	9.80
ITT74192N	ITT	7.90
ITT74193J	ITT	9.80
ITT74193N	ITT	7.90
KC4002	RCA	6.30
KC4003	RCA	11.30
KC4012	RCA	6.95
KC4500	RCA	6.10
KD2105	RCA	13.50
KD2117	RCA	5.90
KD2131	RCA	29.95
MC74H74AP	MOT	2.25
MC302G	MOT	13.70
MC312F	MOT	16.70
MC351G	MOT	4.55
MC354G	MOT	2.45
MC355G	MOT	2.80
MC356G	MOT	3.55
MC357G	MOT	3.55
MC358AG	MOT	9.50
MC358G	MOT	9.50
MC359G	MOT	3.70
MC363F	MOT	7.35
MC400P	MOT	2.25
MC402L	MOT	4.05
MC403P	MOT	2.25
MC406L	MOT	4.40
MC407L	MOT	4.40
MC407P	MOT	2.45
MC408L	MOT	4.05
MC408P	MOT	2.25
MC413L	MOT	4.40
MC415L	MOT	6.45
MC416P	MOT	3.20
MC424P	MOT	4.40
MC426P	MOT	2.75
MC427P	MOT	2.25
MC452P	MOT	1.80
MC454P	MOT	1.80
MC458P	MOT	1.80
MC459L	MOT	2.75
MC462P	MOT	1.80
MC463P	MOT	2.00
MC465P	MOT	2.60
MC470P	MOT	2.00
MC474L	MOT	7.35
MC474P	MOT	3.65
MC476P	MOT	2.20
MC526L	MOT	7.40
MC550F	MOT	5.40
MC573L	MOT	11.15
MC660L	MOT	1.68
MC660P	MOT	1.21
MC661L	MOT	1.60
MC661P	MOT	1.15
MC662L	MOT	1.89
MC662P	MOT	1.33
MC663L	MOT	3.36
MC663P	MOT	2.43
MC664L	MOT	2.34
MC664P	MOT	1.87
MC665L	MOT	2.37
MC665P	MOT	1.60
MC666L	MOT	2.37
MC666P	MOT	1.80
MC667L	MOT	3.16
MC667P	MOT	2.76
MC668L	MOT	1.60
MC668P	MOT	1.15
MC669L	MOT	1.20
MC669P	MOT	1.02
MC670L	MOT	1.60
MC670P	MOT	1.15
MC671L	MOT	1.68
MC671P	MOT	1.21
MC672L	MOT	1.68
MC672P	MOT	1.21
MC673P	MOT	1.32
MC674L	MOT	1.74
MC674P	MOT	1.29
MC675L	MOT	3.24
MC675P	MOT	2.79
MC676L	MOT	6.30
MC676P	MOT	4.85
MC677L	MOT	2.23
MC677P	MOT	1.53
MC678L	MOT	2.15
MC678P	MOT	1.45
MC679L	MOT	2.37
MC679P	MOT	2.01
MC680L	MOT	1.68
MC680P	MOT	1.21
MC681L	MOT	1.68
MC681P	MOT	1.21
MC682L	MOT	3.30
MC682P	MOT	2.65
MC683L	MOT	3.05
MC683P	MOT	2.45
MC684P	MOT	4.85
MC685P	MOT	4.85
MC688P	MOT	2.55
MC700G	MOT	1.24
MC702G	MOT	1.24
MC707G	MOT	1.24
MC708G	MOT	1.50
MC709G	MOT	1.24
MC710G	MOT	1.24
MC714G	MOT	1.24
MC715G	MOT	1.38
MC715P	MOT	1.00
MC717P	MOT	1.08
MC718G	MOT	1.38
MC718P	MOT	1.00
MC719P	MOT	1.08
MC722P	MOT	1.30
MC723G	MOT	1.89
MC723P	MOT	1.30
MC724AP	MOT	1.26
MC724P	MOT	1.08
MC725P	MOT	1.08
MC726G	MOT	2.21
MC726P	MOT	1.35
MC727G	MOT	1.24
MC728G	MOT	1.24
MC764P	MOT	1.70
MC767AP	MOT	3.26
MC767P	MOT	3.40
MC770P	MOT	2.45
MC771P	MOT	1.80
MC775P	MOT	1.35
MC776P	MOT	2.00
MC777P	MOT	3.40
MC778P	MOT	1.90
MC779P	MOT	1.90
MC780P	MOT	3.40
MC782G	MOT	2.21
MC783P	MOT	1.55
MC784P	MOT	1.46
MC785AP	MOT	1.26
MC785P	MOT	1.09
MC786P	MOT	1.09
MC787P	MOT	1.90
MC788P	MOT	1.35
MC789P	MOT	1.08
MC790P	MOT	2.00
MC791P	MOT	2.25
MC792P	MOT	1.09
MC793P	MOT	1.09
MC794P	MOT	3.40
MC796P	MOT	3.40
MC797P	MOT	3.40
MC798P	MOT	1.21
MC799P	MOT	1.08
MC800G	MOT	1.42
MC802G	MOT	1.42
MC803G	MOT	1.42
MC804G	MOT	1.53
MC810G	MOT	1.42
MC811G	MOT	1.42
MC814G	MOT	1.42
MC815G	MOT	1.53
MC815P	MOT	1.08
MC816G	MOT	2.12
MC816P	MOT	1.40
MC817P	MOT	1.08
MC818P	MOT	1.00
MC819P	MOT	1.08
MC822P	MOT	1.30
MC824AP	MOT	1.26
MC824P	MOT	1.08
MC825P	MOT	1.08
MC826P	MOT	1.35
MC827G	MOT	1.42
MC829G	MOT	1.42
MC830F	MOT	1.80
MC830P	MOT	.98
MC832P	MOT	.98
MC833F	MOT	1.80
MC833P	MOT	.98
MC834F	MOT	2.00
MC834L	MOT	2.00
MC834P	MOT	1.10
MC835P	MOT	1.10
MC836P	MOT	1.10
MC837F	MOT	2.00
MC837L	MOT	2.00
MC837P	MOT	1.10
MC838F	MOT	7.20
MC838P	MOT	3.95
MC839L	MOT	7.20

NEW TYPES STOCKED AS SOON AS RELEASED

INTEGRATED CIRCUITS

Type	Mfg.	*1-24
MC839P	MOT	3.95
MC840L	MOT	2.00
MC840P	MOT	1.10
MC841P	MOT	1.10
MC843G	MOT	13.35
MC844L	MOT	1.80
MC844P	MOT	.98
MC845F	MOT	2.35
MC845P	MOT	1.25
MC846F	MOT	1.80
MC846G	MOT	3.60
MC846L	MOT	1.80
MC846P	MOT	.98
MC847P	MOT	.98
MC848L	MOT	2.35
MC848P	MOT	1.25
MC849F	MOT	1.80
MC849P	MOT	.98
MC850F	MOT	7.05
MC850G	MOT	9.90
MC850P	MOT	3.85
MC851G	MOT	11.40
MC851P	MOT	3.85
MC852F	MOT	3.30
MC852P	MOT	1.80
MC853F	MOT	3.30
MC853L	MOT	3.30
MC853P	MOT	1.80
MC855F	MOT	3.30
MC855L	MOT	3.30
MC855P	MOT	1.80
MC856F	MOT	3.30
MC856L	MOT	3.30
MC856P	MOT	1.80
MC857L	MOT	2.00
MC857P	MOT	1.10
MC858P	MOT	1.10
MC861F	MOT	1.80
MC861G	MOT	3.60
MC861P	MOT	.98
MC862G	MOT	3.60
MC862L	MOT	1.80
MC862P	MOT	.98
MC863F	MOT	1.80
MC863G	MOT	3.60
MC863L	MOT	1.80
MC863P	MOT	.98
MC864P	MOT	1.80
MC867AP	MOT	3.26
MC867P	MOT	3.65
MC870P	MOT	2.45
MC871P	MOT	1.80
MC874G	MOT	2.48
MC876P	MOT	2.00
MC877P	MOT	3.40
MC878P	MOT	1.90
MC879P	MOT	1.90
MC880P	MOT	3.40
MC882G	MOT	2.48
MC883P	MOT	1.55
MC885AP	MOT	1.26
MC885P	MOT	1.09
MC886P	MOT	1.09
MC887P	MOT	1.90
MC888P	MOT	1.35
MC889AP	MOT	1.26
MC889P	MOT	1.08
MC890P	MOT	2.00
MC891P	MOT	2.25
MC892P	MOT	1.09
MC894P	MOT	3.40
MC899P	MOT	1.08
MC905G	MOT	2.09
MC910G	MOT	1.78
MC914G	MOT	1.78
MC927G	MOT	1.78
MC930G	MOT	6.50
MC930L	MOT	3.10
MC932G	MOT	7.10
MC932L	MOT	3.10
MC933F	MOT	3.10
MC933G	MOT	5.45
MC934L	MOT	3.40
MC936F	MOT	3.40
MC936L	MOT	3.40
MC937L	MOT	3.40
MC938L	MOT	12.40
MC939L	MOT	12.40
MC940L	MOT	3.40
MC944L	MOT	3.10

Type	Mfg.	*1-24
MC946F	MOT	3.10
MC946G	MOT	6.50
MC946L	MOT	3.10
MC948G	MOT	9.00
MC948L	MOT	4.05
MC950L	MOT	12.10
MC952F	MOT	5.65
MC952L	MOT	5.65
MC953L	MOT	5.65
MC955L	MOT	5.65
MC958L	MOT	3.40
MC962L	MOT	3.10
MC1001P	MOT	1.48
MC1003P	MOT	1.48
MC1004P	MOT	1.48
MC1007P	MOT	1.48
MC1008P	MOT	1.48
MC1010P	MOT	1.48
MC1011P	MOT	1.48
MC1012P	MOT	1.48
MC1013P	MOT	2.97
MC1014P	MOT	2.97
MC1015P	MOT	2.97
MC1016P	MOT	2.97
MC1017P	MOT	3.72
MC1018P	MOT	3.72
MC1020P	MOT	1.48
MC1022P	MOT	3.72
MC1023P	MOT	2.40
MC1024P	MOT	1.48
MC1025P	MOT	1.48
MC1026P	MOT	2.40
MC1027P	MOT	4.45
MC1030P	MOT	2.23
MC1031P	MOT	2.23
MC1032P	MOT	4.45
MC1034P	MOT	6.00
MC1035P	MOT	1.48
MC1039P	MOT	5.20
MC1047P	MOT	2.23
MC1048P	MOT	2.23
MC1070P	MOT	4.45
MC1150L	MOT	10.20
MC1151L	MOT	10.20
MC1155L	MOT	6.60
MC1160G	MOT	6.30
MC1161G	MOT	4.45
MC1204L	MOT	1.86
MC1210L	MOT	1.86
MC1213L	MOT	3.72
MC1215L	MOT	3.72
MC1217L	MOT	4.65
MC1220L	MOT	1.86
MC1230L	MOT	2.79
MC1233L	MOT	3.72
MC1235L	MOT	1.86
MC1239L	MOT	6.51
MC1259L	MOT	8.37
MC1303L	MOT	2.20
MC1304P	MOT	1.70
MC1305P	MOT	1.70
MC1306P	MOT	.88
MC1307P	MOT	1.30
MC1310P	MOT	4.10
MC1313P	MOT	3.10
MC1326P	MOT	1.75
MC1328G	MOT	1.70
MC1328P	MOT	1.70
MC1330P	MOT	1.15
MC1339P	MOT	1.85
MC1345P	MOT	1.33
MC1349P	MOT	1.15
MC1350P	MOT	.95
MC1351P	MOT	1.40
MC1352P	MOT	1.30
MC1355P	MOT	1.40
MC1357P	MOT	1.80
MC1358PQ	MOT	1.80
MC1364G	MOT	1.47
MC1364P	MOT	1.33
MC1370P	MOT	1.80
MC1371P	MOT	1.80
MC1380P	MOT	1.15
MC1398P	MOT	2.77
MC1406L	MOT	5.90
MC1408L-6	MOT	5.95
MC1408L-7	MOT	7.45
MC1408L-8	MOT	8.95
MC1410G	MOT	2.25
MC1414L	MOT	1.50

Type	Mfg.	*1-24
MC1420G	MOT	2.70
MC1429G	MOT	3.90
MC1430G	MOT	5.25
MC1430P	MOT	5.25
MC1431G	MOT	5.25
MC1431P	MOT	5.25
MC1433G	MOT	3.90
MC1433L	MOT	2.90
MC1435G	MOT	2.25
MC1435L	MOT	2.25
MC1436CG	MOT	3.75
MC1436G	MOT	6.75
MC1437L	MOT	2.65
MC1437P	MOT	2.25
MC1438R	MOT	9.75
MC1439G	MOT	2.20
MC1439L	MOT	2.40
MC1440G	MOT	1.50
MC1441L	MOT	5.25
MC1444L	MOT	12.00
MC1445L	MOT	2.25
MC1446L	MOT	12.00
MC1454G	MOT	3.30
MC1455P1	MOT	1.13
MC1458CG	MOT	1.58
MC1458CL	MOT	1.58
MC1458CP1	MOT	1.35
MC1458CP2	MOT	1.43
MC1458G	MOT	1.73
MC1458L	MOT	1.73
MC1458P1	MOT	1.50
MC1458P2	MOT	1.58
MC1460G	MOT	3.75
MC1460R	MOT	5.25
MC1461G	MOT	5.25
MC1461R	MOT	6.75
MC1463G	MOT	4.15
MC1463R	MOT	5.25
MC1466L	MOT	7.50
MC1468G	MOT	4.20
MC1468L	MOT	4.35
MC1468R	MOT	5.62
MC1469G	MOT	3.00
MC1469R	MOT	3.75
MC1488L	MOT	8.25
MC1489AL	MOT	6.75
MC1489L	MOT	6.00
MC1494L	MOT	12.00
MC1495L	MOT	7.45
MC1496G	MOT	1.48
MC1496L	MOT	1.48
MC1508L-8	MOT	12.75
MC1510G	MOT	12.00
MC1514L	MOT	4.90
MC1520G	MOT	9.75
MC1525G	MOT	12.00
MC1530G	MOT	12.75
MC1531G	MOT	12.75
MC1533G	MOT	5.25
MC1533L	MOT	5.25
MC1535G	MOT	12.75
MC1536G	MOT	27.00
MC1537L	MOT	4.90
MC1538R	MOT	21.00
MC1539G	MOT	3.75
MC1539L	MOT	3.75
MC1540G	MOT	5.95
MC1541F	MOT	14.25
MC1544L	MOT	13.50
MC1545G	MOT	8.25
MC1545L	MOT	8.25
MC1550G	MOT	1.50
MC1552G	MOT	9.00
MC1553G	MOT	9.00
MC1554G	MOT	14.25
MC1556G	MOT	18.00
MC1558G	MOT	7.50
MC1558L	MOT	7.50
MC1560G	MOT	10.50
MC1560R	MOT	12.75
MC1561G	MOT	12.75
MC1561R	MOT	15.00
MC1563G	MOT	7.90
MC1563R	MOT	9.75
MC1566L	MOT	9.75
MC1568G	MOT	9.37
MC1568L	MOT	9.75
MC1568R	MOT	10.50
MC1569G	MOT	6.75
MC1569R	MOT	6.40

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MIL	Microsystems International Ltd.
MOT	Motorola
PMI	Precision Monolithics Inc.
RCA	Radio Corp. of America
SG	Silicon General Transistor
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
MC1585L	MOT	6.75
MC1590G	MOT	5.60
MC1594L	MOT	18.00
MC1595L	MOT	12.00
MC1596G	MOT	3.96
MC1596L	MOT	3.97
MC1648L	MOT	4.70
MC1648P	MOT	3.75
MC1660L	MOT	11.25
MC1660S	MOT	15.00
MC1661L	MOT	11.25
MC1662L	MOT	11.25
MC1663L	MOT	11.25
MC1663S	MOT	16.50
MC1664L	MOT	11.25
MC1664S	MOT	16.50
MC1665L	MOT	11.25
MC1666L	MOT	22.35
MC1668L	MOT	22.35
MC1669L	MOT	22.35
MC1670L	MOT	20.35
MC1670S	MOT	27.00
MC1671L	MOT	20.25
MC1671S	MOT	27.00
MC1672L	MOT	14.10
MC1673L	MOT	14.10
MC1674L	MOT	14.10
MC1675L	MOT	14.10
MC1678L	MOT	64.80
MC1679L	MOT	64.80
MC1680L	MOT	42.15
MC1682L	MOT	42.15
MC1684L	MOT	42.15
MC1692L	MOT	11.25
MC1692S	MOT	16.50
MC1709CF	MOT	2.25
MC1709CG	MOT	.73
MC1709CL	MOT	.78
MC1709CP1	MOT	.65
MC1709CP2	MOT	.75
MC1709F	MOT	4.87
MC1709G	MOT	2.62
MC1709L	MOT	2.62
MC1710CF	MOT	2.25
MC1710CG	MOT	.78
MC1710CL	MOT	.78
MC1710CP	MOT	.72
MC1710F	MOT	4.90
MC1710G	MOT	2.65
MC1710L	MOT	2.65
MC1711CF	MOT	2.25
MC1711CG	MOT	.90
MC1711CL	MOT	.90
MC1711L	MOT	2.65
MC1712CF	MOT	2.80
MC1712CG	MOT	2.80
MC1712CL	MOT	3.38
MC1712G	MOT	7.90
MC1712L	MOT	7.90
MC1723CG	MOT	1.19
MC1723CL	MOT	1.19
MC1723G	MOT	5.85
MC1723L	MOT	5.85
MC1733CG	MOT	1.88
MC1733CL	MOT	1.88
MC1733G	MOT	8.60
MC1733L	MOT	8.60
MC1741CG	MOT	.87
MC1741CL	MOT	.87
MC1741CP1	MOT	.72

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
MC1741CP2	MOT	.83
MC1741F	MOT	6.75
MC1741G	MOT	5.85
MC1741L	MOT	6.00
MC1747CL	MOT	6.75
MC1747L	MOT	18.75
MC1748CG	MOT	1.87
MC1748G	MOT	3.75
MC1800P	MOT	.98
MC1801P	MOT	.98
MC1802P	MOT	.98
MC1803P	MOT	.98
MC1804P	MOT	.98
MC1805P	MOT	.98
MC1806F	MOT	1.80
MC1806P	MOT	.98
MC1807P	MOT	.98
MC1808P	MOT	.98
MC1809P	MOT	.98
MC1810F	MOT	1.80
MC1810P	MOT	.98
MC1811P	MOT	.98
MC1812F	MOT	3.25
MC1812P	MOT	1.75
MC1813P	MOT	3.65
MC1814L	MOT	6.50
MC1814P	MOT	3.55
MC1815P	MOT	1.45
MC1816P	MOT	1.45
MC1818P	MOT	.98
MC1820P	MOT	1.75
MC1906L	MOT	3.10
MC2000P	MOT	2.60
MC2002P	MOT	2.00
MC2023L	MOT	9.80
MC2023P	MOT	5.15
MC2024P	MOT	5.15
MC2025L	MOT	7.80
MC2025P	MOT	3.65
MC2026P	MOT	3.65
MC2051P	MOT	2.20
MC2053L	MOT	3.90
MC2062L	MOT	3.95
MC2065P	MOT	2.20
MC2074P	MOT	4.30
MC2102L	MOT	4.55
MC2103L	MOT	7.20
MC2103P	MOT	7.30
MC2107L	MOT	7.20
MC2123L	MOT	14.85
MC2124L	MOT	14.85
MC2155L	MOT	5.90
MC2163L	MOT	5.90
MC2257L	MOT	13.50
MC2259L	MOT	20.20
MC3000L	MOT	2.00
MC3000P	MOT	.65
MC3001F	MOT	1.46
MC3001L	MOT	2.15
MC3001P	MOT	.83
MC3002L	MOT	2.00
MC3002P	MOT	.77
MC3003L	MOT	2.15
MC3003P	MOT	.83
MC3004L	MOT	2.00
MC3004P	MOT	.65
MC3005L	MOT	2.00
MC3005P	MOT	.65
MC3006P	MOT	.71
MC3007P	MOT	.77
MC3008L	MOT	2.35
MC3008P	MOT	.77
MC3009L	MOT	2.35
MC3009P	MOT	.77
MC3010L	MOT	2.00
MC3010P	MOT	.65
MC3011P	MOT	.71
MC3012L	MOT	2.00
MC3012P	MOT	.65
MC3016P	MOT	.65
MC3018P	MOT	.71
MC3019P	MOT	.71
MC3020P	MOT	.65
MC3021P	MOT	1.06
MC3022P	MOT	1.06
MC3023L	MOT	2.00
MC3023P	MOT	.65
MC3024P	MOT	.71
MC3025L	MOT	2.00
MC3025P	MOT	.77
MC3026L	MOT	2.15
MC3026P	MOT	.83
MC3028P	MOT	.83
MC3029P	MOT	.83
MC3031P	MOT	.65
MC3032P	MOT	.65
MC3033P	MOT	.65
MC3034P	MOT	.65
MC3050P	MOT	1.06
MC3051P	MOT	1.06
MC3053L	MOT	3.05
MC3054P	MOT	1.00
MC3055P	MOT	.88
MC3060P	MOT	1.42
MC3061L	MOT	4.30
MC3061P	MOT	1.54
MC3062L	MOT	4.50
MC3062P	MOT	1.58
MC3063P	MOT	1.46
MC3100L	MOT	3.40
MC3101L	MOT	3.70
MC3102L	MOT	3.40
MC3103L	MOT	3.70
MC3108L	MOT	4.00
MC3110L	MOT	3.40
MC3111L	MOT	3.70
MC3121L	MOT	5.55
MC3122L	MOT	5.55
MC3126L	MOT	3.70
MC3161L	MOT	7.35
MC3163L	MOT	7.65
MC3301P	MOT	1.05
MC3401P	MOT	1.10
MC4000P	MOT	3.25
MC4001P	MOT	6.10
MC4002P	MOT	3.00
MC4004L	MOT	7.00
MC4004P	MOT	3.65
MC4005L	MOT	6.30
MC4005P	MOT	2.90
MC4006L	MOT	7.05
MC4006P	MOT	3.00
MC4007L	MOT	7.00
MC4007P	MOT	3.40
MC4008L	MOT	6.30
MC4008P	MOT	4.50
MC4010P	MOT	4.50
MC4012L	MOT	7.95
MC4012P	MOT	3.60
MC4015P	MOT	3.25
MC4016P	MOT	6.50
MC4018P	MOT	6.50
MC4021P	MOT	4.80
MC4022P	MOT	4.80
MC4023P	MOT	4.20
MC4024L	MOT	3.95
MC4024P	MOT	2.60
MC4026P	MOT	2.90
MC4027P	MOT	2.25
MC4028P	MOT	3.25
MC4029L	MOT	4.90
MC4029P	MOT	2.55
MC4030L	MOT	6.30
MC4030P	MOT	3.25
MC4031P	MOT	2.55
MC4032L	MOT	4.35
MC4032P	MOT	2.25
MC4035P	MOT	3.10
MC4037P	MOT	3.10
MC4038P	MOT	6.10
MC4039P	MOT	6.10
MC4040P	MOT	6.10
MC4041P	MOT	6.10
MC4042P	MOT	1.68
MC4043P	MOT	2.20
MC4044L	MOT	3.95
MC4044P	MOT	2.60
MC4048P	MOT	6.10
MC4050L	MOT	17.55
MC4050P	MOT	10.60
MC4306L	MOT	11.95
MC4316L	MOT	18.00
MC4318L	MOT	18.00
MC4324L	MOT	7.10
MC5400L	MOT	3.10
MC5402L	MOT	3.10
MC5404L	MOT	3.70
MC5405L	MOT	3.70
MC5410L	MOT	3.10
MC5420F	MOT	3.10
MC5420L	MOT	3.10
MC5430F	MOT	3.10
MC5430L	MOT	3.10
MC5440L	MOT	3.10
MC5450L	MOT	3.10
MC5454L	MOT	3.10
MC5460L	MOT	3.10
MC5490L	MOT	12.00
MC5492L	MOT	12.00
MC5493L	MOT	12.00
MC7241P	MOT	1.70
MC7242P	MOT	1.70
MC7266P	MOT	4.05
MC7267P	MOT	4.05
MC7270P	MOT	4.28
MC7271P	MOT	4.28
MC7280P	MOT	3.60
MC7281P	MOT	3.60
MC7400F	MOT	1.80
MC7400L	MOT	1.80
MC7400P	MOT	.59
MC7401L	MOT	1.80
MC7401P	MOT	.59
MC7402L	MOT	1.80
MC7402P	MOT	.59
MC7403P	MOT	.59
MC7404L	MOT	2.15
MC7404P	MOT	.71
MC7405L	MOT	2.15
MC7405P	MOT	.71
MC7410L	MOT	1.80
MC7410P	MOT	.59
MC7420L	MOT	1.80
MC7420P	MOT	.59
MC7426P	MOT	.71
MC7430F	MOT	1.80
MC7430L	MOT	1.80
MC7430P	MOT	.59
MC7437P	MOT	1.40
MC7438P	MOT	1.40
MC7440F	MOT	1.80
MC7440L	MOT	1.80
MC7440P	MOT	.59
MC7441AL	MOT	9.90
MC7441AP	MOT	3.25
MC7442L	MOT	7.75
MC7442P	MOT	2.50
MC7443P	MOT	3.55
MC7444P	MOT	3.55
MC7445P	MOT	4.55
MC7446P	MOT	3.80
MC7447L	MOT	10.60
MC7447P	MOT	3.55
MC7448P	MOT	3.70
MC7449F	MOT	8.65
MC7450P	MOT	.59
MC7451P	MOT	.59
MC7453F	MOT	1.80
MC7453P	MOT	.59
MC7454P	MOT	.59
MC7460P	MOT	.59
MC7470P	MOT	.88
MC7472L	MOT	2.55
MC7472P	MOT	.83
MC7473L	MOT	3.60
MC7473P	MOT	1.18
MC7475P	MOT	2.05
MC7476P	MOT	1.30
MC7479L	MOT	3.60
MC7479P	MOT	1.18
MC7480P	MOT	1.60
MC7483L	MOT	11.35
MC7483P	MOT	3.70
MC7490F	MOT	7.00
MC7490P	MOT	2.30
MC7491AP	MOT	3.25
MC7492P	MOT	2.30
MC7493L	MOT	7.00
MC7493P	MOT	2.30
MC7495P	MOT	2.60
MC7496P	MOT	4.80
MC7520L	MOT	4.85
MC7521L	MOT	4.50
MC7522L	MOT	4.25
MC7523L	MOT	3.75
MC7524L	MOT	4.25
MC7525L	MOT	3.90
MC7805CP	MOT	2.20
MC7806CP	MOT	2.20
MC7808CP	MOT	2.20
MC7812CP	MOT	2.20
MC7815CP	MOT	2.20
MC7818CP	MOT	2.20
MC7824CP	MOT	2.20
MC8300P	MOT	2.55
MC8301P	MOT	2.55
MC8304P	MOT	2.55
MC8306P	MOT	6.30
MC8307P	MOT	5.25
MC8308L	MOT	9.00
MC8308P	MOT	3.90
MC8309L	MOT	3.70
MC8309P	MOT	1.95
MC8310P	MOT	3.90
MC8311L	MOT	9.00
MC8311P	MOT	3.90
MC8312L	MOT	3.70
MC8312P	MOT	1.95
MC8314P	MOT	2.48
MC8316P	MOT	3.90
MC8318P	MOT	6.30
MC8328P	MOT	5.55
MC8601L	MOT	2.80
MC8601P	MOT	1.50
MC8602L	MOT	5.40
MC8602P	MOT	2.85
MC9306L	MOT	17.30
MC9601L	MOT	4.20
MC9602L	MOT	8.10
MC9701P	MOT	2.45
MC9702P	MOT	2.00
MC9704P	MOT	3.40
MC9707P	MOT	2.45
MC9709P	MOT	2.45
MC9713P	MOT	1.40
MC9714P	MOT	1.55
MC9715P	MOT	1.28
MC9718P	MOT	1.09
MC9719AP	MOT	1.26
MC9719P	MOT	1.09
MC9720P	MOT	1.09
MC9721P	MOT	1.09
MC9722P	MOT	2.25
MC9723P	MOT	1.40
MC9724P	MOT	1.55
MC9725P	MOT	1.28
MC9802P	MOT	2.15
MC9807P	MOT	2.45
MC9809P	MOT	2.45
MC9813P	MOT	1.40
MC9815P	MOT	1.28
MC9818P	MOT	1.09
MC9819AP	MOT	1.26
MC9819P	MOT	1.09
MC9820P	MOT	1.09
MC9822P	MOT	2.25
MC9823P	MOT	1.40
MC9824P	MOT	1.55
MC9825P	MOT	1.28
MC10101L	MOT	2.09
MC10102L	MOT	2.09
MC10104L	MOT	2.09
MC10105L	MOT	2.09
MC10106L	MOT	2.09
MC10107L	MOT	2.62
MC10109L	MOT	2.09
MC10110L	MOT	2.62
MC10111L	MOT	2.62
MC10114L	MOT	2.62
MC10115L	MOT	2.09

NEW TYPES STOCKED AS SOON AS RELEASED

INTEGRATED CIRCUITS

Type	Mfg.	*1-24
MC10116L	MOT	2.09
MC10117L	MOT	2.62
MC10118L	MOT	2.62
MC10119L	MOT	2.62
MC10121L	MOT	2.62
MC10128L	MOT	8.10
MC10129L	MOT	8.10
MC10130L	MOT	5.58
MC10131L	MOT	7.05
MC10135L	MOT	8.69
MC10160L	MOT	8.55
MC10161L	MOT	6.77
MC10162L	MOT	6.77
MC10164L	MOT	6.77
MC10171L	MOT	6.77
MC10173L	MOT	7.75
MC10175L	MOT	9.15
MC10179L	MOT	8.55
MC10180L	MOT	22.50
MC10181P	MOT	24.00
MC10231L	MOT	10.60
MC12000L	MOT	7.50
MC14000AL	MOT	3.77
MC14000CL	MOT	.94
MC14001AL	MOT	3.99
MC14001C1	MOT	.94
MC14001CL	MOT	.94
MC14002AL	MOT	3.99
MC14002CL	MOT	.94
MC14006AL	MOT	11.02
MC14006CL	MOT	4.70
MC14007AL	MOT	3.19
MC14007CL	MOT	.94
MC14008AL	MOT	12.25
MC14008CL	MOT	4.86
MC14009AL	MOT	6.38
MC14009CL	MOT	2.04
MC14010AL	MOT	6.38
MC14010CL	MOT	2.04
MC14011AL	MOT	3.99
MC14011CL	MOT	.94
MC14012AL	MOT	3.99
MC14012CL	MOT	.94
MC14013AL	MOT	5.73
MC14013CL	MOT	1.96
MC14015AL	MOT	12.25
MC14015CL	MOT	5.12
MC14016AL	MOT	6.24
MC14016CL	MOT	1.96
MC14021AL	MOT	11.82
MC14021CL	MOT	5.12
MC14023AL	MOT	3.99
MC14023CL	MOT	5.12
MC14024AL	MOT	8.70
MC14024CL	MOT	3.66
MC14025AL	MOT	3.99
MC14025CL	MOT	.94
MC14027AL	MOT	6.38
MC14027CL	MOT	3.03
MC14028AL	MOT	9.56
MC14028CL	MOT	4.44
MC14032CL	MOT	5.12
MC14034CL	MOT	10.90
MC14040AL	MOT	12.32
MC14040CL	MOT	6.54
MC14501CL	MOT	2.04
MC14502CL	MOT	4.00
MC14506CL	MOT	2.72
MC14507CL	MOT	1.97
MC14508CL	MOT	16.55
MC14510CL	MOT	7.68
MC14511CL	MOT	8.65
MC14512CL	MOT	4.83
MC14514CL	MOT	16.55
MC14515CL	MOT	16.55
MC14516CL	MOT	7.68
MC14517CL	MOT	17.30
MC14518CL	MOT	8.70
MC14519CL	MOT	2.31
MC14520CL	MOT	7.68
MC14522CL	MOT	7.95
MC14526CL	MOT	7.95
MC14527CL	MOT	7.95
MC14529CL	MOT	4.83
MC14530CL	MOT	2.31
MC14531CL	MOT	4.23
MC14539AL	MOT	8.70
MC14539CL	MOT	4.83
MC14581CL	MOT	16.55
MC14582CL	MOT	4.00

Type	Mfg.	*1-24
MC27482P	MOT	3.90
MC74100P	MOT	5.25
MC74107P	MOT	1.18
MC74121F	MOT	3.60
MC74121L	MOT	3.60
MC74121P	MOT	1.18
MC74145P	MOT	2.65
MC74150L	MOT	9.65
MC74150P	MOT	6.45
MC74151L	MOT	9.00
MC74151P	MOT	4.10
MC74152P	MOT	4.70
MC74155P	MOT	4.49
MC74156P	MOT	4.49
MC74164AP	MOT	6.00
MC74180P	MOT	5.10
MC74182P	MOT	4.80
MC75107P	MOT	3.97
MC75108P	MOT	3.97
MC75109P	MOT	4.20
MC75110P	MOT	4.20
MC75452P	MOT	1.57
MC75453P	MOT	1.57
MC75454P	MOT	1.57
MCA1911N	MOT	4.50
MCA1911P	MOT	4.50
MCA1912N	MOT	7.95
MCA1914N	MOT	23.40
MCA1932P	MOT	14.10
MCA2014P	MOT	23.40
MCL1300	MOT	1.80
MCM1173L	MOT	19.80
MCM4064L	MOT	6.95
MD5300R	MIL	110.00
MD6300P	MIL	68.00
MD6300R	MIL	69.00
MF1101AIP	MIL	9.17
MF1101AIR	MIL	10.92
MF1101AP	MIL	7.32
MF1101AR	MIL	8.75
MF1103-1P	MIL	17.30
MF1103-1R	MIL	19.20
MF1103-S146P	MIL	14.40
MF1103-S146R	MIL	16.35
MF1103P	MIL	11.55
MF1103R	MIL	13.45
MF1402AR	MIL	11.30
MF1403AS	MIL	9.50
MF1403AT	MIL	9.50
MF1404AS	MIL	8.65
MF1404AT	MIL	8.65
MF1506T	MIL	5.35
MF1507T	MIL	5.35
MF1601R	MIL	70.70
MF1602R	MIL	64.25
MF1701R	MIL	77.20
MF1702AR	MIL	70.70
MF1702R	MIL	70.70
MF2102P	MIL	26.30
MF2102R	MIL	29.90
MF7111P	MIL	29.15
MF7111R	MIL	30.80
MF7112P	MIL	158.50
MF7112R	MIL	162.00
MFC4000B	MOT	.90
MFC4010A	MOT	.65
MFC4040	MOT	.77
MFC4050	MOT	1.00
MFC4060A	MOT	1.17
MFC6010	MOT	.66
MFC6020	MOT	1.26
MFC6030A	MOT	1.15
MFC6032A	MOT	1.09
MFC6040	MOT	1.20
MFC6050	MOT	1.36
MFC6060	MOT	.96
MFC6070	MOT	1.20
MFC6080	MOT	1.30
MFC8000	MOT	1.30
MFC8001	MOT	2.62
MFC8010	MOT	1.57
MFC8020A	MOT	1.62
MFC8022A	MOT	1.76
MFC8030	MOT	.89
MFC8040	MOT	1.15
MFC8050	MOT	1.30
MFC8070	MOT	2.55
MFC9020	MOT	2.00
MIC710-5D	ITT	1.10
MIC711-5C	ITT	1.10

Type	Mfg.	*1-24
MIC712-5C	ITT	2.93
MIC726-5C	ITT	11.00
MIC930-1D	ITT	3.00
MIC930-5D	ITT	.60
MIC930-5N	ITT	.52
MIC932-1D	ITT	3.00
MIC932-5D	ITT	.60
MIC932-5N	ITT	.52
MIC933-1D	ITT	3.00
MIC933-5D	ITT	.60
MIC933-5N	ITT	.52
MIC935-1D	ITT	3.30
MIC935-5D	ITT	.60
MIC935-5N	ITT	.56
MIC936-1D	ITT	3.30
MIC936-5D	ITT	.60
MIC936-5N	ITT	.56
MIC937-1D	ITT	3.30
MIC937-5D	ITT	.60
MIC937-5N	ITT	.56
MIC941-1D	ITT	12.00
MIC941-5D	ITT	6.65
MIC941-5N	ITT	3.80
MIC944-1D	ITT	3.00
MIC944-5D	ITT	.60
MIC944-5N	ITT	.52
MIC945-1D	ITT	4.05
MIC945-5D	ITT	.90
MIC945-5N	ITT	.80
MIC946-1D	ITT	3.00
MIC946-5D	ITT	.60
MIC946-5N	ITT	.52
MIC948-1D	ITT	4.05
MIC948-5D	ITT	.90
MIC948-5N	ITT	.80
MIC949-1D	ITT	3.00
MIC949-5D	ITT	.60
MIC949-5N	ITT	.52
MIC950-1D	ITT	12.00
MIC950-5D	ITT	6.65
MIC950-5N	ITT	.52
MIC951-1D	ITT	12.00
MIC951-5D	ITT	6.65
MIC951-5N	ITT	3.80
MIC961-1D	ITT	3.00
MIC961-5D	ITT	.60
MIC961-5N	ITT	.52
MIC962-1D	ITT	3.00
MIC962-5D	ITT	.60
MIC962-5N	ITT	.52
MIC963-1D	ITT	3.00
MIC963-5D	ITT	.60
MIC963-5N	ITT	.52
MIC9093-1D	ITT	5.55
MIC9093-5D	ITT	1.35
MIC9093-5N	ITT	1.15
MIC9094-1D	ITT	5.55
MIC9094-5D	ITT	1.35
MIC9094-5N	ITT	1.15
MIC9097-1D	ITT	5.55
MIC9097-5D	ITT	1.35
MIC9097-5N	ITT	1.15
MIC9099-1D	ITT	5.55
MIC9099-5D	ITT	1.35
MIC9099-5N	ITT	1.15
MIC9300-5D	ITT	3.52
MIC9301-5D	ITT	3.52
MIC9301-5N	ITT	3.10
MIC9304-5D	ITT	3.70
MIC9304-5N	ITT	3.90
MIC9309-5D	ITT	2.45
MIC9309-5N	ITT	2.25
MIC9311-5D	ITT	7.27
MIC9312-5N	ITT	2.25
MIC9316-5D	ITT	4.00
MIC9316-5N	ITT	4.80
MIC9601-1D	ITT	7.80
MIC9601-5D	ITT	3.90
MIC9601-5N	ITT	1.65
MIC9602-1D	ITT	10.70
MIC9602-5D	ITT	7.15
MIC9602-5N	ITT	3.00
ML77CP	MIL	2.58
ML101AT	MIL	5.10
ML101T	MIL	3.60
ML107T	MIL	5.10
ML108AT	MIL	28.45
ML108T	MIL	18.45
ML111T	MIL	18.00
ML113-1T	MIL	22.50

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MIL	Microsystems International Ltd.
MOT	Motorola
PMI	Precision Monolithics Inc.
RCA	Radio Corp. of America
SG	Silicon General Transistor
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
ML113-2T	MIL	15.00
ML113T	MIL	11.25
ML118T	MIL	28.45
ML201AT	MIL	3.78
ML201T	MIL	2.70
ML207T	MIL	3.78
ML208AT	MIL	21.30
ML208T	MIL	12.75
ML211T	MIL	11.25
ML213T	MIL	9.40
ML218T	MIL	18.45
ML301AP	MIL	1.10
ML301AS	MIL	1.10
ML301AT	MIL	.98
ML307P	MIL	1.10
ML307S	MIL	1.10
ML307T	MIL	.98
ML308AT	MIL	11.35
ML308T	MIL	2.80
ML311T	MIL	4.85
ML313T	MIL	6.10
ML318T	MIL	7.10
ML709CP	MIL	1.22
ML709CT	MIL	1.22
ML709T	MIL	2.16
ML723CP	MIL	1.80
ML723T	MIL	1.80
ML741AT	MIL	3.60
ML741CP	MIL	1.24
ML741CS	MIL	1.24
ML741CT	MIL	1.29
ML741T	MIL	2.16
ML747CP	MIL	2.70
ML747CT	MIL	2.70
ML747T	MIL	4.90
ML748CP	MIL	1.24
ML748CS	MIL	1.24
ML748CT	MIL	1.24
ML748T	MIL	2.16
ML777CS	MIL	2.58
ML777CT	MIL	2.58
ML777T	MIL	4.32
ML1437P	MIL	2.37
ML1458P	MIL	2.40
ML1458S	MIL	2.40
ML1458T	MIL	2.40
ML1558T	MIL	4.90
ML3045M	MIL	2.70
ML3046P	MIL	1.76
ML4250CT	MIL	4.75
ML4251CT	MIL	4.50
MLM101AG	MOT	11.92
MLM104G	MOT	12.00
MLM105G	MOT	9.00
MLM107G	MOT	11.92
MLM109K	MOT	28.40
MLM201G	MOT	9.00
MLM207G	MOT	7.42
MLM209K	MOT	11.90
MLM301AG	MOT	.97
MLM301AP	MOT	.77
MLM304G	MOT	3.75
MLM305G	MOT	3.00
MLM307G	MOT	.97
MLM309K	MOT	3.75
MLM310G	MOT	4.90
OP-01CJ	PMI	5.50
OP-01CY	PMI	7.50
OP-01HJ	PMI	22.50
OP-01J	PMI	60.00

NEW TYPES STOCKED AS SOON AS RELEASED

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
OP-01Y	PMI	75.00
OP-05AJ	PMI	67.50
OP-05CJ	PMI	12.00
OP-05CY	PMI	15.75
OP-05EJ	PMI	22.50
OP-05EY	PMI	30.00
OP-05J	PMI	30.00
OP-10AY	PMI	90.00
OP-10CY	PMI	24.00
OP-10EY	PMI	37.50
OP-10Y	PMI	60.00
SAJ110A	ITT	5.80
SG101D	SG	10.40
SG107D	SG	13.40
SG107F	SG	14.90
SG107T	SG	11.95
SG108AD	SG	34.45
SG108AF	SG	37.45
SG108AT	SG	29.95
SG108D	SG	20.95
SG108F	SG	25.45
SG108T	SG	19.45
SG201T	SG	2.25
SG301AD	SG	3.60
SG301AF	SG	5.95
SG301AT	SG	1.45
SG307D	SG	2.95
SG307F	SG	5.95
SG307T	SG	1.45
SG308AF	SG	16.45
SG308D	SG	7.40
SG308F	SG	11.95
SG308T	SG	2.95
SG710CT	SG	1.45
SG710T	SG	2.95
SG711CT	SG	1.45
SG711T	SG	3.40
SG733CD	SG	4.30
SG733T	SG	7.90
SG741CD	SG	2.65
SG741CF	SG	7.30
SG741CM	SG	1.30
SG741CN	SG	1.30
SG741CT	SG	1.45
SG741D	SG	6.30
SG741F	SG	13.40
SG741T	SG	5.95
SG747CD	SG	6.75
SG747CN	SG	5.25
SG747CT	SG	5.95
SG747D	SG	18.75
SG747T	SG	14.90
SG748CT	SG	1.65
SG748T	SG	5.70
SG7520J	SG	5.10
SG7520N	SG	4.80
SG7521J	SG	4.65
SG7521N	SG	4.35
SG7522J	SG	4.45
SG7522N	SG	4.15
SG7523J	SG	3.90
SG7523N	SG	3.60
SG7524J	SG	4.45
SG7524N	SG	4.15
SG7525J	SG	4.05
SG7525N	SG	3.75
SG7528J	SG	4.45
SG7528N	SG	4.15
SG7529J	SG	4.05
SG7529N	SG	3.75
SG7534J	SG	4.90
SG7534N	SG	4.45
SG7535J	SG	2.95
SG7535N	SG	2.20
SG7538J	SG	4.90
SG7538N	SG	4.45
SG7539J	SG	2.95
SG7539N	SG	2.20
SN15-830-N	TI	.90
SN15-831-N	TI	1.15
SN15-836-N	TI	.98
SN15-8094N	TI	1.56
SN15-8099N	TI	1.56
SN52-709-L	TI	2.13
SN52-709-N	TI	2.04
SN52-709AN	TI	1.32
SN52-710-L	TI	1.88
SN52-710-N	TI	1.84
SN52-711-L	TI	1.84
SN54H00N	TI	2.91
SN54H04N	TI	3.64
SN54H20N	TI	2.46
SN54H51J	TI	6.14
SN54H72J	TI	9.10
SN54H76J	TI	13.10
SN54H103N	TI	7.58
SN54L00J	TI	2.18
SN54L20J	TI	2.18
SN54L54T	TI	4.00
SN54S11J	TI	9.72
SN54S20N	TI	2.09
SN54S74N	TI	4.19
SN54S140N	TI	2.70
SN74H00N	TI	.96
SN74H01N	TI	.96
SN74H01S	TI	4.42
SN74H04N	TI	1.09
SN74H10N	TI	.96
SN74H11N	TI	.96
SN74H21N	TI	.96
SN74H22N	TI	.96
SN74H30N	TI	.96
SN74H40N	TI	.96
SN74H52N	TI	.96
SN74H53N	TI	.96
SN74H54N	TI	.96
SN74H55N	TI	.96
SN74H71N	TI	1.46
SN74H72N	TI	1.27
SN74H74N	TI	2.09
SN74H76N	TI	2.27
SN74H78N	TI	2.27
SN74H87N	TI	7.28
SN74H106N	TI	1.87
SN74H108N	TI	2.05
SN74L00N	TI	.93
SN74L02N	TI	1.04
SN74L03N	TI	.93
SN74L04N	TI	1.04
SN74L10N	TI	.93
SN74L20N	TI	.93
SN74L30N	TI	.93
SN74L42N	TI	3.57
SN74L47N	TI	3.57
SN74L51N	TI	.93
SN74L51T	TI	2.00
SN74L54N	TI	.93
SN74L55N	TI	.93
SN74L71N	TI	1.31
SN74L72N	TI	1.31
SN74L73N	TI	1.86
SN74L74N	TI	1.86
SN74L75N	TI	1.86
SN74L78N	TI	1.86
SN74L78T	TI	4.61
SN74L85N	TI	6.82
SN74L86N	TI	1.86
SN74L90N	TI	5.10
SN74L93N	TI	5.10
SN74L95N	TI	5.10
SN74L98N	TI	5.10
SN74L121N	TI	1.50
SN74L122N	TI	1.50
SN74L154N	TI	5.10
SN74L157N	TI	3.57
SN74L164N	TI	3.57
SN74L192N	TI	9.12
SN74L193N	TI	9.12
SN74L302N	TI	1.00
SN74L504N	TI	1.20
SN74L530N	TI	.90
SN74LS00N	TI	1.39
SN74LS01N	TI	1.39
SN74LS02N	TI	1.39
SN74LS05N	TI	1.66
SN74LS08N	TI	1.39
SN74LS09N	TI	1.39
SN74LS11N	TI	1.39
SN74LS15N	TI	1.39
SN74LS20N	TI	1.39
SN74LS21N	TI	1.39
SN74LS22N	TI	1.39
SN74LS27N	TI	1.39
SN74LS28N	TI	1.66
SN74LS32N	TI	1.39
SN74LS37N	TI	1.66
SN74LS38N	TI	1.66
SN74LS40N	TI	1.53
SN74LS51N	TI	1.39
SN74LS54N	TI	1.39
SN74LS55N	TI	1.39
SN74LS78N	TI	2.78
SN74LS86N	TI	1.35
SN74LS95AN	TI	6.95
SN74LS039	TI	1.39
SN74LS107N	TI	2.78
SN74LS113N	TI	2.78
SN74LS114N	TI	2.78
SN74LS138N	TI	6.95
SN74LS139N	TI	6.95
SN74LS151N	TI	9.73
SN74LS153N	TI	6.95
SN74LS155N	TI	6.95
SN74LS174N	TI	12.51
SN74LS175N	TI	11.12
SN74LS181N	TI	37.55
SN74LS191N	TI	9.73
SN74LS192N	TI	9.73
SN74LS193N	TI	9.73
SN74LS194N	TI	9.73
SN74LS195N	TI	6.95
SN74LS196N	TI	6.95
SN74LS197N	TI	6.95
SN74LS251N	TI	9.73
SN74LS253N	TI	8.34
SN74LS266N	TI	2.78
SN74LS295N	TI	8.34
SN74S00N	TI	1.39
SN74S03J	TI	2.09
SN74S03N	TI	1.39
SN74S04N	TI	1.69
SN74S05N	TI	1.69
SN74S10N	TI	1.39
SN74S11N	TI	1.39
SN74S20N	TI	1.39
SN74S40J	TI	2.09
SN74S40N	TI	1.39
SN74S64N	TI	1.39
SN74S74N	TI	2.79
SN74S112N	TI	3.20
SN74S113N	TI	3.20
SN74S114N	TI	3.20
SN74S133N	TI	1.39
SN74S134N	TI	1.69
SN74S140N	TI	1.80
SN74S153N	TI	7.27
SN74S175N	TI	10.91
SN74S182N	TI	7.85
SN74S194N	TI	10.47
SN5400J	TI	3.27
SN5400N	TI	2.33
SN5401N	TI	2.33
SN5401W	TI	5.31
SN5402N	TI	2.67
SN5402W	TI	6.10
SN5403N	TI	2.33
SN5404N	TI	2.91
SN5404W	TI	6.46
SN5405N	TI	2.91
SN5406N	TI	5.25
SN5407N	TI	5.25
SN5408N	TI	2.56
SN5410N	TI	2.33
SN5412N	TI	1.31
SN5412W	TI	6.19
SN5413N	TI	3.64
SN5416N	TI	4.37
SN5420N	TI	1.99
SN5420W	TI	4.50
SN5422N	TI	2.32
SN5425W	TI	6.19
SN5426N	TI	2.80
SN5430W	TI	7.39
SN5432L	TI	2.40
SN5432N	TI	1.84
SN7454N	TI	.58
SN7460N	TI	.58
SN7470N	TI	.96
SN7472N	TI	.79
SN7473J	TI	2.27
SN7473N	TI	.89
SN7474N	TI	.89
SN7475J	TI	2.76
SN7475N	TI	1.45
SN7476J	TI	2.50
SN7476N	TI	1.06
SN7480N	TI	1.45
SN7482N	TI	2.21
SN7483AN	TI	2.76
SN7483N	TI	1.77
SN7484AN	TI	2.41
SN7484N	TI	2.05
SN7485N	TI	5.09
SN7486N	TI	.93
SN7489N	TI	11.64
SN7490AN	TI	1.60
SN7490N	TI	1.09
SN7491AN	TI	2.47
SN7492AN	TI	1.60
SN7492N	TI	1.10
SN7493AN	TI	1.60
SN7493J	TI	1.59
SN7493N	TI	1.10
SN7494N	TI	2.18
SN7495AN	TI	2.18
SN7495N	TI	3.23
SN7496N	TI	2.33
SN7497N	TI	8.29
SN7511N	TI	3.04
SN7520-N	TI	2.47
SN7522-N	TI	2.47
SN7524-N	TI	2.25
SN7525-N	TI	1.81
SN10109J	TI	2.10
SN15301N	TI	.99
SN15302N	TI	1.58
SN15312N	TI	2.32
SN15321N	TI	.95
SN15323N	TI	.95
SN15326N	TI	2.07
SN15331N	TI	.95
SN15332N	TI	1.18
SN15333N	TI	1.18
SN15336N	TI	1.18
SN15342N	TI	2.07
SN15370N	TI	3.40
SN15832N	TI	.90
SN15837N	TI	.98
SN15844N	TI	.90
SN15845N	TI	1.15
SN15846N	TI	.90
SN15848N	TI	1.15
SN15849N	TI	.90
SN15850N	TI	3.75
SN15858N	TI	.90
SN15861N	TI	.90
SN15862N	TI	.90
SN15863N	TI	.90
SN15932N	TI	1.68
SN15951N	TI	5.05
SN29309N	TI	2.33
SN52101AL	TI	3.93
SN52702N	TI	1.60
SN52711J	TI	5.28
SN52723L	TI	4.32
SN5438N	TI	3.26
SN5440N	TI	2.67
SN5440W	TI	6.10
SN5442N	TI	11.90
SN5445N	TI	18.14
SN5447AN	TI	13.80
SN5448N	TI	11.90
SN5450N	TI	2.33
SN5451N	TI	2.33
SN5470N	TI	3.49
SN5470S	TI	7.97
SN5473N	TI	5.36
SN5474N	TI	4.66
SN5482N	TI	9.31
SN5485J	TI	10.91

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
SN5486N	TI	5.50
SN5490AN	TI	12.96
SN5490N	TI	6.55
SN5492AN	TI	9.57
SN5492N	TI	6.55
SN5493AN	TI	9.57
SN5493N	TI	6.55
SN7400-N	TI	.58
SN7400J	TI	1.14
SN7401N	TI	.58
SN7402N	TI	.58
SN7403N	TI	.58
SN7404N	TI	.72
SN7405N	TI	.72
SN7406J	TI	2.03
SN7406N	TI	1.57
SN7407N	TI	1.57
SN7408J	TI	1.23
SN7408N	TI	.62
SN7409N	TI	.62
SN7410N	TI	.58
SN7412N	TI	.58
SN7413N	TI	1.89
SN7414N	TI	4.30
SN7416J	TI	1.66
SN7416N	TI	1.28
SN7417N	TI	1.28
SN7420N	TI	.58
SN7422N	TI	.58
SN7423N	TI	.84
SN7425N	TI	.84
SN7426N	TI	.93
SN7427J	TI	1.73
SN7427N	TI	.84
SN7428J	TI	1.86
SN7428N	TI	.81
SN7430F	TI	1.15
SN7430N	TI	.58
SN7432N	TI	.81
SN7433N	TI	.81
SN7437N	TI	1.16
SN7438N	TI	1.16
SN7440J	TI	1.14
SN7440N	TI	.58
SN7442-N	TI	1.98
SN7442J	TI	3.05
SN7443N	TI	3.26
SN7444N	TI	3.26
SN7445N	TI	3.49
SN7446AN	TI	3.05
SN7447AN	TI	2.85
SN7448N	TI	2.62
SN7450N	TI	.58
SN7451N	TI	.58
SN7453N	TI	.58
SN52741L	TI	1.44
SN52748L	TI	1.44
SN54107N	TI	5.36
SN54121J	TI	7.56
SN54121N	TI	8.10
SN54122N	TI	6.51
SN54123N	TI	5.82
SN54151N	TI	8.90
SN54153N	TI	8.90
SN54160N	TI	6.07
SN54161N	TI	6.07
SN54164J	TI	11.25
SN54174J	TI	12.86
SN54180N	TI	14.17
SN54193N	TI	17.01
SN54194J	TI	11.43
SN54195J	TI	3.45
SN54196N	TI	2.67
SN54540J	TI	7.36
SN56514L	TI	3.67
SN72301AL	TI	.64
SN72301AN	TI	.78
SN72301AP	TI	1.86
SN72306L	TI	1.23
SN72306P	TI	1.41
SN72307P	TI	.75
SN72308L	TI	2.44
SN72308N	TI	2.34
SN72310L	TI	3.06
SN72310P	TI	2.76
SN72510N	TI	1.29
SN72510P	TI	1.27
SN72558L	TI	1.54
SN72558P	TI	1.42
SN72702L	TI	1.30
SN72702N	TI	1.20
SN72709L	TI	.75
SN72709N	TI	.67
SN72709P	TI	.57
SN72710L	TI	.75
SN72710N	TI	.69
SN72711L	TI	.87
SN72711N	TI	.81
SN72720N	TI	1.88
SN72723L	TI	1.13
SN72723N		1.06
SN72733L	TI	1.75
SN72733N	TI	1.69
SN72741L	TI	.85
SN72741N	TI	.79
SN72741P	TI	.70
SN72747J	TI	2.86
SN72747N	TI	1.93
SN72748L	TI	.81
SN72748N	TI	.78
SN72748P	TI	.75
SN72770L	TI	2.35
SN72770N	TI	2.22
SN72770P	TI	2.17
SN72771L	TI	2.35
SN72771N	TI	2.22
SN72771P	TI	2.17
SN72810L	TI	1.32
SN72810N	TI	1.24
SN72810P	TI	1.21
SN72811N	TI	1.33
SN72820J	TI	2.01
SN72820N	TI	1.86
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SN74105N	TI	1.75
SN74107N	TI	.89
SN74110N	TI	1.41
SN74111N	TI	1.07
SN74120N	TI	2.53
SN74121N	TI	1.13
SN74122N	TI	1.16
SN74123N	TI	2.33
SN74128N	TI	1.22
SN74132N	TI	3.14
SN74141N	TI	2.47
SN74143N	TI	5.82
SN74144N	TI	5.82
SN74145J	TI	4.94
SN74145N	TI	2.76
SN74150N	TI	5.24
SN74151N	TI	2.91
SN74153N	TI	2.91
SN74154N	TI	5.76
SN74155J	TI	3.78
SN74155N	TI	2.91
SN74156J	TI	3.78
SN74156N	TI	2.91
SN74157N	TI	2.62
SN74160N	TI	3.55
SN74161J	TI	5.18
SN74161N	TI	3.55
SN74162N	TI	3.55
SN74163N	TI	3.55
SN74164N	TI	3.64
SN74165N	TI	3.64
SN74166N	TI	6.55
SN74167N	TI	6.98
SN74170N	TI	7.91
SN74174N	TI	4.28
SN74175N	TI	3.64
SN74177N	TI	2.76
SN74178N	TI	3.55
SN74179N	TI	3.55
SN74180N	TI	4.36
SN74181N	TI	9.69
SN74182N	TI	2.62
SN74184N	TI	3.78
SN74185AN	TI	3.78
SN74185AW	TI	2.43
SN74190N	TI	5.82
SN74191N	TI	5.82
SN74192N	TI	3.93
SN74193N	TI	3.93
SN74195N	TI	2.24
SN74196N	TI	3.05
SN74197N	TI	3.05
SN74198N	TI	6.98
SN74199N	TI	6.98
SN75107AN	TI	3.22
SN75107N	TI	2.99
SN75108AN	TI	3.22
SN75109N	TI	3.38
SN75110N	TI	3.38
SN75150N	TI	3.55
SN75150P	TI	3.38
SN75152N	TI	6.75
SN75154N	TI	6.75
SN75234N	TI	2.25
SN75235N	TI	1.81
SN75303N	TI	2.95
SN75308N	TI	6.66
SN75324N	TI	5.02
SN75325N	TI	5.25
SN75450AN	TI	1.58
SN75450N	TI	1.78
SN75451AP	TI	1.21
SN75451BP	TI	.80
SN75451P	TI	1.00
SN75452P	TI	1.00
SN75453BP	TI	1.00
SN75453P	TI	1.00
SN75454P	TI	1.00
SN76502N	TI	3.88
SN76514N	TI	2.25
SN158093N	TI	1.56
SNC5407J	TI	12.36
SSS725AJ	PMI	76.25
SSS725BJ	PMI	21.00
SSS725CJ	PMI	10.15
SSS725CP	PMI	13.50
SSS725J	PMI	32.50
TF4001AJ	TI	4.48
TF4009AJ	TI	7.17
TF4010AJ	TI	7.17
TF4011AJ	TI	4.48
TF4013AJ	TI	5.60
TF4025AJ	TI	4.48
TMS1103NC	TI	51.16
TMS3003LR	TI	9.60
TMS3101LC	TI	9.60
TMS3112NC	TI	19.20
TMS4103JC	TI	28.80
TP4001AJ	TI	1.09
TP4009AJ	TI	2.37
TP4010AJ	TI	2.37
TP4011AJ	TI	1.09
TP4013AJ	TI	2.24
TP4025AJ	TI	1.09
301CJ	TEL	.68
302CJ	TEL	1.08
303CJ	TEL	1.08
311CJ/AJ	TEL	1.02
312CJ/AJ	TEL	1.60
321CJ/AJ	TEL	.65
322CJ/AJ	TEL	.65
323CJ/AJ	TEL	.65
324CJ/AJ	TEL	.65
325CJ/AJ	TEL	.65
326CJ/AJ	TEL	.65
331CJ/AJ	TEL	.65
332CJ/AJ	TEL	.82
333CJ	TEL	.82
334CJ/AJ	TEL	.82
335CJ	TEL	.82
341CJ/AJ	TEL	.65
342CJ/AJ	TEL	1.43
343CJ/AJ	TEL	4.58
344CJ/AJ	TEL	.65
361CJ/AJ	TEL	1.43
362CJ/AJ	TEL	1.43
363CJ	TEL	1.08
367CJ/AJ	TEL	3.12
370CJ/AJ	TEL	2.35
371CJ/AJ	TEL	2.62
372CJ/AJ	TEL	2.62
380CJ/AJ	TEL	5.10
381CJ/AJ	TEL	4.03
382CJ/AJ	TEL	4.03
383CJ/AJ	TEL	3.77
709BE	TEL	2.93
709CE	TEL	1.10
709CI	TEL	1.10
709CJ	TEL	1.10
710BE	TEL	2.90
710CE	TEL	1.10
711BE	TEL	3.35
711CE	TEL	1.10
723BE	TEL	5.90
723BI	TEL	6.35

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MIL	Microsystems International Ltd.
MOT	Motorola
PMI	Precision Monolithics Inc.
RCA	Radio Corp. of America
SG	Silicon General Transistor
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
723CE	TEL	2.90
723CJ	TEL	2.90
723CL	TEL	2.90
741BE	TEL	5.90
741BI	TEL	6.30
741CJ	TEL	1.50
809CE	TEL	3.20
38510/00101-BAA5430	ITT	15.55
38510/00101-BCB5430	ITT	12.50
38510/00102-BAA5430	ITT	15.55
38510/00102-BCB5420	ITT	12.50
38510/00103-BAA5410	ITT	15.55
38510/00103-BCB5410	ITT	12.50
38510/00104-BAA5400	ITT	15.55
38510/00104-BCB5400	ITT	12.50
38510/00105-BAA5404	ITT	17.20
38510/00105-BCB5404	ITT	13.80
38510/00107-BAA5401	ITT	15.55
38510/00107-BCB5401	ITT	12.50
38510/00108-BAA5405	ITT	17.20
38510/00108-BCB5405	ITT	13.80
38510/00201-BAA5472	ITT	23.40
38510/00201-BCB5472	ITT	18.80
38510/00202-BAA5473	ITT	25.80
38510/00202-BCB5473	ITT	20.70
38510/00205-BAA5474	ITT	25.80
38510/00205-BCB5474	ITT	20.70
38510/00301-BAA5440	ITT	25.80
38510/00301-BCB5440	ITT	20.70
38510/00401-BAA5402	ITT	15.55
38510/00401-BCB5402	ITT	12.50
38510/00501-BAA5450	ITT	15.55
38510/00501-BCB5450	ITT	12.50
38510/00502-BAA5451	ITT	15.55
38510/00502-BCB5451	ITT	12.50
38510/00503-BAA5453	ITT	15.55
38510/00503-BCB5453	ITT	12.50
38510/00504-BAA5454	ITT	15.55
38510/00504-BCB5454	ITT	12.50

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1.8	MZ4614	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.0	MZ4615	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.2	MZ4616	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-2.4
2.4	MZ4617	1N4370	1N5221	.....	.....	.....	.....	.....	.....	.....	MZ92-2.5
2.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-2.7
2.7	MZ4618	1N4371	1N5223	.....	.....	.....	.....	.....	.....	.....	MZ92-2.8
2.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-3.0
3.0	MZ4619	1N4372	1N5225	.....	.....	.....	.....	.....	.....	.....	MZ92-3.3
3.3	MZ4620	1N746	1N5226	1N4728	1N3821	.....	1N5333	.....	.....	.....	MZ92-3.6
3.6	MZ4621	1N747	1N5227	1N4729	1N3822	.....	1N5334	.....	.....	.....	MZ92-3.9
3.9	MZ4622	1N748	1N5228	1N4730	1N3823	.....	1N5335	1N3993&R	1N4557&R	1N4549&R	MZ92-4.3
4.3	MZ4623	1N749	1N5229	1N4731	1N3824	.....	1N5336	1N3994&R	1N4558&R	1N4550&R	MZ92-4.7
4.7	MZ4624	1N750	1N5230	1N4732	1N3825	.....	1N5337	1N3995&R	1N4559&R	1N4551&R	MZ92-5.1
5.1	MZ4625	1N751	1N5231	1N4733	1N3826	.....	1N5338	1N3996&R	1N4560&R	1N4552&R	MZ92-5.6
5.6	MZ4626	1N752	1N5232	1N4734	1N3827	.....	1N5339	1N3997&R	1N4561&R	1N4553&R	MZ92-6.0
6.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-6.2
6.2	MZ4627	1N753	1N5234	1N4735	1N3828	.....	1N5341	1N3998&R	1N4562&R	1N4554&R	MZ92-6.8
6.8	1N4099	1N754	1N5235	1N4736	1N3829	1N3785	1N5342	1N3999&R	1N4563&R	1N4555&R	.....
.....	.....	1N957	.....	.....	1N3016	.....	.....	1N2970&R	1N2804&R	1N3305&R	MZ92-7.5
7.5	1N4100	1N755	1N5236	1N4737	1N3830	1N3786	1N5343	1N4000&R	1N4564&R	1N4556&R	.....
.....	.....	1N958	.....	.....	1N3017	.....	.....	1N2971&R	1N2805&R	1N3306&R	MZ92-8.2
8.2	1N4101	1N756	1N5237	1N4738	1N3018	1N3787	1N5344	1N2972&R	1N2806&R	1N3307&R	.....
.....	.....	1N959	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-8.7
8.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9.1	1N4103	1N757	1N5239	1N4739	1N3019	1N3788	1N5346	1N2973&R	1N2807&R	1N3308&R	MZ92-9.1
.....	.....	1N960	.....	.....	.....	.....	.....	.....	.....	.....	.....
10	1N4104	1N758	1N5240	1N4740	1N3020	1N3789	1N5347	1N2974&R	1N2808&R	1N3309&R	MZ92-10
.....	.....	1N961	.....	.....	.....	.....	.....	.....	.....	.....	.....
11	1N4105	1N962	1N5241	1N4741	1N3021	1N3790	1N5348	1N2975&R	1N2809&R	1N3310&R	MZ92-11
12	1N4106	1N759	1N5242	1N4742	1N3022	1N3791	1N5349	1N2976&R	1N2810&R	1N3311&R	MZ92-12
.....	.....	1N963	.....	.....	.....	.....	.....	.....	.....	.....	.....
13	1N4107	1N964	1N5243	1N4743	1N3023	1N3792	1N5350	1N2977&R	1N2811&R	1N3312&R	MZ92-13
14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-14
15	1N4109	1N965	1N5245	1N4744	1N3024	1N3793	1N5352	1N2979&R	1N2813&R	1N3314&R	MZ92-15
16	1N4110	1N966	1N5246	1N4745	1N3025	1N3794	1N5353	1N2980&R	1N2814&R	1N3315&R	MZ92-16
17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-17
18	1N4112	1N967	1N5248	1N4746	1N3026	1N3795	1N5355	1N2982&R	1N2816&R	1N3317&R	MZ92-18
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-19
20	1N4114	1N968	1N5250	1N4747	1N3027	1N3796	1N5357	1N2984&R	1N2818&R	1N3319&R	MZ92-20
22	1N4115	1N969	1N5251	1N4748	1N3028	1N3797	1N5358	1N2985&R	1N2819&R	1N3320&R	MZ92-22
24	1N4116	1N970	1N5252	1N4749	1N3029	1N3798	1N5359	1N2986&R	1N2820&R	1N3321&R	MZ92-24
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-25
27	1N4118	1N971	1N5254	1N4750	1N3030	1N3799	1N5361	1N2988&R	1N2822&R	1N3323&R	MZ92-27
30	1N4120	1N972	1N5256	1N4751	1N3031	1N3800	1N5363	1N2989&R	1N2823&R	1N3324&R	MZ92-30
33	1N4121	1N973	1N5257	1N4752	1N3032	1N3801	1N5364	1N2990&R	1N2824&R	1N3325&R	MZ92-33
36	1N4122	1N974	1N5258	1N4753	1N3033	1N3802	1N5365	1N2991&R	1N2825&R	1N3326&R	MZ92-36
39	1N4123	1N975	1N5259	1N4754	1N3034	1N3803	1N5366	1N2992&R	1N2826&R	1N3327&R	MZ92-39
43	1N4124	1N976	1N5260	1N4755	1N3035	1N3804	1N5367	1N2993&R	1N2827&R	1N3328&R	MZ92-43
47	1N4125	1N977	1N5261	1N4756	1N3036	1N3805	1N5368	1N2995&R	1N2829&R	1N3330&R	MZ92-47
51	1N4126	1N978	1N5262	1N4757	1N3037	1N3806	1N5369	1N2997&R	1N2831&R	1N3332&R	MZ92-51
56	1N4127	1N979	1N5263	1N4758	1N3038	1N3807	1N5370	1N2999&R	1N2832&R	1N3334&R	MZ92-56
60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-60
62	1N4129	1N980	1N5265	1N4759	1N3039	1N3808	1N5372	1N3000&R	1N2833&R	1N3335&R	MZ92-62
68	1N4130	1N981	1N5266	1N4760	1N3040	1N3809	1N5373	1N3001&R	1N2834&R	1N3336&R	MZ92-68
75	1N4131	1N982	1N5267	1N4761	1N3041	1N3810	1N5374	1N3002&R	1N2835&R	1N3337&R	MZ92-75
82	1N4132	1N983	1N5268	1N3762	1N3042	1N3811	1N5375	1N3003&R	1N2836&R	1N3338&R	MZ92-82
87	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-87
91	1N4134	1N984	1N5270	1N4763	1N3043	1N3812	1N5377	1N3004&R	1N2837&R	1N3339&R	MZ92-91
100	1N4135	1N985	1N5271	1N4764	1N3044	1N3813	1N5378	1N3005&R	1N2838&R	1N3340&R	MZ92-100
110	.....	1N986	1N5272	1M110ZS10	1N3045	1N3814	1N5379	1N3007&R	1N2840&R	1N3342&R	MZ92-110
120	.....	1N987	1N5273	1M120ZS10	1N3046	1N3815	1N5380	1N3008&R	1N2841&R	1N3343&R	MZ92-120
130	.....	1N988	1N5274	1M130ZS10	1N3047	1N3816	1N5381	1N3009&R	1N2842&R	1N3344&R	MZ92-130
140	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-140
150	.....	1N989	1N5276	1M150ZS10	1N3048	1N3817	1N5383	1N3011&R	1N2843&R	1N3346&R	MZ92-150
160	.....	1N990	1N5277	1M160ZS10	1N3049	1N3818	1N5384	1N3012&R	1N2844&R	1N347&R	MZ92-160
170	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-170
180	.....	1N991	1N5279	1M180ZS10	1N3050	1N3819	1N5386	1N3014&R	1N2845&R	1N3349&R	MZ92-180
190	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	MZ92-190
200	.....	1N922	1N5281	1M200ZS10	1N3051	1N3820	1N5388	1N3015&R	1N2846&R	1N3350&R	MZ92-200

DISCRETE DEVICES DIRECTORY

NEWARK features complete lines of discrete devices from 8 of the leading manufacturers in the world. **NEWARK** is constantly updating its stock from a base of over 7500 devices to insure you getting the exact item needed. On page 47 is a Discrete Device Index to assist you in locating useful descriptions and engineering parameters. Call your nearest **NEWARK** facility for items not listed in our directory or specification not found in our parameter listings. Contact your nearest **NEWARK** facility for higher quantity prices. Select from a complete inventory at **NEWARK.**

Type	Mfg.	*1-24
1N34A	INT	.24
1N48	INT	2.25
1N87A	GE	.75
1N91	GE	.99
1N92	GE	2.15
1N93	GE	2.97
1N93AJAN	GE	3.80
1N207AG	TI	.57
1N248B	MOT	1.50
1N248BR	MOT	1.50
1N248C	MOT GE	1.65
1N248CR	MOT	1.55
1N249	GE	1.73
1N249B	MOT	1.65
1N249BR	MOT	1.65
1N249C	GE	2.03
1N250	GE	2.48
1N250B	MOT	2.40
1N250BR	MOT	2.40
1N250C	MOT GE	2.78
1N251	GE TI	.65
1N253	MOT	1.05
1N294	INT	.24
1N331AR	MOT	7.65
1N337	MOT	1.24
1N371	GE	3.48
1N429	INT MOT	5.45
1N430	INT	15.50
1N440	INT	.66
1N440B	INT	.66
1N441	INT	.69
1N441B	RCA	.60
1N443B	RCA	.79
1N445B	RCA	1.12
1N455B	MOT	11.50
1N456	TI	.35
1N456A	INT TI	3.90
1N457	TI	.44
1N457A	TI	.44
1N457JAN	TI	.44
1N458	TI	.47
1N458A	TI	.47
1N458JAN	TI	.47
1N459	TI	.48
1N459A	TI	.48
1N459JAN	TI	.48
1N461	GE	.42
1N461A	TI	.34
1N462	TI	.36
1N462A	TI	.36
1N463	TI	.44
1N463A	TI	.44
1N464	TI	.45
1N464A	TI	.45
1N466A	INT	3.20
1N467	INT	3.20
1N468	INT	3.20
1N468A	INT	3.90
1N469	INT	3.20
1N470A	INT	3.90
1N482	TI	.79
1N482A	TI	.48
1N482B	TI	.48
1N483	TI	.51
1N483A	TI	.51
1N483B	TI	.06
1N484	TI	.51
1N484A	TI	.51
1N484B	TI	.51
1N485	TI	.58
1N485B	TI	.58
1N522A	MOT	.68
1N536	RCA	.36
1N537	RCA	.40
1N538	RCA	.45

Type	Mfg.	*1-24
1N539	RCA	.50
1N540	INT RCA	.67
1N541	INT	.24
1N547	RCA	.79
1N608	MOT	1.18
1N612	INT	2.16
1N613	MOT	1.95
1N625	GE	.43
1N626	TI	.40
1N627	TI	.51
1N628	TI	.61
1N629	TI	.68
1N643	TI	.98
1N643JAN	TI	.98
1N645	TI	1.40
1N645A	TI	1.65
1N645JAN	TI	.09
1N646	TI	1.60
1N647	TI	1.70
1N647JAN	TI	.22
1N648	TI	1.80
1N649	TI	2.25
1N649JAN	TI	1.50
1N658	TI	1.48
1N659	TI	.56
1N660	TI	.65
1N661	TI	.98
1N662	TI	.25
1N663	TI	.58
1N702	INT TI	1.00
1N702A	INT MOT	2.60
1N703	INT MOT	1.85
1N703A	INT	1.00
1N704	INT	1.00
1N704A	INT MOT	2.60
1N705	INT	1.00
1N705A	INT MOT TI	2.60
1N706	INT MOT TI	1.85
1N706A	INT MOT	2.60
1N707	INT	1.00
1N707A	INT TI	1.05
1N708	TI	.90
1N708A	INT TI	1.05
1N709	INT MOT	1.85
1N709A	INT TI	1.05
1N710	TI	.90
1N710A	INT MOT	2.60
1N711	MOT	1.85
1N711A	INT	1.00
1N712	INT MOT	1.85
1N712A	INT	1.00
1N713	INT MOT	1.85
1N714	INT MOT	1.85
1N714A	TI	1.05
1N715	INT MOT	1.85
1N715A	INT TI	1.05
1N716	INT MOT TI	1.85
1N716A	INT TI	1.05
1N717	INT MOT	1.85
1N717A	INT	1.00
1N718	INT	1.00
1N718A	INT	1.00
1N719	MOT	1.85
1N719A	MOT	2.60
1N720	MOT	1.85
1N720A	INT	1.00
1N721	INT MOT	1.85
1N722A	INT MOT	2.60
1N723	INT	1.00
1N723A	MOT	2.60
1N724	INT	1.00
1N724A	INT	1.00
1N725	MOT	1.85
1N725A	INT	1.00
1N727	MOT	1.85

Type	Mfg.	*1-24
1N732	MOT	3.50
1N735	MOT	3.50
1N735A	INT	.15
1N736	MOT	3.50
1N738	MOT	3.50
1N740	MOT	3.50
1N742	MOT	3.50
1N745	MOT	3.50
1N746	TI	.90
1N746AJAN	TI	.89
1N747	TI	.90
1N747A	TI	1.05
1N747AJAN	TI	1.05
1N748	INT MOT	2.00
1N748A	INT MOT TI	2.75
1N748AJAN	MOT TI	2.95
1N749	INT MOT	2.00
1N749A	INT MOT TI	2.75
1N749AJAN	TI	1.05
1N750	INT MOT TI	2.00
1N750A	TI	1.05
1N750AJAN	TI	1.05
1N751	INT MOT TI	2.00
1N751A	INT MOT TI	1.05
1N751AJAN	MOT TI	2.95
1N752	INT TI	1.00
1N752A	INT MOT TI	1.05
1N752AJAN	INT TI	1.05
1N753	TI	.90
1N753A	TI	1.05
1N753AJAN	MOT TI	2.95
1N754	INT MOT	2.00
1N754A	INT MOT	2.75
1N754AJAN	INT TI	1.05
1N755	TI	.90
1N755A	INT MOT TI	2.75
1N755AJAN	TI	1.05
1N756	INT MOT TI	2.00
1N756A	INT MOT TI	2.75
1N756AJAN	TI	1.05
1N757	INT MOT TI	2.00
1N757A	INT MOT TI	2.75
1N757AJAN	MOT	2.95
1N758	INT MOT TI	2.00
1N758A	INT MOT TI	2.75
1N758AJAN	MOT TI	2.95
1N759	INT MOT	2.00
1N759A	INT MOT TI	2.75
1N759AJAN	TI	1.05
1N761	TI	.90
1N761A	INT	1.00
1N762	TI	.90
1N763	MOT TI	2.15
1N763A	INT	1.00
1N764	TI	.90
1N765	MOT	2.15
1N765A	INT	1.00
1N766	INT	1.00
1N767	INT	1.00
1N767A	INT MOT	2.80
1N769A	MOT	2.80
1N814	GE	.76
1N816	MOT	.33
1N821	INT MOT	2.75
1N821A	INT MOT	3.05
1N821JAN	MOT	2.95
1N823	INT MOT	3.60
1N823A	MOT	3.90
1N825	INT MOT	5.80
1N825A	MOT	6.50
1N825JAN	MOT	7.10
1N827	INT MOT	10.85
1N827A	INT MOT	13.05
1N829	INT MOT	16.30
1N829A	MOT	19.55

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
1N903	GE	1.02
1N903A	GE	1.17
1N904	GE	.99
1N914	TI	.42
1N914A	GE TI	.40
1N914B	GE TI	.80
1N914JAN	TI	.32
1N915	TI	.93
1N916	GE	.52
1N943	MOT	6.90
1N943B	MOT	7.15
1N944	MOT	10.15
1N944B	MOT	17.30
1N945BJAN	MOT	41.70
1N957	INT MOT	2.15
1N957A	MOT	2.35
1N957B	TI	1.05
1N958	TI	.11
1N958A	MOT	2.35
1N958B	MOT	2.95
1N959	MOT TI	2.15
1N959A	INT MOT	2.35
1N959B	TI	1.05
1N960	TI	.80
1N960A	MOT TI	2.35
1N960B	INT MOT TI	2.95
1N961	INT MOT TI	2.15
1N961A	INT	1.00
1N961B	INT MOT TI	2.95
1N962	INT MOT	2.15
1N962A	MOT	2.35
1N962B	INT MOT	2.95
1N963	INT MOT	2.15
1N963A	INT MOT	2.35
1N963B	INT MOT	2.95
1N963BJAN	MOT	3.50
1N964	INT MOT	2.15
1N964A	INT	1.00
1N964B	INT MOT	2.95
1N965	INT MOT	2.15
1N965A	INT MOT	2.35
1N965B	INT MOT	2.95
1N966	INT MOT	2.15
1N966A	INT	1.00
1N966B	INT MOT	2.95
1N967A	INT MOT	2.35
1N967B	INT MOT	2.95
1N968	MOT	2.15
1N968A	INT	1.00
1N968B	INT MOT	2.95
1N969	INT MOT	2.15
1N969A	INT MOT	2.35
1N969B	INT MOT	2.95
1N970	INT MOT	2.15
1N970A	MOT	2.35

NEW TYPES STOCKED AS SOON AS RELEASED

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

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Type	Mfg.	*1-24
1N970B	INT MOT	2.95
1N971	MOT	2.15
1N971A	MOT	2.35
1N971B	INT MOT	2.95
1N972A	INT	1.00
1N972B	INT MOT	2.95
1N973	MOT	2.15
1N973A	INT MOT	2.35
1N973B	INT MOT	2.95
1N974	MOT	2.15
1N974B	MOT	2.95
1N975	MOT	2.15
1N975A	MOT	2.35
1N976	MOT	2.15
1N976B	MOT	2.95
1N977B	MOT	2.95
1N978	MOT	2.15
1N978A	MOT	2.35
1N978B	MOT	2.95
1N979	MOT	2.15
1N979A	MOT	2.35
1N979B	MOT	2.95
1N980	MOT	2.15
1N980B	MOT	2.95
1N981	MOT	2.15
1N981A	MOT	2.35
1N981B	MOT	2.95
1N982	MOT	2.15
1N982A	MOT	2.35
1N984B	MOT	2.95
1N985	MOT	2.60
1N985B	MOT	3.65
1N986B	MOT	3.65
1N987A	MOT	3.00
1N987B	MOT	3.65
1N988B	MOT	3.65
1N989	MOT	2.60
1N989A	MOT	3.00
1N989B	MOT	3.65
1N990	MOT	2.60
1N990B	MOT	3.65
1N990BJAN	MOT	4.45
1N992	MOT	2.60
1N992A	MOT	3.00
1N992B	MOT	3.65
1N992BJAN	MOT	4.45
1N1084	INT	.75
1N1095	RCA	.61
1N1116	MOT	1.21
1N1124	MOT	1.80
1N1124A	MOT	1.80
1N1124AR	MOT	1.80
1N1125	MOT	2.25
1N1125R	MOT	2.25
1N1138A	RCA	2.01
1N1140	INT	6.22
1N1150A	INT	6.00
1N1169	INT	.43
1N1183	GE INT MOT	1.95
1N1183A	RCA	1.86
1N1183R	INT MOT	1.95
1N1183RA	INT	18.75
1N1184	GE INT MOT	2.40
1N1184A	GE	2.47
1N1184R	GE	2.40
1N1184RA	RCA	2.19
1N1185	MOT	2.60
1N1186	GE INT MOT	3.45
1N1186A	RCA	3.17
1N1186JAN	GE	5.47
1N1186R	INT MOT	3.40
1N1186RA	INT RCA	3.50
1N1187	GE INT MOT	4.72
1N1187A	RCA	4.41
1N1187R	MOT	4.65
1N1187RA	RCA	4.41
1N1188	GE INT MOT	5.85
1N1188A	INT	6.15
1N1188R	INT MOT	5.80
1N1189	INT MOT	6.40
1N1189RA	GE	7.42
1N1190	GE INT MOT	6.90
1N1190A	RCA	7.72
1N1190R	MOT	6.75
1N1190RA	RCA	7.72
1N1191	MOT	1.35
1N1192	MOT	1.50
1N1193	MOT	1.80
1N1194	GE MOT	2.60
1N1195	MOT	3.80
1N1195A	MOT	3.95
1N1196	INT MOT	4.70
1N1196A	GE MOT	4.95
1N1196R	MOT	4.35
1N1197	MOT	5.55
1N1198	MOT	6.75
1N1198A	MOT RCA	7.05
1N1199	GE	1.24
1N1199A	GE INT RCA	1.24
1N1199AR	MOT	1.20
1N1199RA	GE RCA	1.24
1N1200	GE MOT	1.41
1N1200A	GE INT MOT RCA	1.42
1N1200AR	MOT	1.42
1N1200RA	INT	1.35
1N1201A	INT	1.75
1N1202	GE INT MOT	2.55
1N1202A	GE INT MOT RCA	2.62
1N1202RA	GE	2.62
1N1203	GE	3.60
1N1203A	GE	3.60
1N1203AR	INT	3.45
1N1204	GE INT MOT	4.57
1N1204A	INT MOT RCA	4.50
1N1204R	INT	4.40
1N1204RA	GE	4.57
1N1205	INT	5.25
1N1205A	RCA	4.82
1N1206	MOT	6.30
1N1206A	GE INT RCA	6.37
1N1206AR	INT MOT	6.30
1N1217	INT	.38
1N1221	INT	.58
1N1223	INT	.85
1N1238	INT	5.25
1N1313	MOT	3.10
1N1313A	MOT	5.45
1N1314	MOT	3.10
1N1315	INT	2.70
1N1315A	INT	4.70
1N1316	INT	2.70
1N1317	MOT	3.10
1N1318A	INT MOT	5.45
1N1320A	INT	4.70
1N1321	MOT	3.10
1N1321A	MOT	5.45
1N1323	MOT	3.10
1N1341	GE INT MOT	1.12
1N1341A	GE INT	1.12
1N1342	GE INT	1.27
1N1342A	INT MOT	1.27
1N1343	GE RCA	1.63
1N1343A	GE INT	1.63
1N1344	GE MOT	2.22
1N1344A	GE MOT	2.22
1N1344B	MOT	2.25
1N1345	GE INT	3.16
1N1345A	MOT	3.15
1N1345RA	GE	3.16
1N1346	GE MOT	4.10
1N1346A	GE INT	4.05
1N1346B	INT	4.15
1N1347	MOT	4.95
1N1348	GE	5.48
1N1348A	GE MOT	5.90
1N1351	MOT	6.20
1N1351A	MOT	7.85
1N1351AR	MOT	7.85
1N1351R	MOT	6.20
1N1352	MOT	6.20
1N1353	MOT	6.20
1N1353A	INT	4.70
1N1354	MOT	6.20
1N1354A	MOT	7.85
1N1355	INT MOT	6.20
1N1355A	MOT	7.85
1N1356A	INT	6.30
1N1357	MOT	6.20
1N1357R	INT	4.70
1N1358	MOT	6.20
1N1358A	INT MOT	7.85
1N1360	INT MOT	6.20
1N1360A	INT MOT	7.85
1N1361	INT	4.70
1N1361A	INT MOT	7.85
1N1362	MOT	6.20
1N1362A	INT MOT	7.85
1N1363	MOT	6.20
1N1364A	INT	6.30
1N1365	MOT	6.20
1N1366	INT	4.70
1N1366A	INT	6.30
1N1368	INT	4.70
1N1369	INT	4.70
1N1369A	MOT	7.85
1N1372	MOT	6.20
1N1372A	MOT	7.85
1N1373A	MOT	7.85
1N1374	INT	4.70
1N1374A	MOT	7.85
1N1375	MOT	6.20
1N1375A	INT	6.30
1N1507	INT MOT	2.95
1N1508	MOT	2.95
1N1508A	INT	3.50
1N1510	INT	2.90
1N1510A	INT	2.90
1N1511A	INT	3.50
1N1512	INT	2.90
1N1512A	MOT	2.95
1N1513	MOT	2.95
1N1513A	INT	3.50
1N1515	MOT	2.95
1N1515A	INT MOT	3.65
1N1516A	INT	3.50
1N1517	INT	2.90
1N1518A	MOT	3.65
1N1519	MOT	2.95
1N1519A	MOT	3.65
1N1520	INT	2.80
1N1520A	INT	3.55
1N1521	INT	2.80
1N1522	INT	2.80
1N1523	MOT	2.95
1N1523A	INT	3.55
1N1524	INT	2.80
1N1524A	MOT	3.65
1N1525	INT	3.55
1N1525A	MOT	3.65
1N1526A	MOT	3.65
1N1527	MOT	2.95
1N1528	MOT	2.20
1N1537	MOT	1.75
1N1541	MOT	3.00
1N1542	MOT	3.97
1N1588A	INT	4.55
1N1589	MOT	4.10
1N1589A	INT MOT	4.90
1N1590	MOT	4.10
1N1590A	INT	4.55
1N1591	MOT	4.10
1N1591A	INT	4.55
1N1592	INT MOT	4.10
1N1593	MOT	4.10
1N1594	INT MOT	4.10
1N1594A	INT	4.55
1N1595	INT	4.55
1N1595A	MOT	4.90
1N1596	INT	3.80
1N1596A	MOT	4.90
1N1597	INT	3.80
1N1597A	MOT	4.90
1N1598	MOT	4.10
1N1600	MOT	6.50
1N1600A	INT	8.00
1N1601	MOT	6.50
1N1601A	MOT	8.50
1N1602	MOT	6.50
1N1602A	INT	8.00
1N1603	INT	5.95
1N1603A	INT	8.00
1N1604	INT	5.95
1N1605A	INT	8.00
1N1606	MOT	6.50
1N1609	INT	5.95
1N1612	GE	1.08
1N1612R	RCA	.97
1N1613	MOT	1.57
1N1613R	RCA	1.11
1N1614	GE	1.90
1N1614JAN	GE	3.03
1N1614R	RCA	1.72
1N1615	GE	3.75
1N1616	RCA	4.93
1N1629	INT	.69
1N1635	INT	.65
1N1735	MOT	5.40
1N1736	MOT	8.75
1N1742A	MOT	32.20
1N1752	INT	6.22
1N1763A	RCA	.42
1N1764A	RCA	.52
1N1765	INT	2.75
1N1766	INT MOT	2.80
1N1766A	MOT	3.20
1N1767	MOT	2.80
1N1767A	INT	3.10
1N1770	MOT	2.80
1N1771	INT	3.10
1N1772	INT MOT	2.80
1N1773	INT MOT	2.80
1N1773A	INT MOT	3.20
1N1774	INT	2.75
1N1774A	INT	3.10
1N1775	INT MOT	3.10
1N1775A	INT	3.10
1N1776	MOT	2.80
1N1776A	GE	2.83
1N1777	INT MOT	2.80
1N1778	MOT	2.80
1N1778A	MOT	3.20
1N1779	INT MOT	2.80
1N1780	INT MOT	2.80
1N1780A	INT MOT	3.20
1N1781	INT MOT	2.80
1N1781A	INT	3.10
1N1782	MOT	3.05
1N1782A	INT	3.10
1N1784A	INT	3.10
1N1785A	MOT	4.00
1N1787	MOT	3.05
1N1788	MOT	3.05
1N1788A	MOT	4.00
1N1792	INT	2.75
1N1795	INT	2.75
1N1796A	MOT	7.80
1N1797	MOT	5.10
1N1798	MOT	5.10
1N1801	MOT	5.10
1N1805	INT	5.45
1N1807	MOT	6.20
1N1808A	INT	6.55
1N1810	MOT	6.20
1N1813	MOT	9.10
1N1813RA	INT	12.50
1N1815	MOT	9.10
1N1820	MOT	6.20
1N1821A	MOT	7.85
1N1822	MOT	6.20
1N1823	MOT	6.20
1N1824	MOT	6.20
1N1825	MOT	6.20
1N1826	MOT	6.20
1N1826RA	INT	7.25
1N1827	MOT	6.20
1N1828	MOT	6.20
1N1829	MOT	6.20
1N1829A	MOT	7.85
1N1830	MOT	6.20
1N1832	MOT	6.20
1N1833CA	MOT	9.15
1N1956	INT	2.08
1N2011A	MOT	7.20

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
1N2046	MOT	6.00
1N2049	INT	5.00
1N2054	INT	19.50
1N2055	INT	21.00
1N2056	INT	23.00
1N2057R	INT	24.50
1N2059	INT	27.50
1N2063	INT	34.00
1N2067	INT	43.50
1N2069	INT	.32
1N2069A	INT	.32
1N2069AG	TI	.09
1N2069G	TI	.09
1N2070	INT	.41
1N2070A	INT	.41
1N2070G	TI	1.05
1N2071	INT	.50
1N2071A	INT	.50
1N2071AG	TI	.70
1N2071G	TI	.62
1N2104	INT	.54
1N2106	INT	.68
1N2129A	INT	3.80
1N2130A	INT	4.50
1N2130R	INT	4.50
1N2131	INT	3.14
1N2132	INT	3.57
1N2132A	INT	5.60
1N2133	INT	4.00
1N2133A	INT	6.15
1N2134A	INT	6.70
1N2135A	INT	7.25
1N2137	INT	5.80
1N2138	INT	6.60
1N2138A	INT	9.50
1N2154	GE	2.38
1N2155	GE INT	3.00
1N2155R	GE	3.00
1N2156	GE	4.38
1N2156R	GE	4.38
1N2157	INT	5.25
1N2157R	INT	5.25
1N2158	GE	5.92
1N2158R	GE	5.92
1N2159	GE	6.15
1N2160	GE INT	6.30
1N2163	MOT	3.30
1N2164	MOT	4.50
1N2164A	MOT	5.50
1N2166A	MOT	8.10
1N2167	MOT	8.65
1N2167A	MOT	11.05
1N2384	GE	17.25
1N2484	SYL	.96
1N2498	MOT	6.00
1N2500	MOT	6.00
1N2610	INT	.55
1N2611	INT	.62
1N2612	INT	.70
1N2615	INT	1.00
1N2616	INT	1.50
1N2617	INT	3.75
1N2620	MOT	4.35
1N2620B	MOT	4.90
1N2621	MOT	4.60
1N2621A	MOT	5.55
1N2622B	MOT	9.35
1N2623	MOT	8.80
1N2623A	MOT	10.05
1N2630	INT	7.00
1N2631	INT	5.00
1N2632	INT	7.50
1N2634	INT	6.00
1N2637	INT	9.00
1N2731	INT	8.12
1N2804	MOT	5.65
1N2804A	MOT	7.65
1N2804RB	MOT	14.65
1N2805A	MOT	7.65
1N2807	INT	5.45
1N2807B	MOT	10.65
1N2808A	MOT	7.65
1N2808B	MOT	10.65
1N2809A	MOT	7.65
1N2809B	MOT	10.65
1N2810	MOT	5.65
1N2810B	MOT	10.65
1N2810BR	MOT	14.65

Type	Mfg.	*1-24
1N2811A		.00
1N2811B	MOT	10.65
1N2812	MOT	5.65
1N2813A	MOT	7.65
1N2813AR	MOT	7.65
1N2813B	MOT	10.65
1N2813BR	MOT	10.65
1N2814B	MOT	10.65
1N2815	MOT	5.65
1N2816A	MOT	7.65
1N2817	MOT	5.65
1N2818	MOT	5.65
1N2818A	MOT	7.65
1N2818B	MOT	10.65
1N2818BR	MOT	14.65
1N2819B	MOT	10.65
1N2820	MOT	5.65
1N2820B	MOT	10.65
1N2820R	MOT	10.65
1N2821	MOT	5.65
1N2821A	MOT	7.65
1N2821B	MOT	10.65
1N2822	MOT	5.65
1N2822A	MOT	7.65
1N2822B	MOT	10.65
1N2823	MOT	5.65
1N2823B	MOT	10.65
1N2824	MOT	5.65
1N2824B	MOT	10.65
1N2824BR	MOT	10.65
1N2825	MOT	5.65
1N2825B	MOT	10.65
1N2826	MOT	5.65
1N2826B	MOT	10.65
1N2827	MOT	5.65
1N2827B	MOT	10.65
1N2829	MOT	5.65
1N2829A	MOT	7.65
1N2830	MOT	5.65
1N2830A	MOT	7.65
1N2830B	MOT	10.65
1N2833	MOT	5.65
1N2833B	MOT	10.65
1N2834	MOT	5.65
1N2834A	MOT	7.65
1N2835	MOT	5.65
1N2835A	MOT	7.65
1N2835BR	MOT	10.65
1N2837	MOT	5.65
1N2838	MOT	5.65
1N2838B	MOT	10.65
1N2840BR	MOT	17.95
1N2842B	MOT	17.95
1N2843B	MOT	17.95
1N2844B	MOT	17.95
1N2846	MOT	6.80
1N2846A	MOT	11.30
1N2858A	MOT	.33
1N2859A	RCA	.37
1N2860A	RCA	.40
1N2861A	RCA	.42
1N2862A	RCA	.48
1N2863A	RCA	.58
1N2864A	RCA	.70
1N2970	INT	3.00
1N2970A	INT MOT	5.85
1N2970B	INT	4.25
1N2970BR	MOT	7.30
1N2971B	INT MOT	4.25
1N2971R	INT	3.00
1N2971RB	INT	4.25
1N2972	INT	3.00
1N2972A	INT	3.30
1N2972B	MOT	7.30
1N2973	INT MOT	5.45
1N2973A	INT MOT	5.85
1N2973B	MOT	7.30
1N2974	INT MOT	5.45
1N2974A	INT MOT	5.85
1N2974AR	MOT	5.85
1N2974B	INT MOT	7.30
1N2975	MOT	5.45
1N2975A	INT	3.30
1N2975B	INT MOT	7.30
1N2975BJAN	INT	4.60
1N2976	MOT	5.45
1N2976A	INT MOT	5.85
1N2976BR	MOT	7.30

Type	Mfg.	*1-24
1N2976RB	INT	4.25
1N2977	INT MOT	3.00
1N2977A	MOT	5.85
1N2977B	MOT	7.30
1N2977BJAN	INT	4.60
1N2978	MOT	5.45
1N2978A	INT	3.30
1N2979	MOT	5.45
1N2979A	INT MOT	5.85
1N2979AR	MOT	5.85
1N2979B	INT	4.25
1N2979BR	MOT	7.30
1N2979RB	INT	4.25
1N2980	MOT	5.45
1N2980B	INT	4.25
1N2980BR	MOT	7.30
1N2980RA	INT	3.30
1N2981B	INT	4.25
1N2982	MOT	5.45
1N2982A	OT	5.85
1N2982B	INT MOT	7.30
1N2983A	INT	3.30
1N2983B	MOT	7.30
1N2984	MOT	5.45
1N2984A	MOT	5.85
1N2984AR	MOT	5.85
1N2984B	INT MOT	7.30
1N2984RB	INT	4.25
1N2985	INT	3.00
1N2985A	INT MOT	5.85
1N2985AR	MOT	5.85
1N2985B	INT MOT	7.30
1N2985BJAN	MOT	7.80
1N2986	INT MOT	5.45
1N2986A	MOT	5.85
1N2986AR	MOT	5.85
1N2986B	MOT	7.30
1N2986RB	INT	4.25
1N2987A	MOT	5.85
1N2987B	INT	4.25
1N2988	MOT	5.45
1N2988A	MOT	5.85
1N2988B	MOT	7.30
1N2989	MOT	5.45
1N2989A	MOT	5.85
1N2989AR	MOT	5.85
1N2989B	INT MOT	7.30
1N2989R	MOT	5.45
1N2989RA	INT	3.30
1N2990B	MOT	7.30
1N2991	MOT	5.45
1N2991A	MOT	5.85
1N2991B	INT MOT	7.30
1N2991BJAN	MOT	7.80
1N2992	INT MOT	5.45
1N2992A	INT MOT	5.85
1N2992B	INT MOT	4.25
1N2992BJAN	MOT	7.80
1N2993	MOT	5.45
1N2993A	MOT	5.85
1N2993B	INT MOT	7.30
1N2994	INT MOT	5.45
1N2994A	MOT	5.85
1N2994B	INT	4.25
1N2995	MOT	5.45
1N2995A	MOT	5.85
1N2995B	INT MOT	7.30
1N2995BJAN	MOT	7.80
1N2995R	MOT	5.45
1N2996	MOT	5.45
1N2996A	MOT	5.85
1N2996B	INT MOT	4.25
1N2997A	MOT	5.85
1N2997AR	MOT	7.80
1N2998B	INT MOT	7.30
1N2999	INT	3.00
1N2999A	MOT	5.85
1N2999B	MOT	7.30
1N3000	MOT	5.45
1N3000B	INT	7.30
1N3000BR	MOT	7.30
1N3001	INT MOT	5.45
1N3001A	INT	3.30
1N3001B	MOT	7.30
1N3002	INT MOT	5.45
1N3002B	MOT	7.30
1N3002BJAN	INT	4.60
1N3003	MOT	5.45
1N3003A	MOT	5.85

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teldyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
1N3003B	MOT	7.30
1N3004BJAN	MOT	7.80
1N3004BR	MOT	7.30
1N3004R	MOT	7.30
1N3005	MOT	5.45
1N3005A	MOT	5.85
1N3005AR	MOT	5.85
1N3005B	INT MOT	7.30
1N3005BR	MOT	7.30
1N3005RA	INT MOT	3.30
1N3006B	MOT	7.30
1N3007	MOT	5.45
1N3007B	MOT	7.30
1N3007RB	INT	4.25
1N3008	MOT	5.45
1N3008A	INT	3.30
1N3008B	INT MOT	7.30
1N3009	INT MOT	3.00
1N3009A	MOT	5.85
1N3009AR	MOT	5.85
1N3009B	MOT	7.30
1N3009BR	MOT	7.30
1N3010A	INT	3.30
1N3010B	INT	4.25
1N3010BR	MOT	7.30
1N3011	INT MOT	5.45
1N3011A	MOT	5.85
1N3011B	MOT	7.30
1N3011R	MOT	5.85
1N3011RB	INT	4.25
1N3012	MOT	6.00
1N3012B	MOT	13.75
1N3013	MOT	6.00
1N3013A	MOT	9.00
1N3013B	INT	6.50
1N3014	MOT	6.00
1N3014B	MOT	13.75
1N3015	INT MOT	6.00
1N3015A	INT MOT	9.00
1N3015B	INT MOT	13.75
1N3016	INT MOT	2.85
1N3016B	INT MOT	3.70
1N3017	MOT	2.85
1N3017A	MOT	3.20
1N3017B	MOT	3.70
1N3017BJAN	MOT	4.00
1N3018	MOT	2.85
1N3018A	MOT	3.20
1N3019A	INT	2.86
1N3019B	INT MOT	3.30
1N3020	INT MOT	2.85
1N3020A	INT MOT	3.20
1N3020B	INT MOT	3.70
1N3021	MOT	2.85
1N3021A	MOT	3.20
1N3021B	MOT	3.70
1N3022	INT MOT	2.85
1N3022A	INT MOT	2.86
1N3022B	INT MOT	3.30
1N3023A	MOT	3.20
1N3023B	MOT	3.70
1N3024	INT MOT	2.85
1N3024A	INT MOT	3.20
1N3024B	INT MOT	3.70
1N3025	INT MOT	3.30
1N3025A	INT	2.86
1N3025B	MOT	3.70
1N3026	INT MOT	2.85
1N3026A	INT MOT	2.86

★

PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
1N3026B	INT MOT	3.70
1N3027	MOT	2.85
1N3027A	INT MOT	3.20
1N3027B	INT MOT	3.70
1N3027BJAN	MOT	4.00
1N3028	MOT	2.85
1N3028A	MOT	3.20
1N3028B	INT MOT	3.70
1N3028BJAN	INT	3.55
1N3029	INT	2.55
1N3029A	INT MOT	3.20
1N3029B	INT MOT	3.70
1N3029BJAN	INT	3.55
1N3030	MOT	2.85
1N3030A	INT	2.86
1N3030B	INT MOT	3.70
1N3031	INT	2.55
1N3031B	INT MOT	3.70
1N3032	MOT	2.85
1N3032A	MOT	3.20
1N3033	MOT	2.85
1N3033A	MOT	3.20
1N3033B	MOT	3.70
1N3034	INT	2.55
1N3034A	MOT	3.20
1N3034B	INT MOT	3.70
1N3035	MOT	2.85
1N3035B	INT MOT	3.30
1N3036	MOT	2.85
1N3036B	MOT	3.70
1N3037	MOT	2.85
1N3037B	MOT	3.70
1N3038	MOT	2.85
1N3038A	MOT	3.20
1N3038B	MOT	11.30
1N3039	MOT	2.85
1N3039B	INT	3.30
1N3040	MOT	3.20
1N3040A	MOT	3.20
1N3040B	INT MOT	3.70
1N3041	MOT	2.85
1N3041B	MOT	3.70
1N3042	MOT	2.85
1N3042A	MOT	3.20
1N3042B	INT	3.30
1N3043	INT	2.55
1N3043A	MOT	3.20
1N3043B	INT MOT	3.70
1N3044	MOT	2.85
1N3044A	MOT	3.20
1N3044B	INT MOT	4.65
1N3045	MOT	2.95
1N3045A	MOT	3.25
1N3045B	MOT	4.65
1N3046A	INT	2.86
1N3047	MOT	2.95
1N3047A	MOT	3.25
1N3047B	MOT	4.65
1N3048	MOT	2.95
1N3048B	INT MOT	4.65
1N3049B	MOT	4.65
1N3050A	MOT	3.25
1N3050B	MOT INT	4.65
1N3051	MOT	2.95
1N3051A	INT MOT	3.25
1N3051B	MOT	4.65
1N3051BJAN	MOT	6.90
1N3063	GE	.60
1N3064	GE	.39
1N3070	TI	1.22
1N3070JAN	TI	1.22
1N3085	INT	14.50
1N3086	INT	16.00
1N3087	INT	17.00
1N3087R	INT	17.00
1N3088	INT	18.20
1N3154JAN	MOT	3.50
1N3155JAN	MOT	4.95
1N3156	RCA	.74
1N3182	MOT	.60
1N3190JAN	GE	.45
1N3193	RCA	.35
1N3194	RCA	.38
1N3195	RCA	.53
1N3208	GE	2.10
1N3208R	MOT	1.29
1N3209	GE	2.25
1N3210	GE INT MOT	2.40
1N3210R		1.87
1N3211	GE INT MOT	2.64
1N3211R	INT MOT	2.30
1N3212	GE MOT	3.05
1N3212R	GE MOT	3.05
1N3213	INT	3.40
1N3214	GE	4.50
1N3214R	GE MOT	4.50
1N3253	RCA	.38
1N3254	RCA	.42
1N3255	RCA	.56
1N3256	RCA	.78
1N3263	GE	17.00
1N3288A	INT	13.00
1N3288R	INT	13.00
1N3289	GE	14.50
1N3289R	INT	14.50
1N3290R	INT	15.50
1N3291	GE	16.50
1N3291R	GE	16.50
1N3292R	GE	17.50
1N3293	GE	18.50
1N3293R	INT GE	19.50
1N3294	GE	21.00
1N3295RA	INT	28.50
1N3296	GE	25.00
1N3296R	INT	32.50
1N3297	INT	28.00
1N3297R	INT	28.00
1N3305	MOT	5.65
1N3306	MOT	5.65
1N3307	INT	4.75
1N3307B	MOT	10.65
1N3308	MOT	10.65
1N3308A	MOT	7.65
1N3309	MOT	5.65
1N3309B	MOT	10.65
1N3310	MOT	5.65
1N3310A	INT	4.75
1N3310B	MOT	10.65
1N3311	MOT	5.65
1N3311A	MOT	7.65
1N3311B	MOT	10.65
1N3311BR	MOT	10.65
1N3312	MOT	5.65
1N3312A	MOT	7.65
1N3312B	MOT	10.65
1N3313A	MOT	7.65
1N3313AR	MOT	7.65
1N3314	INT MOT	5.65
1N3314A	MOT	7.65
1N3314B	MOT	10.65
1N3315	MOT	5.65
1N3315A	MOT	7.65
1N3316	MOT	5.65
1N3317	MOT	5.65
1N3317B	MOT	10.65
1N3318A	INT	6.40
1N3318B	MOT	10.65
1N3319	INT	4.75
1N3319A	MOT	7.65
1N3319AR	MOT	7.65
1N3319B	MOT	10.65
1N3319R	INT	4.75
1N3319RB	INT	8.75
1N3320	MOT	5.65
1N3320B	MOT	10.65
1N3321	INT MOT	4.75
1N3321A	INT MOT	7.65
1N3321B	MOT	10.65
1N3321BR	MOT	10.65
1N3322	MOT	5.65
1N3322A	MOT	7.65
1N3322B	MOT	10.65
1N3323	MOT	5.65
1N3323A	INT	6.40
1N3323B	MOT	10.65
1N3323R	MOT	7.65
1N3324	MOT	5.65
1N3324B	MOT	10.65
1N3325	MOT	5.65
1N3325B	INT	8.75
1N3326	MOT	5.65
1N3326A	MOT	7.65
1N3326B	MOT	10.65
1N3327	MOT	5.65
1N3328	MOT	5.65
1N3328B	MOT	10.65
1N3329	MOT	5.65
1N3330	MOT	5.65
1N3330B	MOT	10.65
1N3331	MOT	5.65
1N3331A	MOT	7.65
1N3331B	MOT	10.65
1N3332B	MOT	10.65
1N3334	MOT	5.65
1N3334B	MOT	10.65
1N3335	INT MOT	5.65
1N3335A	MOT	7.65
1N3336B	MOT	10.65
1N3337A	INT MOT	7.65
1N3337B	MOT	10.65
1N3337R	MOT	5.65
1N3338	MOT	5.65
1N3338A	MOT	7.65
1N3339	MOT	5.65
1N3339A	MOT	7.65
1N3340	INT MOT	5.65
1N3340A	MOT	7.65
1N3340B	MOT	10.65
1N3340BR	MOT	10.65
1N3340RA	INT	6.40
1N3342	MOT	6.80
1N3342B	MOT	17.95
1N3343	MOT	6.80
1N3343A	MOT	11.30
1N3343B	MOT	17.95
1N3344B	MOT	17.95
1N3346	MOT	6.80
1N3346B	MOT	17.95
1N3347	MOT	6.80
1N3347B	MOT	17.95
1N3349	MOT	6.80
1N3349A	MOT	11.30
1N3350	MOT	6.80
1N3350B	MOT	17.95
1N3491	MOT	.67
1N3491R	MOT	.67
1N3492	MOT	.67
1N3492R	MOT	1.48
1N3493	MOT	1.11
1N3493R	MOT	1.11
1N3494	INT MOT	1.27
1N3494R	MOT	1.27
1N3495	MOT	1.48
1N3498	INT	9.00
1N3507	TI	1.10
1N3508	TI	1.10
1N3509	TI	1.10
1N3510	TI	1.10
1N3513	TI	1.10
1N3515	TI	1.10
1N3518	INT	1.00
1N3519	TI	1.50
1N3520	INT	1.00
1N3530	INT	1.00
1N3563	RCA	.94
1N3569	MOT	1.27
1N3569R	MOT	1.27
1N3570	MOT	1.57
1N3570R	MOT	1.57
1N3571	MOT	2.10
1N3571R	MOT	2.10
1N3572	MOT	2.55
1N3572R	MOT	2.55
1N3573	MOT	3.80
1N3573R	MOT	3.80
1N3574	MOT	5.45
1N3574R	MOT	5.45
1N3580	MOT	4.90
1N3580A	MOT	5.20
1N3581A	MOT	6.45
1N3582A	MOT	9.80
1N3604	GE	.75
1N3605	GE	.60
1N3606	GE	.75
1N3616	INT	1.50
1N3618	INT	3.00
1N3620	INT	4.75
1N3621	INT	5.50
1N3622	INT	6.70
1N3623	INT	9.00
1N3624	INT	10.70
1N3641	INT	1.00
1N3659	MOT	.90
1N3659R	MOT	.90
1N3660R	MOT	.99
1N3661	MOT	1.33
1N3661R	MOT	1.33
1N3662	MOT	1.48
1N3662R	MOT	1.48
1N3663	MOT	1.70
1N3663R	MOT	1.70
1N3670	INT	7.80
1N3670A	INT	7.80
1N3671A	MOT	9.45
1N3672A	GE	9.45
1N3673A	GE	9.90
1N3675B	MOT	4.90
1N3681A	MOT	4.10
1N3682B	MOT	4.90
1N3683	MOT	3.45
1N3683A	MOT	4.10
1N3683B	MOT	4.90
1N3684	MOT	3.45
1N3685B	MOT	4.90
1N3686B	MOT	4.90
1N3688	MOT	3.45
1N3688B	MOT	4.90
1N3690	MOT	3.45
1N3696	MOT	3.45
1N3696B	MOT	4.90
1N3698B	MOT	4.90
1N3712	GE	3.96
1N3713	GE	6.36
1N3716	GE	2.48
1N3717	GE	4.68
1N3717JAN	GE	5.16
1N3718	GE	3.01
1N3719	GE	4.68
1N3719JAN	GE	5.16
1N3720	GE	4.00
1N3721	GE	4.68
1N3735	INT	21.00
1N3738	GE	25.00
1N3740	GE	22.50
1N3741	GE	33.50
1N3754	RCA	.32
1N3755	RCA	.33
1N3756	RCA	.35
1N3766	GE	9.75
1N3785	MOT	3.75
1N3785B	MOT	6.95
1N3787	MOT	3.75
1N3788	MOT	3.75
1N3789	MOT	3.75
1N3789B	MOT	6.95
1N3790B	MOT	6.95
1N3791	MOT	3.71
1N3791A	MOT	5.30
1N3791B	MOT	6.95
1N3792	MOT	3.75
1N3792B	MOT	6.95
1N3793	MOT	3.75
1N3793B	MOT	6.95
1N3794	MOT	3.75
1N3794A	MOT	5.30
1N3794B	MOT	6.95
1N3795	MOT	3.75
1N3795A	MOT	5.30
1N3795B	MOT	6.95
1N3796	MOT	3.75
1N3796A	MOT	5.30
1N3796B	MOT	6.95
1N3797	MOT	3.75

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
1N3797A	MOT	5.30
1N3797B	MOT	6.95
1N3798	MOT	3.75
1N3798A	MOT	5.30
1N3798B	MOT	6.95
1N3799	MOT	3.75
1N3799A	MOT	5.30
1N3800	MOT	3.75
1N3800A	MOT	5.30
1N3800B	MOT	6.95
1N3801	MOT	3.75
1N3803	MOT	3.75
1N3803A	MOT	5.30
1N3803B	MOT	6.95
1N3805	MOT	3.75
1N3806	MOT	3.75
1N3807	MOT	3.75
1N3808A	MOT	5.30
1N3808B	MOT	6.95
1N3809	MOT	3.75
1N3811A	MOT	5.30
1N3812B	MOT	6.95
1N3813	MOT	3.75
1N3813A	MOT	5.30
1N3813B	MOT	6.95
1N3815	MOT	4.75
1N3815B	MOT	8.35
1N3816	MOT	4.75
1N3816B	MOT	8.35
1N3817	MOT	4.75
1N3818B	MOT	8.80
1N3820	MOT	4.75
1N3820B	MOT	8.80
1N3821	INT MOT	2.10
1N3821A	INT MOT	2.65
1N3821AJAN	MOT	5.05
1N3822	MOT	2.10
1N3822A	MOT	2.65
1N3823	MOT	2.10
1N3823A	MOT	2.65
1N3824	INT MOT	2.10
1N3824A	MOT	2.65
1N3825	MOT	2.10
1N3825A	MOT	2.65
1N3825AJAN	MOT	5.05
1N3826	INT MOT	2.10
1N3826A	INT MOT	2.65
1N3827	INT MOT	2.10
1N3827A	INT MOT	2.65
1N3828	INT MOT	2.10
1N3828A	INT MOT	2.65
1N3828AJAN	MOT	5.05
1N3829	MOT	2.10
1N3829A	MOT	2.65
1N3830	MOT	2.10
1N3830A	MOT	2.65
1N3879	MOT	2.25
1N3879R	MOT	2.55
1N3880	MOT	2.70
1N3880JAN	GE	3.60
1N3883	MOT	4.50
1N3889	GE MOT	3.15
1N3890	MOT	3.60
1N3890R	MOT GE	3.75
1N3891	MOT	4.35
1N3892	GE MOT	5.70
1N3893	GE MOT	6.75
1N3899	MOT	4.20
1N3900	MOT	5.02
1N3901	MOT	6.00
1N3903	MOT	8.63
1N3909	MOT	4.88
1N3910	GE	6.00
1N3911	MOT GE	7.80
1N3913	MOT GE	11.40
1N3939	MOT	4.88
1N3987	INT	7.25
1N3988	MOT	9.20
1N3989	MOT	11.75
1N3990	GE	10.80
1N3993	INT MOT	5.65
1N3993A	INT MOT	7.70
1N3994	MOT	5.65
1N3994A	MOT	7.70
1N3995A	INT MOT	7.70
1N3996	MOT	5.65
1N3996A	INT MOT	7.70
1N3996AR	MOT	7.70

Type	Mfg.	*1-24
1N3997	MOT	5.65
1N3997A	MOT	7.70
1N3998	INT MOT	7.25
1N3998A	INT	11.25
1N3998R	INT MOT	5.65
1N3999	MOT	5.65
1N3999A	MOT	7.70
1N3999AR	MOT	7.70
1N4000	MOT	5.65
1N4000A	MOT	7.70
1N4001	INT	.23
1N4003	INT MOT	.45
1N4004	INT MOT	.53
1N4005	INT MOT	.60
1N4006	INT MOT	.75
1N4007	INT MOT TI	.83
1N4009	GE	.36
1N4045	GE	19.00
1N4050	GE	26.50
1N4054	GE	35.00
1N4054R	GE	35.00
1N4057	MOT	5.90
1N4058	MOT	6.40
1N4059	MOT	7.20
1N4060	MOT	7.70
1N4061	MOT	8.95
1N4061A	MOT	10.75
1N4077	MOT	33.25
1N4090	GE	3.53
1N4099	MOT	3.85
1N4100	MOT	3.85
1N4101	MOT	3.85
1N4102	MOT	3.85
1N4103	MOT	3.85
1N4104	MOT	3.85
1N4105	MOT	3.85
1N4106	MOT	3.85
1N4107	MOT	3.85
1N4109	MOT	3.85
1N4112	MOT	3.85
1N4114	MOT	3.85
1N4115	MOT	3.85
1N4116	MOT	3.85
1N4118	MOT	3.85
1N4125	MOT	3.85
1N4126	MOT	3.85
1N4135	MOT	3.85
1N4136	INT	5.05
1N4136R	INT	4.50
1N4137	INT	7.25
1N4138	INT	9.00
1N4138R	INT	7.87
1N4148	GE	.30
1N4149	GE	.52
1N4150	GE	2.10
1N4151	GE	.75
1N4152	GE	.60
1N4153	GE	.75
1N4153JAN	GE	.75
1N4154	GE	.33
1N4156	GE	.75
1N4157	GE	1.04
1N4245JAN	GE	.75
1N4247	GE	.59
1N4247JAN	GE	1.38
1N4279	MOT	1.93
1N4305	GE	.60
1N4306	GE	7.00
1N4370	INT MOT	2.00
1N4370A	INT MOT	2.75
1N4370AJAN	MOT	2.95
1N4371	MOT	2.00
1N4371A	INT MOT	2.75
1N4372	INT MOT	2.00
1N4372A	INT MOT	2.75
1N4386	MOT	29.10
1N4388	MOT	29.10
1N4444	GE	1.51
1N4446	GE	.36
1N4448	GE	.75
1N4454	GE	.24
1N4510	GE	11.80
1N4529	GE	13.50
1N4530	GE	17.25
1N4531	GE TI	.45
1N4536	GE TI	.42
1N4549	MOT	6.05
1N4549BR	MOT	11.50

Type	Mfg.	*1-24
1N4551	MOT	6.05
1N4551A	MOT	8.00
1N4552	MOT	6.05
1N4552A	MOT	8.00
1N4552B	MOT	11.50
1N4552BR	MOT	11.50
1N4553	MOT	6.05
1N4553A	MOT	8.00
1N4553B	MOT	11.50
1N4554	MOT	6.05
1N4554B	MOT	11.50
1N4554BR	MOT	11.50
1N4555A	MOT	8.00
1N4556B	MOT	11.50
1N4557B	MOT	11.50
1N4561	MOT	6.05
1N4562	MOT	6.05
1N4570	MOT	5.85
1N4575	MOT	3.00
1N4575A	MOT	3.30
1N4576A	MOT	4.05
1N4577A	MOT	7.30
1N4578A	MOT	13.50
1N4580	MOT	3.00
1N4580A	MOT	3.30
1N4581	MOT	3.65
1N4582	MOT	6.60
1N4606	GE	1.20
1N4608	GE	1.44
1N4719	MOT	.66
1N4719R	MOT	.66
1N4720	MOT	.73
1N4720R	MOT	.73
1N4721	MOT	.82
1N4721R	MOT	.82
1N4722	MOT	1.12
1N4722R	MOT	1.12
1N4723	MOT	1.50
1N4723R	MOT	1.50
1N4724	MOT	2.25
1N4724R	MOT	2.25
1N4725	MOT	3.35
1N4725R	MOT	3.35
1N4727	GE TI	.40
1N4728	MOT	1.26
1N4728A	MOT	1.93
1N4729	INT	1.25
1N4729A	MOT	1.93
1N4730	MOT	1.26
1N4730A	MOT	1.93
1N4731	INT	1.25
1N4731A	MOT	1.93
1N4732	INT MOT	1.26
1N4732A	INT	1.90
1N4733	INT MOT	1.26
1N4733A	INT MTO	1.93
1N4734	INT	1.25
1N4734A	INT	1.90
1N4735	INT	1.25
1N4735A	INT	1.90
1N4736	INT MTO	1.26
1N4736A	MTO INT	1.93
1N4737	MTO INT	1.26
1N4737A	MTO INT	1.93
1N4738	MTO INT	1.26
1N4738A	MTO INT	1.90
1N4739	MTO INT	1.26
1N4739A	MTO INT	1.93
1N4740	MOT INT	1.26
1N4740A	INT MOT	1.93
1N4741	INT	1.90
1N4741A	MOT	1.93
1N4742	INT	1.25
1N4742A	INT	1.90
1N4743	INT	1.25
1N4743A	INT MOT	1.93
1N4744	INT	1.25
1N4744A	INT	1.90
1N4745	MOT	1.26
1N4745A	MOT	1.93
1N4746	INT	1.25
1N4746A	INT	1.90
1N4747	INT	1.25
1N4747A	INT	1.90
1N4748	INT	1.25
1N4748A	MOT	1.93
1N4749	INT	1.25
1N4749A	INT	1.90

Key	Mfr.
GE	General Electric
INT	International Rectrifier
IIT	IIT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
1N4750	INT MOT	1.26
1N4750A	INT MOT	1.93
1N4751	INT	1.25
1N4751A	MOT	1.93
1N4752	MOT	1.26
1N4752A	MOT	1.93
1N4753	INT	1.25
1N4753A	MOT	1.93
1N4754	MOT	1.26
1N4754A	MOT	1.93
1N4755	MOT	1.26
1N4755A	MOT	1.93
1N4756	MOT	1.26
1N4756A	MOT	1.93
1N4757	MOT	1.26
1N4757A	MOT	1.93
1N4758	INT MOT	1.26
1N4758A	MOT	1.93
1N4759	MOT	1.26
1N4759A	MOT	1.93
1N4760	INT MOT	1.26
1N4760A	MOT	1.93
1N4761	INT MOT	1.26
1N4761A	MOT	1.93
1N4762	MOT	1.26
1N4762A	INT MOT	1.93
1N4763	INT MOT	1.26
1N4763A	MOT	1.93
1N4764	MOT	1.26
1N4764A	MOT	1.93
1N4768A	MOT	45.75
1N4769	MOT	89.50
1N4769A	MOT	99.50
1N4770	MOT	5.85
1N4772	MOT	13.25
1N4772A	MOT	14.75
1N4773	MOT	24.25
1N4773A	MOT	27.00
1N4774	MOT	56.50
1N4781A	MOT	8.10
1N4783	MOT	24.25
1N4784A	MOT	63.15
1N4816	INT	.24
1N4817	INT	.28
1N4818	INT	.32
1N4819	INT	.37
1N4820	INT	.41
1N4821	INT	.45
1N4822	INT	.50
1N4829	GE	.69
1N4830	GE	.93
1N4864	GE	1.37
1N4871	INT	26.55
1N4909	MOT	6.60
1N4933	MOT	.60
1N4934	MOT	.68
1N4935	MOT	.75
1N4936	MOT	1.04
1N4937	MOT	1.18
1N4952	GE	.41
1N4997	MOT	.66
1N4997R	MOT	.66
1N4998	MOT	.73
1N4998R	MOT	.73
1N4999	MOT	.82
1N4999R	MOT	.82
1N5000	MOT	1.12
1N5001	MOT	1.50
1N5002	MOT	2.25
1N5003	MOT	3.35

★

PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
1N5003R	MOT	3.35
1N5053	INT	.80
1N5054	INT	.90
1N5059	GE	.36
1N5060	GE	.43
1N5061	GE	.57
1N5062	GE	.80
1N5139	MOT	4.65
1N5139A	MOT	6.45
1N5140	MOT	4.65
1N5143	MOT	4.65
1N5144	MOT	4.65
1N5149	MOT	23.90
1N5150	MOT	29.10
1N5155	MOT	29.10
1N5158	MOT	3.75
1N5159	MOT	3.38
1N5160	MOT	3.75
1N5213	RCA	.56
1N5214	RCA	.81
1N5215	RCA	.42
1N5216	RCA	.45
1N5217	RCA	.60
1N5218	RCA	.85
1N5221	MOT	.67
1N5221A	MOT	.90
1N5221B	MOT	1.05
1N5222	MOT	.67
1N5222B	MOT	1.05
1N5223	MOT	.67
1N5223A	MOT	.90
1N5223B	MOT	1.05
1N5224	MOT	.67
1N5224A	MOT	.90
1N5224B	MOT	1.05
1N5225	MOT	.67
1N5225A	MOT	.90
1N5225B	MOT	1.05
1N5226	MOT	.67
1N5226A	MOT	1.05
1N5227	MOT	.67
1N5227A	MOT	.90
1N5227B	MOT	1.05
1N5228	MOT	.67
1N5228A	MOT	.90
1N5228B	MOT	1.05
1N5229	MOT	.67
1N5229A	MOT	.90
1N5229B	MOT	1.05
1N5230	MOT	.67
1N5230A	INT	.80
1N5230B	MOT	1.05
1N5231	MOT	.67
1N5231A	MOT	.90
1N5231B	MOT	1.05
1N5232	INT MOT	.67
1N5232A	MOT	.90
1N5232B	MOT	1.05
1N5233	MOT	.67
1N5233A	MOT	.90
1N5233B	MOT	1.05
1N5234	MOT	.67
1N5234A	MOT	.90
1N5234B	MOT	1.05
1N5235	MOT	.67
1N5235A	MOT	.90
1N5235B	MOT	1.05
1N5236	MOT	.67
1N5236A	MOT	.90
1N5236B	MOT	1.05
1N5237	MOT	.67
1N5237A	MOT	.90
1N5237B	MOT	1.05
1N5238	MOT	.67
1N5238B	MOT	1.05
1N5239	MOT	.67
1N5239A	MOT	.90
1N5239B	MOT	1.05
1N5240	MOT	.67
1N5240A	MOT	.90
1N5240B	MOT	1.05
1N5241	MOT	.67
1N5241A	MOT	.90
1N5241B	MOT	1.05
1N5242	MOT	.67
1N5242A	MOT	.90
1N5242B	MOT	1.05
1N5243	MOT	.67
1N5243A	MOT	.90
1N5243B	MOT	1.05
1N5244	MOT	.67
1N5244B	MOT	1.05
1N5245	MOT	.67
1N5245A	MOT	.90
1N5245B	MOT	1.05
1N5246	MOT	.67
1N5246B	MOT	1.05
1N5247B	MOT	.00
1N5248	MOT	.67
1N5248A	MOT	.67
1N5248B	MOT	1.05
1N5249	MOT	.67
1N5249A	MOT	.90
1N5249B	MOT	1.05
1N5250	MOT	.67
1N5250A	MOT	.90
1N5250B	MOT	1.05
1N5251	MOT	.67
1N5251A	MOT	.90
1N5251B	MOT	1.05
1N5252	MOT	.67
1N5252A	MOT	.90
1N5252B	INT	.90
1N5253	MOT	.67
1N5253A	MOT	.90
1N5253B	MOT	1.05
1N5254	MOT	.67
1N5254A	MOT	.90
1N5254B	MOT	1.05
1N5255	MOT	.67
1N5255B	MOT	1.05
1N5256	MOT	.67
1N5256B	MOT	1.05
1N5257	MOT	.67
1N5257B	MOT	1.05
1N5258	MOT	.90
1N5258A	MOT	1.12
1N5258B	MOT	1.27
1N5259	MOT	.90
1N5260	MOT	.90
1N5261	MOT	.90
1N5261A	MOT	1.12
1N5261B	MOT	1.27
1N5262	MOT	.90
1N5262B	MOT	1.27
1N5263	MOT	.90
1N5265	MOT	.90
1N5267A	MOT	1.12
1N5267B	MOT	1.27
1N5268	MOT	.90
1N5268B	MOT	1.27
1N5270	MOT	.90
1N5271	MOT	1.27
1N5271A	MOT	1.50
1N5271B	MOT	1.65
1N5272A	MOT	1.50
1N5273B	MOT	1.65
1N5274	MOT	1.27
1N5276	MOT	1.27
1N5276A	MOT	1.50
1N5277B	MOT	1.65
1N5279B	MOT	1.65
1N5281	MOT	1.27
1N5281A	MOT	1.50
1N5281B	MOT	1.65
1N5284	MOT	3.30
1N5286	MOT	2.30
1N5288	MOT	2.30
1N5290	MOT	2.30
1N5291	MOT	2.30
1N5292	MOT	2.30
1N5293	MOT	2.30
1N5295	MOT	2.30
1N5296	MOT	2.30
1N5298	MOT	2.30
1N5299	MOT	2.30
1N5302	MOT	2.30
1N5305	MOT	2.30
1N5307	MOT	2.30
1N5309	MOT	2.30
1N5311	MOT	3.30
1N5313	MOT	3.30
1N5333A	MOT	2.20
1N5333B	MOT	2.45
1N5334	MOT	2.20
1N5334A	MOT	2.20
1N5334B	MOT	2.45
1N5335	MOT	2.20
1N5335A	MOT	2.20
1N5335B	MOT	2.45
1N5336A	MOT	2.20
1N5336B	MOT	2.45
1N5337	MOT	2.20
1N5337A	MOT	2.20
1N5337B	MOT	2.45
1N5338	MOT	2.20
1N5338A	MOT	2.20
1N5338B	MOT	2.45
1N5339	INT MOT	2.20
1N5339A	MOT	2.20
1N5339B	MOT	2.45
1N5340	MOT	2.20
1N5340A	MOT	2.20
1N5340B	INT MOT	2.45
1N5341	MOT	2.20
1N5341A	MOT	2.20
1N5341B	MOT	2.45
1N5342	MOT	2.20
1N5342A	MOT	2.20
1N5342B	MOT	2.45
1N5343	MOT	2.20
1N5343A	MOT	2.20
1N5343B	INT MOT	2.45
1N5344	MOT	2.20
1N5344A	MOT	2.20
1N5344B	MOT	2.45
1N5345	MOT	2.20
1N5345A	MOT	2.20
1N5345B	MOT	2.45
1N5346	MOT	2.20
1N5346A	MOT	2.20
1N5346B	MOT	2.45
1N5347	INT MOT	2.20
1N5347A	MOT	2.20
1N5347B	MOT	2.45
1N5348	MOT	2.20
1N5348A	MOT	2.20
1N5348B	MOT	2.45
1N5349	MOT	2.20
1N5349A	INT MOT	2.20
1N5349B	INT MOT	2.45
1N5350	MOT	2.20
1N5350B	MOT	2.45
1N5351	MOT	2.20
1N5351A	MOT	2.20
1N5351B	MOT	2.45
1N5352	MOT	2.20
1N5352A	MOT	2.20
1N5352B	MOT	2.45
1N5353	MOT	2.20
1N5353A	MOT	2.20
1N5353B	MOT	2.45
1N5354	MOT	2.20
1N5354B	MOT	2.45
1N5355	MOT	2.20
1N5355A	MOT	2.20
1N5355B	MOT	2.45
1N5356A	MOT	2.20
1N5356B	MOT	2.45
1N5357	MOT	2.20
1N5357A	MOT	2.20
1N5357B	MOT	2.45
1N5358	INT	2.10
1N5358B	MOT	2.45
1N5359	MOT	2.20
1N5359A	MOT	2.20
1N5359B	MOT	2.45
1N5360	MOT	2.20
1N5360A	MOT	2.20
1N5360B	MOT	2.45
1N5361	MOT	2.20
1N5361A	MOT	2.20
1N5361B	MOT	2.45
1N5362	MOT	2.20
1N5362A	MOT	2.20
1N5362B	MOT	2.45
1N5363	MOT	2.20
1N5363A	MOT	2.20
1N5363B	MOT	2.45
1N5364	MOT	2.20
1N5364B	MOT	2.45
1N5365	MOT	2.20
1N5365A	MOT	2.20
1N5365B	MOT	2.45
1N5366	MOT	2.20
1N5366A	MOT	2.20
1N5366B	MOT	2.45
1N5367	MOT	2.20
1N5367A	MOT	2.20
1N5367B	MOT	2.45
1N5368	MOT	2.20
1N5368A	MOT	2.20
1N5368B	MOT	2.45
1N5369	MOT	2.20
1N5369A	MOT	2.20
1N5369B	MOT	2.45
1N5370	MOT	2.20
1N5370A	MOT	2.20
1N5370B	MOT	2.45
1N5371A	MOT	2.20
1N5371B	MOT	2.45
1N5372A	MOT	2.20
1N5373	MOT	2.20
1N5373A	MOT	2.20
1N5373B	MOT	2.45
1N5374	MOT	2.20
1N5374B	MOT	2.45
1N5375	MOT	2.20
1N5375A	MOT	2.20
1N5375B	MOT	2.45
1N5376B	MOT	2.45
1N5377	MOT	2.20
1N5377A	MOT	2.20
1N5377B	MOT	2.45
1N5378	MOT	2.20
1N5378A	MOT	2.20
1N5378B	MOT	2.45
1N5379	MOT	2.20
1N5379A	MOT	2.20
1N5379B	MOT	2.45
1N5380	MOT	2.60
1N5381	MOT	2.60
1N5381A	MOT	2.60
1N5381B	MOT	2.85
1N5382	MOT	2.60
1N5382B	MOT	2.85
1N5383	MOT	2.60
1N5383A	MOT	2.60
1N5383B	MOT	2.85
1N5384	MOT	2.60
1N5384B	MOT	2.85
1N5385	MOT	2.60
1N5386	MOT	2.60
1N5386A	MOT	2.60
1N5386B	MOT	2.85
1N5387A	MOT	2.60
1N5387B	MOT	2.85
1N5388	MOT	2.60
1N5388A	MOT	2.60
1N5388B	MOT	2.85
1N5447A	MOT	2.60
1N5450A	MOT	2.60
1N5456A	MOT	2.60
1N5461B	MOT	8.70
1N5462A	MOT	5.93
1N5463	MOT	1.35
1N5465A	MOT	5.93
1N5469A	MOT	5.93
1N5470A	MOT	5.93
1N5471A	MOT	5.93
1N5485A	MOT	2.60
1N5518B	MOT	4.13
1N5521	MOT	3.00
1N5523	MOT	3.00

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
1N5525	MOT	3.00
1N5525B	MOT	4.13
1N5528	MOT	3.00
1N5528A	MOT	3.00
1N5529B	MOT	4.13
1N5530A	MOT	3.00
1N5545B	MOT	.00
1N5624	GE	.75
1N5625	GE	1.00
1N5626	GE	1.40
1N5758	MOT	.53
1N5758A	MOT	.58
1N5760	MOT	.53
1N5761	MOT	.53
1N5762	MOT	.53
1N5823	MOT	5.40
1N5829	MOT	9.00
1N5832	MOT	13.50
1N5862B	MOT	.84
1N702A-1	MOT	2.60
1N704A-5	MOT	2.60
1N707A-0	MOT	2.60
1N707A-6	MOT	2.60
1N7474A	INT MOT	2.75
1N9578	INT MOT	2.95
2M321	GE MOT	.81
2M929	MOT TI	2.25
2N10C8A	MOT	1.20
2N10C8B	MOT	1.28
2N10C8	MOT	1.13
2N117	TI	8.15
2N118	TI	8.15
2N174	MOT	3.60
2N174A	MOT	3.75
2N176	MOT	1.00
2N177AJAN	GE	12.46
2N178	MOT	1.10
2N18C8	TI	.58
2N242	MOT	1.60
2N243	TI	11.00
2N244	TI	16.36
2N250A	TI	1.73
2N251A	TI	1.88
2N263	TI	17.85
2N265	GE	.88
2N277	MOT	2.35
2N278	MOT	2.80
2N297A	MOT	1.60
2N297AJAN	MOT	2.40
2N301	MOT	1.20
2N307	MOT	1.00
2N307A	MOT	1.87
2N319	GE MOT	.88
2N320	GE MOT	.74
2N322	MOT	2.40
2N323	GE MOT	.70
2N324	MOT	.83
2N331	MOT	1.88
2N332	TI	4.65
2N332A	TI	4.90
2N333	TI	4.65
2N333A	TI	4.90
2N334	TI	4.65
2N334USN	TI	.90
2N335	TI	4.90
2N335A	TI	5.20
2N335JAN	TI	5.25
2N335USN	TI	1.05
2N336	TI	5.95
2N336A	TI	6.25
2N336JAN	TI	6.30
2N337	TI	4.85
2N338	TI	5.50
2N338JAN	TI	5.80
2N339	TI	8.12
2N340	TI	8.64
2N341	TI	14.00
2N342	TI	9.48
2N343	TI	14.72
2N351	MOT	1.55
2N351A	MOT	1.70
2N358A	TI	1.05
2N358AJAN	TI	1.50
2N359	GE	.38
2N375	MOT	3.85
2N376A	MOT	1.85
2N378	MOT	1.80
2N379	MOT	1.90
2N380	MOT	1.70
2N381	MOT	1.43
2N382	MOT	1.88
2N383	MOT	2.40
2N388	TI	.47
2N388A	TI	.88
2N389	TI	21.00
2N389A	TI	21.00
2N393JAN	MOT	5.18
2N396	TI	.61
2N397	TI	1.11
2N398	TI	.90
2N398A	TI	.98
2N398AJAN	MOT	1.35
2N398B	TI	1.23
2N404	TI	.42
2N404A	TI	.58
2N424	TI	16.50
2N426	TI	.72
2N427	TI	.92
2N428	TI	1.23
2N438	TI	1.50
2N438A	TI	1.50
2N439	TI	1.87
2N440	TI	2.85
2N441	MOT	1.65
2N442	MOT	1.95
2N443	MOT	2.35
2N456	TI	.90
2N456A	TI	1.80
2N456B	TI	1.80
2N457A	TI	2.18
2N457B	TI	2.18
2N458A	TI	2.63
2N458B	TI	2.63
2N459	MOT	4.35
2N459A	MOT	4.65
2N464	MOT	1.88
2N465	MOT	1.88
2N465JAN	MOT	2.25
2N466	MOT	2.10
2N467	MOT	2.55
2N478	TI	3.60
2N489	GE	7.10
2N489A	TI	7.65
2N489AJAN	GE	7.80
2N489B	TI	9.15
2N490	GE	7.80
2N490A	GE	8.35
2N491	GE	8.40
2N491A	GE	9.15
2N491AJAN	TI	9.15
2N491AJANTX	TI	14.10
2N491B	GE TI	10.40
2N492	GE TI	9.90
2N493	TI	10.75
2N493A	GE	11.20
2N494	GE	10.90
2N494C	GE TI	14.95
2N497	TI	1.89
2N498	TI	2.12
2N501	MOT	5.55
2N502	MOT	3.25
2N502A	MOT	3.75
2N502B	MOT	4.20
2N508	GE MOT	.81
2N508A	GE MOT	1.08
2N511	TI	4.05
2N520	TI	1.28
2N520A	TI	1.28
2N524	MOT	1.49
2N525	GE MOT	1.62
2N526	GE MOT	1.75
2N526A	MOT	.00
2N526JAN	GE MOT	2.16
2N527	GE MOT	1.82
2N542	TI	6.20
2N553	MOT	3.34
2N554	MOT	.80
2N555	MOT	.85
2N587	TI	3.34
2N594	TI	2.75
2N595	TI	4.25
2N596	TI	5.65
2N618	MOT	2.65
2N627	MOT	3.00
2N628	MOT	3.50
2N629	MOT	5.30
2N630	MOT	6.05
2N636A	TI	2.00
2N650	MOT	2.03
2N650A	MOT	2.10
2N651	MOT	2.03
2N651A	MOT	2.10
2N652	MOT	2.35
2N652A	MOT TI	2.80
2N652AJAN	MOT	4.20
2N653	MOT	2.50
2N654	MOT	2.65
2N655	MOT	2.80
2N656	TI	2.03
2N656A	TI	2.40
2N657	TI	2.20
2N665	MOT	4.05
2N669	MOT	1.30
2N681	GE INT MOT	2.35
2N682	GE	2.85
2N682JAN	GE	3.93
2N683	GE MOT	3.60
2N683JAN	GE	4.68
2N684	GE MOT TI	4.23
2N685	GE INT MOT RCA	4.86
2N685JAN	GE	5.94
2N686	GE MOT	5.41
2N687	GE INT MOT RCA	5.82
2N688	GE INT MOT RCA	6.80
2N689	GE INT MOT RCA	8.11
2N690	GE MOT RCA WES	3.74
2N691	INT	14.49
2N692	GE INT	19.15
2N696	MOT TI	.52
2N697	RCA	.41
2N698	TI	1.57
2N699	MOT RCA TI	1.32
2N700	MOT	6.00
2N700A	MOT	10.50
2N702	MOT	6.75
2N705	MOT	1.03
2N706	MOT	.69
2N706A	MOT	1.18
2N706B	MOT	1.48
2N708	MOT	.80
2N711	MOT	.88
2N711A	MOT	.88
2N717	TI	.99
2N718	MOT TI	.46
2N718A	RCA	1.08
2N719	TI	2.35
2N719A	TI	2.50
2N720	TI	1.10
2N720A	MOT RCA TI	1.32
2N721	TI	1.46
2N722	MOT TI	1.46
2N726	TI	.36
2N730	TI	.70
2N731	TI	1.10
2N735	MOT	2.50
2N736	MOT	2.50
2N740	MOT	2.70
2N741	MOT	2.18
2N743	MOT	6.20
2N744	MOT	2.90
2N753	MOT TI	1.97
2N797	TI	3.24
2N828	MOT	3.30
2N834	MOT	2.00
2N835	MOT	1.50
2N869	MOT	5.85
2N871	TI	2.73
2N878	GE	3.30
2N879	GE TI	5.40
2N910	MOT TI	2.37
2N911	MOT	5.55
2N912	TI	2.20
2N914	MOT	.95
2N915	MOT	4.95
2N916	MOT	3.65
2N917	TI	2.48
2N918	MOT RCA TI	3.30
2N918JAN	MOT	3.35
2N929JAN	MOT	2.60
2N930	MOT TI	1.50
2N930A	MOT TI	1.80
2N930JAN	TI	1.50
2N956	MOT	.85
2N960	MOT	.96
2N961	MOT	.91

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
2N962	MOT	.85
2N963	MOT	.82
2N964	MOT	.99
2N965	MOT	.94
2N966	MOT	.88
2N967	MOT	.87
2N968	MOT	.90
2N971	MOT	.79
2N974	MOT	.83
2N975	MOT	.81
2N995	MOT	5.85
2N998	MOT	3.00
2N1011	MOT	1.95
2N1021	MOT	3.10
2N1022	TI	3.60
2N1022A	TI	3.60
2N1038	MOT TI	2.85
2N1039	MOT TI	3.75
2N1040	TI	3.60
2N1041	TI	4.50
2N1042	TI	2.85
2N1043	TI	4.20
2N1044	TI	4.80
2N1044JAN	TI	13.14
2N1045JAN	TI	13.69
2N1046	TI	10.25
2N1046A	TI	18.38
2N1047	TI	14.30
2N1049	TI	16.75
2N1050	TI	22.10
2N1050A	TI	22.10
2N1057	GE	4.56
2N1073	MOT	2.40
2N1073A	MOT	3.60
2N1073B	MOT	4.50
2N1086A	GE	1.57
2N1099	MOT	3.90
2N1100	MOT	4.50
2N1131	MOT TI	1.85
2N1131A	MOT	2.70
2N1131JAN	MOT	2.40
2N1132	MOT TI	1.46
2N1132A	MOT	2.75
2N1141	TI	4.73
2N1142	MOT TI	3.90
2N1142A	TI	1.27
2N1143	MOT TI	3.15
2N1143A	TI	1.05
2N1146	MOT	2.75
2N1151	TI	8.65
2N1152	TI	11.35
2N1156	TI	14.12
2N1162	MOT	4.45
2N1163AML	MOT	5.08
2N1164	MOT	6.35
2N1165	MOT	6.35
2N1165AMEGAL	MOT	7.20
2N1166AMEGAL	MOT	8.00
2N1167	MOT	7.55
2N1167AML	MOT	8.00
2N1175	MOT	1.28
2N1175A	GE	.70
2N1184	RCA	2.83
2N1184A	RCA	2.65
2N1184JAN	RCA	1.13
2N1185	MOT	3.60
2N1187	MOT	3.85
2N1188	MOT	4.75
2N1189	MOT	2.25

NEW TYPES STOCKED AS SOON AS RELEASED

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
2N1190	MOT	2.40
2N1191	MOT	1.43
2N1192	MOT	1.43
2N1193	MOT	1.88
2N1194	MOT	2.03
2N1195	RCA TI	3.95
2N1195JAN	MOT	4.43
2N1204	MOT	1.65
2N1204A	MOT	1.65
2N1273	TI	.42
2N1274	TI	.50
2N1278	TI	1.29
2N1279	GE	2.16
2N1302	TI	.42
2N1303	TI	.42
2N1304	TI	.50
2N1305	GE TI	.48
2N1306	TI	.62
2N1307	TI	.58
2N1308	TI	.91
2N1309	GE	.37
2N1358	MOT	5.10
2N1360	MOT	1.75
2N1362	MOT	3.25
2N1363	MOT	3.50
2N1364	MOT	4.25
2N1370	TI	.72
2N1371	TI	1.14
2N1372	TI	.81
2N1373	MOT TI	1.20
2N1374	MOT TI	1.02
2N1375	TI	1.38
2N1376	TI	1.29
2N1377	MOT TI	1.50
2N1379	MOT	1.44
2N1380	TI	.66
2N1381	TI	.72
2N1382	TI	.99
2N1383	TI	.92
2N1396	RCA	2.79
2N1404	TI	.58
2N1408	MOT	1.05
2N1412	MOT	4.50
2N1413	GE MOT	1.21
2N1414	MOT	1.15
2N1415	GE	1.10
2N1417	GE	.67
2N1418	GE	.73
2N1420	TI	1.20
2N1479	RCA	1.12
2N1480	RCA	1.30
2N1481	RCA	1.30
2N1481JAN	RCA	1.56
2N1482	RCA	1.47
2N1482JAN	RCA	1.73
2N1483	RCA	1.73
2N1483JAN	RCA	2.08
2N1484	RCA	1.91
2N1484JAN	RCA	2.26
2N1485	RCA	1.91
2N1485JAN	RCA	2.26
2N1486	RCA	2.08
2N1486JAN	RCA	2.43
2N1487	RCA	2.16
2N1487JAN	RCA	2.51
2N1488	RCA	2.26
2N1489	RCA	2.26
2N1490	RCA	2.51
2N1491	RCA	1.82
2N1492	RCA	4.29
2N1493	RCA	7.01
2N1494	MOT	2.17
2N1499A	MOT	1.60
2N1500	MOT	7.65
2N1507	TI	1.20
2N1521	MOT	5.67
2N1529	MOT	1.80
2N1530	MOT	1.71
2N1531	MOT	2.70
2N1531AMEGAL	MOT	2.70
2N1532	MOT	3.50
2N1533	MOT	5.00
2N1534	MOT	1.33
2N1535	MOT	1.50
2N1535AMEGAL	MOT	1.50
2N1536	MOT	1.70
2N1537	MOT	3.90
2N1537A	MOT	4.45
2N1538	MOT	5.10
2N1539	MOT	1.42
2N1540	MOT	1.58
2N1540AMEGAL	MOT	1.58
2N1541	MOT	1.85
2N1542	MOT	2.35
2N1543	MOT	3.60
2N1544	MOT	1.65
2N1545	TI	1.85
2N1545AMEGAL	MOT	1.85
2N1546	MOT	2.30
2N1546AMEGAL	MOT	3.50
2N1547	MOT	2.75
2N1547AMEGAL	MOT	4.50
2N1548	MOT	6.00
2N1549	MOT	3.00
2N1550	MOT	3.50
2N1551	MOT	5.50
2N1551A	MOT	6.00
2N1552	MOT	6.00
2N1553	MOT	1.85
2N1553AML	MOT	2.25
2N1554	MOT	2.50
2N1554AMEGAL	MOT	2.85
2N1555	MOT	3.00
2N1556	MOT	4.50
2N1556AMEGAL	MOT	5.00
2N1557	MOT	2.15
2N1557A	MOT	2.15
2N1559	MOT	3.25
2N1560	MOT	4.45
2N1560AMEGAL	MOT	5.00
2N1566	TI	1.80
2N1566A	TI	1.87
2N1595	GE	1.65
2N1596	GE	2.40
2N1596A	INT	2.16
2N1597	TI	2.25
2N1597A	INT	2.59
2N1598	INT MOT	8.60
2N1598A	INT	3.02
2N1599	INT MOT	12.35
2N1599A	INT	3.45
2N1601	INT	5.20
2N1602	INT	6.80
2N1605	TI	.62
2N1613	MOT RCA TI	.79
2N1613JAN	TI	1.20
2N1638	RCA	.57
2N1651	MOT	4.85
2N1652	MOT	10.10
2N1653JAN	MOT	27.00
2N1671	GE TI	2.95
2N1671A	GE TI	3.20
2N1671B	GE TI	3.55
2N1671C	GE	8.25
2N1692	MOT	22.50
2N1700	RCA	1.90
2N1701	RCA	2.31
2N1702	RCA	4.54
2N1705	MOT	.83
2N1711	MOT RCA TI	.85
2N1714	TI	6.00
2N1715	TI	8.25
2N1716	TI	7.50
2N1719	TI	9.00
2N1720	TI	8.25
2N1722	TI	43.50
2N1724	TI	27.60
2N1724JAN	TI	35.25
2N1742	MOT	2.70
2N1754	MOT	1.42
2N1770A	GE	2.47
2N1771	GE	2.17
2N1771A	GE	4.05
2N1772A	GE	5.40
2N1773	GE	4.35
2N1773A	GE	5.25
2N1774	GE	5.40
2N1774A	INT GE	6.45
2N1775A	GE	7.57
2N1776A	GE	8.47
2N1777	GE	7.87
2N1777A	GE	9.45
2N1778	INT	9.75
2N1795JAN	GE	48.00
2N1842	MOT	2.10
2N1842A	MOT	2.20
2N1843	MOT	2.50
2N1844	GE	3.07
2N1844A	INT	3.37
2N1845	MOT	3.75
2N1846	GE	4.35
2N1846A	INT MOT	4.50
2N1847	MOT	5.00
2N1847A	GE MOT	5.17
2N1848	GE	5.40
2N1848A	MOT	5.50
2N1849	MOT	6.40
2N1849A	RCA	6.54
2N1850	MOT	7.45
2N1850A	GE MOT	7.65
2N1889	TI	2.20
2N1890	TI	12.20
2N1893	MOT RCA TI	1.57
2N1905	RCA	3.48
2N1909	INT	18.50
2N1910	INT	20.00
2N1911	INT GE	22.00
2N1912	GE	21.50
2N1913	INT GE	26.00
2N1914	INT	29.50
2N1916	GE	32.00
2N1924	GE MOT	1.82
2N1925	GE MOT	2.03
2N1926	GE MOT	2.36
2N1959	MOT	4.45
2N1973	TI	2.20
2N1974	TI	1.35
2N1983	MOT	2.50
2N1990	MOT	2.25
2N1991	MOT	3.95
2N1994	TI	2.33
2N1996	TI	5.14
2N1997	TI	1.77
2N1998	TI	1.88
2N2000	TI	2.50
2N2001	TI	2.17
2N2015	RCA	9.08
2N2016	RCA	9.90
2N2023	GE INT	22.00
2N2024	INT GE	28.50
2N2029	INT	41.50
2N2042	MOT	2.85
2N2042AML	MOT	3.40
2N2043	MOT	3.25
2N2043AML	MOT	3.90
2N2048	MOT	1.60
2N2060	MOT	4.10
2N2060A	MOT	5.45
2N2075	MOT	5.75
2N2076	MOT	3.60
2N2076A	MOT	4.20
2N2077	MOT	2.85
2N2079	MOT	8.00
2N2080	MOT	4.10
2N2081	MOT	3.50
2N2096	MOT	1.65
2N2102	RCA	1.07
2N2102A	TI	1.07
2N2137	MOT	2.10
2N2139	MOT	2.25
2N2140	MOT	3.90
2N2142	MOT	2.50
2N2143	MOT	2.75
2N2144	MOT	4.00
2N2145	MOT	4.75
2N2146	MOT	8.60
2N2148	RCA	1.26
2N2151	TI	21.00
2N2153	MOT	5.55
2N2153AMEGAL	MOT	6.30
2N2154	MOT	10.10
2N2155	MOT	15.35
2N2156	MOT	4.10
2N2156AMEGAL	MOT	4.85
2N2157	MOT	6.35
2N2158	MOT	10.85
2N2160	GE	1.49
2N2171	MOT	2.20
2N2189	TI	1.29
2N2190	TI	1.25
2N2191	TI	1.29
2N2192	MOT TI	4.20
2N2192A	MOT TI	4.40
2N2192B	MOT	4.50
2N2193	MOT	2.90
2N2193A	TI	1.75
2N2194	TI	1.75
2N2194A	MOT TI	2.40
2N2195	MOT	1.38
2N2195A	MOT	1.53
2N2201	GE	4.00
2N2210	MOT	5.93
2N2217	MOT TI	3.35
2N2218	TI	1.00
2N2218A	MOT TI	1.10
2N2219	INT MOT TI	1.15
2N2219A	MOT	1.75
2N2219JAN	MOT	1.60
2N2220	TI	1.11
2N2221	MOT TI	1.11
2N2221A	MOT	1.65
2N2222	MOT TI	.95
2N2222A	MOT TI	1.20
2N2222JAN	MOT	1.35
2N2223	MOT	4.95
2N2223A	MOT	5.85
2N2243	TI	1.86
2N2243A	TI	1.86
2N2257	MOT	1.27
2N2270	MOT RCA TI	.90
2N2288	MOT	2.65
2N2292	MOT	6.00
2N2303	MOT	8.25
2N2305	RCA	6.44
2N2322	MOT GE	2.30
2N2322A	GE	2.25
2N2323	MOT GE	2.85
2N2323A	GE	2.55
2N2324	MOT GE	3.75
2N2324A	GE	4.20
2N2325	MOT GE	4.95
2N2326	TI GE	7.50
2N2326A	GE	8.00
2N2328	GE	8.40
2N2329	GE	11.10
2N2330	MOT	3.35
2N2331	MOT	3.35
2N2338	RCA	6.60
2N2345	GE	3.90
2N2347	GE	9.15
2N2348	GE	12.00
2N2357	MOT	7.10
2N2358	MOT	14.25
2N2364	GE	9.12
2N2368	MOT	1.07
2N2369	GE MOT RCA	6.45
2N2369A	MOT	1.50
2N2369AJAN	MOT	1.95
2N2374	MOT TI	1.25
2N2382	MOT	5.15
2N2386	TI	2.70
2N2405	MOT RCA	1.57
2N2410	MOT	4.50
2N2411	TI	.45
2N2412	TI	.48
2N2415	MOT	5.63
2N2419	GE	8.40
2N2419A	GE	8.90
2N2432	TI	4.22
2N2432A	TI	4.30
2N2453	MOT TI	9.57
2N2476	MOT	1.65
2N2477	MOT	2.06
2N2480	GE MOT	5.34
2N2480A	GE MOT	6.27
2N2481	MOT	2.63
2N2483	TI	1.49
2N2484	MOT TI	1.36
2N2491	MOT	2.63
2N2492	MOT	3.75
2N2493	MOT	6.00

Type	Mfg.	*1-24
2N2497	TI	3.75
2N2498	TI	3.70
2N2499	MOT	7.40
2N2500	TI	5.25
2N2501	MOT	4.70
2N2508	INT	79.50
2N2526	MOT	4.20
2N2527	MOT	4.65
2N2528	MOT	11.80
2N2538	TI	1.86
2N2552	MOT TI	2.30
2N2553	MOT TI	3.05
2N2554	MOT TI	4.75
2N2555	MOT	6.20
2N2556	TI	2.48
2N2557	MOT TI	3.30
2N2559	MOT	6.25
2N2560	MOT TI	2.50
2N2561	TI	3.60
2N2562	MOT	4.80
2N2564	TI	3.00
2N2565	TI	3.75
2N2567	TI	6.00
2N2573	MOT	2.92
2N2574	MOT	3.56
2N2575	MOT	4.45
2N2576	MOT	4.75
2N2577	MOT	7.20
2N2578	MOT	8.45
2N2579	MOT	10.00
2N2586	TI	1.86
2N2604	TI	2.60
2N2605	TI	2.35
2N2608	TI	2.90
2N2617	INT	1.20
2N2631	RCA	3.80
2N2635	TI	.51
2N2639	MOT	2.60
2N2640	MOT	2.47
2N2641	TI	4.28
2N2642	GE	9.90
2N2643	MOT	7.20
2N2646	GE MOT INT	1.05
2N2647	GE MOT	1.90
2N2652A	MOT	9.90
2N2659	TI	1.65
2N2660	TI	1.95
2N2662	TI	1.65
2N2665	TI	2.40
2N2666	TI	3.00
2N2667	TI	3.75
2N2668	TI	2.33
2N2669	TI	3.00
2N2670	TI	3.90
2N2687	MOT	1.88
2N2688	MOT	2.12
2N2689	MOT	3.20
2N2690	MOT	5.80
2N2708JAN	MOT	5.15
2N2711	GE	.41
2N2712	GE	.41
2N2713	GE	.45
2N2714	GE	.47
2N2727	GE	4.95
2N2800	MOT	6.75
2N2801	MOT	7.10
2N2805	TI	14.25
2N2807	TI	6.00
2N2832	MOT	3.35
2N2833	MOT	4.85
2N2834	MOT	7.10
2N2840	MOT	6.35
2N2845	MOT	4.95
2N2848	MOT	5.10
2N2857	RCA	2.72
2N2861	TI	1.32
2N2862	TI	1.22
2N2869	RCA	1.82
2N2870	RCA	3.22
2N2876	RCA TI	11.25
2N2880	TI	33.00
2N2880JAN	TI	37.50
2N2894	TI	1.24
2N2895	MOT RCA	1.41
2N2896	MOT RCA	2.06
2N2897	MOT	1.16
2N2903	MOT	5.85
2N2904	MOT TI	1.95
2N2904A	MOT TI	2.55
2N2904JAN	MOT	2.35
2N2905	MOT INT	2.20
2N2905A	MOT TI	2.65
2N2905AJAN	MOT	3.00
2N2905JAN	MOT INT	2.55
2N2906	MOT TI	1.85
2N2906A	MOT TI	2.40
2N2906JAN	TI	1.60
2N2907	MOT TI	2.00
2N2907A	MOT TI	2.20
2N2907AJAN	MOT TI	2.60
2N2907JAN	TI	1.62
2N2910	GE	7.32
2N2912	MOT	8.10
2N2913	MOT	2.70
2N2917	MOT TI	3.60
2N2919	MOT	3.35
2N2923	GE	.29
2N2924	GE	.32
2N2925	GE	.38
2N2926	GE	.27
2N2926-2	GE	.27
2N2926-3	GE	.27
2N2926-4	GE	.27
2N2926-5	GE	.27
2N2944	TI	2.76
2N2944A	TI	2.76
2N2945	MOT TI	2.52
2N2945A	TI	2.50
2N2946	TI	2.70
2N2946A	TI	2.70
2N2948	MOT	17.55
2N2949	MOT	7.80
2N2950	MOT	9.75
2N2951	MOT	4.50
2N2955	MOT	2.48
2N2956	MOT	2.63
2N2957	MOT	3.37
2N2958	MOT	2.52
2N2959	MOT	2.70
2N2962	TI	1.81
2N2996	TI	1.08
2N2997	MOT	3.05
2N2998	MOT	15.00
2N3009	MOT	1.98
2N3012	MOT TI	1.75
2N3013	MOT TI	1.35
2N3015	MOT TI	1.93
2N3019	MOT	6.00
2N3020	MOT	5.70
2N3021	MOT	21.75
2N3026	MOT	49.50
2N3036	TI	5.50
2N3045	MOT	14.25
2N3053	MOT TI RCA	.61
2N3054	MOT GE RCA	1.25
2N3054A	MOT	1.25
2N3055	TI GE RCA WES	1.42
2N3073	MOT	.90
2N3097	INT	108.00
2N3114	MOT	6.00
2N3116	MOT	2.40
2N3117	TI	4.70
2N3118	RCA	4.95
2N3119	RCA	5.36
2N3127	MOT	5.10
2N3133	MOT	4.95
2N3134	MOT	1.05
2N3135	MOT	4.95
2N3136	MOT	5.85
2N3228	RCA	1.47
2N3232	MOT	1.62
2N3244	MOT	15.75
2N3249	MOT	4.65
2N3250	MOT TI	3.20
2N3250A	MOT TI	1.39
2N3251	MOT TI	3.55
2N3251A	MOT TI	3.90
2N3251AJAN	MOT TI	2.23
2N3252	MOT	9.75
2N3253	MOT TI	9.75
2N3262	RCA	7.43
2N3265	RCA	47.15
2N3280	MOT	4.10
2N3282	MOT	2.15
2N3283	MOT	1.50
2N3284	MOT	1.42
2N3289	MOT	3.90
2N3290	MOT	3.45
2N3291	MOT	1.70
2N3292	MOT	1.55
2N3293	MOT	1.55
2N3294	MOT	1.30
2N3295	MOT	6.00
2N3298	MOT	2.40
2N3299	MOT	.75
2N3300	MOT	1.05
2N3301	MOT	.75
2N3307	MOT	10.00
2N3311	MOT	2.00
2N3314	MOT	3.15
2N3315	MOT	3.25
2N3316	MOT	4.25
2N3323	MOT	.90
2N3324	MOT	.82
2N3325	MOT	.75
2N3330	MOT	3.10
2N3365	MOT	1.35
2N3367	MOT	1.80
2N3375	RCA	9.90
2N3375JANTX	RCA	21.60
2N3390	GE	.95
2N3391	GE	.43
2N3391A	GE	.47
2N3392	GE	.29
2N3393	GE	.29
2N3394	GE	.29
2N3395	GE	.50
2N3396	GE	.50
2N3397	GE	.47
2N3398	GE	.54
2N3402	GE	.36
2N3403	GE	.38
2N3404	GE	.50
2N3405	GE	.61
2N3414	GE	.32
2N3415	GE	.34
2N3416	GE	.45
2N3417	GE	.56
2N3427	MOT	1.95
2N3428	MOT	2.25
2N3439	MOT RCA	1.19
2N3500	MOT	11.25
2N3501	MOT	12.60
2N3501JAN	MOT	13.35
2N3502	TI	1.90
2N3503	TI	6.25
2N3504	TI	2.00
2N3505	TI	3.10
2N3506	MOT	11.55
2N3506JAN	MOT	12.30
2N3507	MOT	13.20
2N3509	MOT	5.40
2N3510	MOT	1.45
2N3511	MOT	1.95
2N3525	RCA	1.77
2N3528	RCA	1.44
2N3529	RCA	1.75
2N3546	MOT	2.50
2N3553	RCA	3.00
2N3553JAN	MOT	5.20
2N3554	TI	1.42
2N3556	TI	1.57
2N3560	TI	1.42
2N3562	TI	2.62
2N3570	TI	16.95
2N3572	TI	5.90
2N3576	TI	2.45
2N3583	RCA	1.32
2N3584	RCA	1.90
2N3585	RCA	2.31
2N3600	RCA	2.14
2N3611	MOT	1.15
2N3612	MOT	1.30
2N3613	MOT	1.25
2N3614	MOT	1.40
2N3615	MOT	1.65
2N3616	MOT	2.10
2N3617	MOT	1.88
2N3618	MOT	2.37
2N3632	RCA	11.50
2N3634	MOT	13.20
2N3635	MOT	14.40
2N3635JAN	MOT	15.15
2N3637	MOT	21.30
2N3647	MOT	2.25
2N3648	MOT	2.70
2N3649	GE	6.15
2N3652	GE	15.30
2N3653	GE	20.85
2N3656	GE	13.27
2N3657	GE	16.70
2N3658	GE	22.80
2N3662	GE	.52
2N3663	GE	.56
2N3668	RCA	2.39
2N3669	RCA	2.81
2N3670	RCA	3.80
2N3712	GE MOT RCA	3.14
2N3714	MOT TI	3.08
2N3715	MOT TI	3.38
2N3716JAN	MOT	3.95
2N3720	MOT	9.40
2N3724	TI	1.47
2N3724A	TI	2.21
2N3725	MOT TI	1.59
2N3725A	TI	2.18
2N3730	RCA	2.23
2N3731	RCA	2.37
2N3732	RCA	1.65
2N3733	RCA	12.70
2N3734	MOT	6.00
2N3735	MOT	6.00
2N3736	MOT	6.60
2N3738	MOT	1.54
2N3739	MOT	1.82
2N3740	MOT	1.93
2N3741	MOT	2.16
2N3742	MOT	12.60
2N3743	MOT	12.60
2N3762	MOT	6.40
2N3763	MOT	7.50
2N3765JANTX	MOT	10.50
2N3766	MOT	1.62
2N3767	MOT	1.83
2N3771	GE RCA	3.14
2N3773	GE MOT	4.97
2N3784	MOT	15.00
2N3785	MOT	6.75
2N3789	MOT	4.32
2N3790	MOT TI	5.20
2N3791	MOT TI	4.64
2N3792	MOT	5.78
2N3796	MOT	3.45
2N3797	MOT	3.45
2N3798	MOT	3.20
2N3798A	MOT	6.15
2N3799	MOT	3.50
2N3799A	MOT	6.75
2N3806	MOT	11.70
2N3814	MOT	28.50
2N3821	MOT	2.50
2N3822	MOT TI	2.20
2N3823	MOT TI	1.88
2N3824	MOT	1.72
2N3829	TI	5.45
2N3831	TI	.33
2N3836	TI	45.00
2N3838	MOT	27.75
2N3845A	GE	.50
2N3854	GE	.34
2N3854A	GE	.36
2N3855	GE	.36
2N3855A	GE	.38
2N3856	GE	.38

Key	Mfr.
GE	General Electric
INT	International Rectifier
IIT	IIT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
2N3856A	GE	.41
2N3858	GE	.27
2N3858A	GE	.34
2N3859	GE	.29
2N3859A	GE	.36
2N3860	GE	.32
2N3866	RCA	1.58
2N3868	MOT	9.95
2N3868JAN	MOT	11.65
2N3870	MOT RCA	3.38
2N3871	MOT RCA	4.54
2N3872	MOT RCA	6.11
2N3873	MOT RCA	8.22
2N3877	GE	.45
2N3877A	GE	.52
2N3878	RCA	1.65
2N3879	RCA	2.60
2N3883	MOT	1.35
2N3896	RCA	3.96
2N3897	MOT RCA	5.03
2N3898	RCA	6.27
2N3899	MOT RCA	8.75
2N3900	GE	.61
2N3900A	GE	.68
2N3902	MOT RCA	6.75
2N3903	MOT TI	.55
2N3904	MOT TI	.55
2N3905	MOT TI	.55
2N3906	MOT TI	.55
2N3947	MOT	2.75
2N3964	TI	5.00
2N3965	TI	5.60
2N3966	TI	2.05
2N3970	MOT	4.20
2N3971	MOT TI	2.00
2N3972	MOT	2.70
2N4013	MOT	1.47
2N4014	MOT	1.74
2N4036	RCA	.89
2N4037	RCA	.73
2N4048	MOT	5.60
2N4049	MOT	7.50
2N4050	MOT	9.30
2N4051	MOT	6.45
2N4063	RCA	1.35
2N4064	RCA	1.06
2N4066	MOT	17.00
2N4091	MOT	3.15
2N4093	MOT	2.15
2N4101	RCA	2.22
2N4102	RCA	2.20
2N4103	RCA	5.12
2N4104	TI	5.60
2N4123	MOT	.39
2N4124	MOT	.40
2N4125	MOT TI	.40
2N4126	MOT	.41
2N4148	MOT	1.34
2N4151	MOT	1.11
2N4152	MOT	1.26
2N4153	MOT	1.41
2N4154	MOT	1.68
2N4155	MOT	1.93
2N4156	MOT	2.25
2N4158	MOT	4.46
2N4159	MOT	1.11
2N4161	MOT	1.41
2N4162	MOT	1.68
2N4163	MOT	1.93
2N4164	MOT	2.24
2N4165	MOT	3.43
2N4167	MOT	1.34
2N4168	MOT	1.49
2N4169	MOT	1.64
2N4170	MOT	1.79
2N4171	MOT	2.16
2N4172	MOT	2.46
2N4174	MOT	4.69
2N4175	MOT	1.34
2N4177	MOT	1.64
2N4178	MOT	1.79
2N4179	MOT	2.16
2N4180	MOT	2.46
2N4182	MOT	4.69
2N4183	MOT	1.19
2N4185	MOT	1.49
2N4186	MOT	1.63
2N4187	MOT	2.01
2N4188	MOT	2.31
2N4190	MOT	4.54
2N4192	MOT	1.34
2N4193	MOT	1.49
2N4194	MOT	1.63
2N4196	MOT	2.31
2N4198	MOT	4.54
2N4199	MOT	21.25
2N4199JAN	MOT	36.20
2N4202	MOT	44.25
2N4203JAN	MOT	83.40
2N4204	MOT	63.75
2N4212	MOT	2.15
2N4213	MOT	2.60
2N4214	MOT	3.30
2N4216	INT MOT	4.95
2N4220	MOT	1.50
2N4220A	TI	1.05
2N4221	MOT TI	1.40
2N4221A	MOT	1.65
2N4222	MOT TI	1.42
2N4222A	MOT TI	1.65
2N4223	MOT	1.50
2N4224	TI	1.05
2N4231	MOT	1.63
2N4232	MOT	1.82
2N4233	MOT	2.21
2N4234	MOT	1.90
2N4235	MOT	2.50
2N4236	MOT	2.80
2N4237	MOT	1.50
2N4238	MOT	1.75
2N4239	MOT	2.05
2N4240	MOT RCA	2.06
2N4252	TI	1.95
2N4253	TI	1.70
2N4256	GE	.68
2N4260	MOT	12.35
2N4261	MOT	14.60
2N4264	MOT	.48
2N4265	MOT	.54
2N4276	MOT	3.50
2N4277	MOT	4.20
2N4278	MOT	4.65
2N4279	MOT	5.30
2N4280	MOT	5.70
2N4281	MOT	6.80
2N4282	MOT	7.05
2N4283	MOT	8.45
2N4314	RCA	.81
2N4342	MOT	1.12
2N4346	RCA	3.07
2N4347	GE RCA	2.16
2N4348	GE RCA	3.14
2N4351	MOT	2.85
2N4352	MOT	2.70
2N4360	MOT	.63
2N4391	MOT	4.20
2N4393	MOT TI	3.05
2N4398	MOT	6.75
2N4399	MOT TI	8.45
2N4400	MOT	.60
2N4401	MOT	.75
2N4402	MOT	.60
2N4403	MOT	.75
2N4404	MOT	8.25
2N4405	MOT	9.75
2N4406	MOT	11.25
2N4407	MOT	12.75
2N4409	MOT	.67
2N4410	MOT	.96
2N4416	MOT TI	2.45
2N4424	GE	.43
2N4425	GE	.47
2N4427	RCA	1.78
2N4440	RCA	10.30
2N4441	MOT	1.20
2N4442	MOT	1.50
2N4443	MOT	2.00
2N4444	MOT	3.25
2N4851	MOT	.97
2N4852	MOT	.97
2N4853	MOT	2.25
2N4856	MOT TI	3.90
2N4856A	MOT	4.35
2N4857	MOT	3.30
2N4858	MOT	2.70
2N4859	MOT	3.60
2N4859A	MOT	4.10
2N4860	MOT TI	3.15
2N4861	MOT TI	2.60
2N4870	MOT	.75
2N4871	MOT	.68
2N4875	TI	4.95
2N4876	TI	4.20
2N4877	MOT	3.75
2N4890	MOT	1.12
2N4898	MOT	1.63
2N4899	MOT	2.02
2N4900	MOT	2.26
2N4901	MOT TI	1.93
2N4902	MOT	2.80
2N4903	MOT TI	3.38
2N4904	MOT TI	2.31
2N4905	MOT	3.08
2N4906	MOT TI	3.85
2N4908	MOT	8.25
2N4910	MOT	1.30
2N4911	MOT	1.49
2N4912	MOT	1.75
2N4913	MOT	1.73
2N4914	MOT	2.12
2N4915	MOT TI	2.89
2N4918	MOT	1.26
2N4919	MOT	1.48
2N4920	MOT	1.75
2N4921	MOT	1.07
2N4922	MOT	1.29
2N4923	MOT	1.49
2N4924	MOT	2.03
2N4925	MOT	2.50
2N4926	MOT	2.95
2N4927	MOT	3.15
2N4928	MOT	4.05
2N4929	MOT	4.95
2N4930	MOT	5.90
2N4930JAN	MOT	6.65
2N4931	MOT	6.75
2N4937	MOT	7.15
2N4939	MOT	3.40
2N4941	MOT	12.30
2N4947	TI	2.03
2N4948	MOT TI	1.35
2N4949	MOT TI	2.40
2N4949JAN	MOT	3.90
2N4983	GE	1.17
2N4984	GE	1.50
2N4985	GE	2.61
2N4987	GE	.84
2N4988	GE	1.23
2N4989	GE	1.73
2N4990	GE	.89
2N4991	GE	.75
2N4992	GE	1.35
2N4996	TI	.24
2N5004	TI	30.00
2N5005	TI	36.00
2N5016	RCA	29.00
2N5034	RCA	1.34
2N5035	RCA	1.32
2N5036	RCA	1.42
2N5037	RCA	1.41
2N5038	RCA	5.78
2N5039	RCA	4.87
2N5044	TI	7.02
2N5045	TI	8.10
2N5059	TI	3.70
2N5060	MOT	.63
2N5061	MOT	.66
2N5062	MOT	.78
2N5064	MOT	.94
2N5067	MOT	1.49
2N5068	MOT	1.69
2N5069	MOT	1.96
2N5070	RCA	29.00
2N5071	RCA	29.00
2N5086	MOT	.75
2N5087	MOT	.81
2N5088	MOT	.75
2N5089	MOT	.98
2N5090	RCA	11.40
2N5102	RCA	21.75
2N5108	MOT RCA	10.70
2N5155	MOT	7.85
2N5164	MOT	3.30
2N5164R	MOT	6.60
2N5165	MOT	4.65
2N5165R	MOT	9.30
2N5166	MOT	5.99
2N5166R	MOT	12.90
2N5167	GE	.74
2N5167R	MOT	19.50
2N5168	MOT	3.70
2N5168R	MOT	7.40
2N5169	MOT	10.00
2N5170	MOT	6.80
2N5171	MOT	8.69
2N5172	GE	.20
2N5179	RCA	.81
2N5180	RCA	.60
2N5189	RCA	.76
2N5190	MOT	1.23
2N5191	MOT	1.47
2N5192	MOT	1.77
2N5193	MOT	1.38
2N5194	MOT	1.62
2N5195	MOT	1.99
2N5202	RCA	2.00
2N5204	GE	9.30
2N5205	GE	14.10
2N5206	GE	18.45
2N5208	MOT	.54
2N5209	MOT	.66
2N5210	MOT	.72
2N5219	MOT	.28
2N5220	MOT	.27
2N5221	MOT	.30
2N5222	MOT	.24
2N5223	MOT	.21
2N5224	MOT	.24
2N5225	MOT	.27
2N5226	MOT	.30
2N5227	MOT	.24
2N5228	MOT	.28
2N5229	MOT	2.49
2N5230	MOT	3.00
2N5231	MOT	3.75
2N5232	GE	.34
2N5232A	GE	.38
2N5233	GE	.27
2N5235	GE	.36
2N5239	RCA	2.97
2N5240	RCA	3.47
2N5241	MOT	16.25
2N5249	GE	.50
2N5249A	GE	.54
2N5262	RCA	1.62
2N5266	MOT	3.75
2N5268	MOT	3.30
2N5270	MOT	3.75
2N5293	RCA	.81
2N5294	RCA	.81
2N5295	RCA	.81
2N5296	RCA	.81
2N5297	RCA	.86
2N5298	RCA	.86
2N5301	MOT	5.55
2N5305	GE	.45
2N5306	GE	.43
2N5307	GE	.47
2N5308	GE	.52
2N5308A	GE	.59
2N5311	GE	.74
2N5320	RCA	1.20
2N5321	RCA	.96
2N5322	RCA	1.47

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
2N5323	RCA	1.06
2N5325	MOT	6.00
2N5334	MOT	3.25
2N5335	MOT	3.80
2N5336	MOT	5.67
2N5337	MOT	7.21
2N5339	MOT	9.55
2N5344	MOT	7.80
2N5345	MOT	9.75
2N5354	GE	.36
2N5355	GE	.41
2N5356	GE	.47
2N5358	MOT	3.95
2N5360	MOT	3.00
2N5362	MOT	3.00
2N5363	MOT	3.45
2N5364	MOT	3.95
2N5365	GE	.45
2N5366	GE	.50
2N5367	GE	.56
2N5397	TI	3.15
2N5400	MOT	.75
2N5401	MOT	.91
2N5415	RCA	1.24
2N5416	RCA	1.62
2N5427	MOT	5.96
2N5428	MOT	7.53
2N5429	MOT	8.30
2N5431	MOT	3.50
2N5437	MOT	18.00
2N5441	RCA	5.64
2N5442	RCA	6.77
2N5443	RCA	8.46
2N5444	RCA	5.97
2N5445	RCA	7.10
2N5446	RCA	8.79
2N5457	MOT	.80
2N5458	MOT	.73
2N5459	MOT	.80
2N5460	MOT	.90
2N5461	MOT	.67
2N5462	MOT	.90
2N5464	MOT	1.08
2N5465	MOT	1.35
2N5471	MOT	2.55
2N5472	MOT	2.33
2N5475	MOT	1.80
2N5484	MOT	.98
2N5485	MOT	1.05
2N5486	MOT	1.05
2N5490	RCA	.96
2N5491	RCA	.96
2N5492	RCA	.96
2N5493	RCA	.96
2N5494	RCA	.96
2N5495	RCA	.96
2N5496	RCA	1.04
2N5497	RCA	1.04
2N5548	TI	.65
2N5550	MOT	.69
2N5551	MOT	.84
2N5555	MOT	1.20
2N5557	MOT	10.00
2N5567	RCA	3.05
2N5568	RCA	3.66
2N5569	RCA	3.33
2N5570	MOT RCA	3.99
2N5571	MOT RCA	3.25
2N5572	RCA	3.98
2N5573	MOT RCA	3.58
2N5574	MOT RCA	4.22
2N5575	RCA	27.41
2N5577	RCA	30.45
2N5578	RCA	30.45
2N5590	MOT	9.40
2N5591	MOT	19.10
2N5629	MOT	5.10
2N5630	MOT	5.72
2N5631	MOT	6.74
2N5633	MOT	4.90
2N5634	MOT	5.81
2N5635	MOT	5.60
2N5637	MOT	30.65
2N5638	MOT	1.50
2N5639	MOT	.95
2N5640	MOT	1.20
2N5641	MOT	5.55
2N5642	MOT	18.45
2N5643	MOT	35.00
2N5654	MOT	1.20
2N5655	MOT	1.15
2N5656	MOT	1.35
2N5657	MOT	1.65
2N5668	MOT	.90
2N5669	MOT	.84
2N5670	MOT	.90
2N5671	MOT	16.59
2N5679	MOT	1.69
2N5680	MOT	1.96
2N5681	MOT	1.45
2N5682	MOT	1.69
2N5683	MOT	16.90
2N5684	MOT	19.50
2N5685	TI	16.50
2N5686	MOT	15.15
2N5695	MOT	14.25
2N5716	MOT	.80
2N5745	MOT	11.50
2N5754	RCA	1.19
2N5755	RCA	1.41
2N5756	RCA	1.69
2N5757	RCA	2.12
2N5758	MOT	3.47
2N5759	MOT	4.08
2N5760	MOT	5.10
2N5777	GE MOT	.60
2N5778	GE MOT	.70
2N5779	GE MOT	1.00
2N5780	GE MOT	1.20
2N5782	RCA	1.24
2N5783	RCA	1.16
2N5784	RCA	1.24
2N5786	RCA	.99
2N5797	MOT	.75
2N5800	MOT	.98
2N5804	RCA	4.54
2N5805	RCA	5.95
2N5810	GE	.36
2N5811	GE	.41
2N5812	GE	.38
2N5813	GE	.45
2N5814	GE	.38
2N5815	GE	.38
2N5816	GE	.41
2N5818	GE	.43
2N5819	GE	.45
2N5821	GE	.68
2N5822	GE	.70
2N5823	GE	.70
2N5825	GE	.27
2N5826	GE	.29
2N5827	GE	.32
2N5828	GE	.34
2N5836	MOT	13.40
2N5838	RCA	2.72
2N5839	RCA	2.89
2N5840	RCA	3.22
2N5845	MOT	.75
2N5845A	MOT	.87
2N5847	MOT	11.00
2N5848	MOT	24.55
2N5859	MOT	.90
2N5861	MOT	1.35
2N5867	MOT	1.17
2N5870	MOT	1.33
2N5871	MOT	1.37
2N5872	MOT	1.80
2N5874	TI	1.82
2N5875	MOT	1.57
2N5876	MOT	2.04
2N5880	MOT	3.30
2N5882	MOT	2.57
2N5883	MOT	3.58
2N5884	MOT	4.82
2N5885	MOT	2.80
2N5886	MOT	3.64
2N5887	MOT	.73
2N5888	MOT	.88
2N5889	MOT	1.09
2N5890	MOT	1.24
2N5891	MOT	1.39
2N5892	MOT	1.65
2N5893	MOT	1.18
2N5894	MOT	1.33
2N5895	MOT	1.48
2N5896	MOT	1.80
2N5897	MOT	1.27
2N5898	MOT	1.42
2N5899	MOT	1.72
2N5900	MOT	1.87
2N5901	MOT	1.72
2N5913	RCA	3.63
2N5916	RCA	12.33
2N5919	RCA	21.75
2N5933	TI	.48
2N5941	MOT	29.50
2N5942	MOT	56.00
2N5943	MOT	3.25
2N5944	MOT	10.40
2N5945	MOT	14.30
2N5946	MOT	21.60
2N5949	TI	.42
2N5950	TI	.37
2N5954	RCA	1.56
2N5956	MOT RCA	1.65
2N5994	RCA	18.15
2N5995	RCA	8.25
2N5996	RCA	11.60
2N5998	GE	.47
2N6002	GE	.59
2N6003	GE	.59
2N6006	GE	.72
2N6007	GE	.77
2N6008	GE	.52
2N6009	GE	.54
2N6010	GE	.68
2N6011	GE	.70
2N6012	GE	.72
2N6013	GE	.74
2N6014	GE	.72
2N6015	GE	.74
2N6027	GE MOT	.79
2N6028	GE MOT	1.00
2N6035	MOT	1.83
2N6038	MOT	1.56
2N6041	MOT	3.28
2N6044	MOT	2.21
2N6049	MOT	1.25
2N6055	MOT	2.32
2N6064	MOT	4.20
2N6065	MOT	4.65
2N6066	MOT	7.25
2N6067	MOT	.93
2N6068	MOT	.84
2N6069	MOT	.95
2N6069A	MOT	.98
2N6070	MOT	1.07
2N6071	MOT	1.17
2N6071A	MOT	1.22
2N6072	MOT	1.23
2N6073	MOT	1.28
2N6073A	MOT	1.32
2N6074	MOT	1.65
2N6075	MOT	1.85
2N6076	GE	.25
2N6077	RCA	2.64
2N6078	RCA	2.47
2N6080	MOT	7.80
2N6081	MOT	12.00
2N6082	MOT	24.00
2N6083	MOT	27.30
2N6084	MOT	46.80
2N6098	RCA	1.07
2N6099	RCA	1.07
2N6101	RCA	1.15
2N6103	RCA	1.24
2N6106	RCA	.89
2N6107	RCA	.89
2N6109	RCA	.00
2N6111	RCA	.86
2N6114	MOT	4.85
2N6115	MOT	2.05
2N6116	MOT	1.35
2N6117	MOT	2.40
2N6118	MOT	2.78
2N6139	MOT	1.97
2N6140	MOT	2.32
2N6141	MOT	2.86
2N6142	MOT	2.64
2N6143	MOT	2.99
2N6144	MOT	3.54
2N6145	MOT	3.44
2N6146	MOT	3.91
2N6147	MOT	4.62
2N6148	MOT	1.78
2N6149	MOT	2.13

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
2N6150	MOT	2.67
2N6151	MOT	1.40
2N6152	MOT	1.70
2N6153	MOT	2.10
2N6154	MOT	1.30
2N6155	MOT	1.60
2N6156	MOT	2.00
2N6157	MOT	3.29
2N6158	MOT	3.94
2N6159	MOT	4.92
2N6160	MOT	3.53
2N6161	MOT	4.18
2N6162	MOT	5.16
2N6163	MOT	4.37
2N6164	MOT	5.02
2N6167	MOT	3.83
2N6168	MOT	3.96
2N6169	MOT	5.23
2N6170	MOT	6.44
2N6171	MOT	5.65
2N6172	MOT	6.55
2N6173	MOT	8.55
2N6174	MOT	11.30
2N6218	GE	.68
2N6219	GE	.65
2N6220	GE	.63
2N6222	MOT	.29
2N6223	GE	.32
2N6224	GE	.34
2N6225	GE	.36
2N6249	RCA	8.25
2N6260	RCA	.78
2N6282	MOT	5.80
2N6283	MOT	6.28
2N6284	MOT	7.00
2N6285	MOT	6.15
2N6286	MOT	6.75
2N6287	MOT	7.60
2N6295	MOT	2.24
2N6297	MOT	3.04
2N6300	MOT	2.25
2N6342	MOT	1.10
2N6342A	MOT	1.40
2N6343	MOT	1.45
2N6343A	MOT	1.70
2N6346	MOT	1.30
2N6346A	MOT	1.50
2N6347	MOT	1.55
2N6347A	MOT	1.80
2N6354	RCA	4.13
2N6372	RCA	1.40
2N6373	RCA	1.23
2N6374	RCA	1.07
2N6383	RCA	1.73
2N6386	RCA	1.23
2N6394	MOT	1.32
2N6396	MOT	1.65
2N6400	MOT	1.68
2N6402	MOT	1.98
3N81	GE	3.40
3N82	GE	4.95
3N83	GE	1.98
3N84	GE	1.98
3N85	GE	3.30
3N86	GE	6.00
3N124	MOT	3.00
3N125	MOT	3.00
3N126	MOT	3.00

NEW TYPES STOCKED AS SOON AS RELEASED

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
3N128	MOT RCA	1.35
3N138	RCA	2.89
3N139	RCA	2.48
3N140	MOT RCA	1.65
3N141	RCA	1.45
3N142	RCA	1.04
3N143	RCA	1.30
3N152	RCA	1.62
3N153	RCA	1.42
3N154	RCA	1.49
3N155	MOT	3.30
3N155A	MOT	6.30
3N156	MOT	3.30
3N157	MOT	3.30
3N157A	MOT	6.30
3N158	MOT	3.30
3N158A	MOT	6.30
3N159	RCA	2.06
3N161	TI	6.15
3N169	MOT	6.40
3N170	MOT	5.50
3N171	MOT	4.20
3N187	RCA	2.72
3N200	RCA	4.37
3N201	TI	1.55
3N202	TI	1.45
IN315	GE	3.00
IN332	INT	1.70
IN346	MOT	1.24
IN347	MOT	1.72
IN1082	INT	.65
IN2613	INT	.79
A1B	INT	1.41
A1H	INT	.49
A2	INT	2.70
A3PL	INT	2.97
A4B	INT	3.58
A5M	INT	6.98
A5T5C58	TI	1.12
A14A	GE	.34
A14C	GE	.40
A14E	GE	.52
A14F	GE	.30
A15A	GE	.62
A15B	GE	.57
A15M	INT	15.54
A40A/4JA40A	GE	2.25
A40B/4JA40B	GE	2.40
A40C/4JA40C	GE	2.64
A40D/4JA40D	GE	3.05
A40E/4JA40E	GE	3.75
A40F	GE	2.10
A40M/JA40M	GE	4.50
A41B	GE	2.40
A41C	GE	2.64
A41D	GE	3.05
A41M	GE	4.50
A44A	GE	1.42
A44B/4JA44B	GE	1.57
A44C/4JA44C	GE	1.73
A44D	GE	1.88
A44F	GE	1.32
A45C	GE	1.73
A45D	GE	1.88
A72C	GE	15.50
A96D	GE	32.00
A114A	GE	.70
A114B	GE	.75
A114D	GE	.90
A114F	GE	.65
A115A	GE	1.28
A115B	GE	1.56
A115D	GE	2.10
A115E	GE	2.70
A115F	GE	1.24
A115M	GE	3.10
A295M	GE	56.00
A1423BD1AB1	GE	2.62
A1423MB1AB1	GE	3.42
B1B	INT	1.48
B1H	INT	.46
B2M	INT	1.89
B3M-C	INT	1.80
B4	INT	3.11
B6F80	INT	32.00
B6F100	INT	38.00
B12F5	INT	9.60
B12F10	INT	10.12
B12F40	INT	25.00
B12F100	INT	43.00
BC101	INT	17.20
BD1	INT GE	5.50
BD2	INT	5.50
BD3	INT	3.30
BD4	INT	5.50
BD6	INT	11.00
C1B	INT	1.69
C2	GE	1.57
C6A	GE	1.65
C6B	GE	1.80
C6D	GE	4.95
C6F	GE	1.50
C6G	GE	1.73
C6U	GE	1.43
C12B	GE	13.95
C12C	GE	20.35
C13F	GE	.50
C13T	GE	.45
C15A	GE	1.95
C15B	GE	2.02
C15D	GE	2.85
C15F	GE	1.72
C35A	GE	3.90
C35B	GE	5.25
C35C	GE	6.30
C35D	GE	7.35
C35E	GE	7.35
C35H	GE	5.85
C35M	GE	9.45
C35N	GE	20.25
C35S	GE	15.30
C36N	GE	21.15
C37B	GE	4.42
C37D	GE	6.45
C37F	GE	2.55
C37M	GE	8.47
C37S	GE	9.30
C38D	GE	11.77
C38F	GE	4.12
C38G	GE	6.15
C38U	GE	3.75
C45A	GE	16.50
C45B	GE	17.50
C46A	GE	16.50
C46B	GE	17.50
C46D	GE	22.50
C46F	GE	12.37
C46G	GE	17.00
C46N	GE	65.00
C50M	GE	55.50
C50N	GE	81.00
C103A	GE	.75
C103B	GE	.84
C103B2	GE	.87
C103E	GE	.54
C103Y	GE	.69
C103YY	GE	.72
C106A1	GE	.81
C106A2	GE	.86
C106A3	GE	.86
C106A4	GE	.86
C106A41	GE	.91
C106B1	GE	.90
C106B2	GE	.95
C106B3	GE	.95
C106B4	GE	.95
C106B21	GE	.97
C106B41	GE	1.00
C106C1	GE	1.12
C106D1	GE	1.30
C106D4	GE	1.35
C106F1	GE	.78
C106F2	GE	.83
C106F4	GE	.83
C106Q2	GE	.77
C106Y1	GE	.75
C106Y2	GE	.80
C106Y4	GE	.80
C106Y21	GE	.82
C107A1	GE	.72
C107B1	GE	.81
C107C1	GE	.93
C107D1	GE	1.12
C107F1	GE	.69
C107Y1	GE	.66
C122B	GE	1.18
C122B1	GE	1.50
C122C	GE	1.39
C122D1	GE	2.00
C122F	GE	.91
C122F1	GE	1.20
C137E	GE	9.75
C152T	GE	.91
C155M	GE	58.00
C156B	GE	32.50
C156E	GE	54.00
C180N	GE	90.00
C185B	GE	58.00
C185M	GE	98.00
C220C	GE	2.64
C222B	GE	1.68
C222C	GE	2.34
C230E	GE	7.97
C232B	GE	4.95
C291C	GE	70.00
C611A	GE	2.40
C611B	GE	2.60
C611F	GE	2.20
CR102	RCA	7.20
CR103	RCA	8.15
CR104	GE	9.60
CR105	GE	10.55
CR106	RCA	12.00
CR110	RCA	16.30
CR201	RCA	3.10
CR203	RCA	4.80
CR204	RCA	5.75
CR206	RCA	6.95
CR208	RCA	8.40
CR210	RCA	10.10
CR212	RCA	12.00
CR275/866	RCA	13.50
CR302	RCA	40.00
CS120-C	INT	.77
D4D26	GE	1.48
D5E37	GE	.75
D5E43	GE	1.05
D5E44	GE	.97
D5K1	GE	6.96
D5K2	GE	2.55
D7A31	GE	1.08
D7A32	GE	2.25
D12A8	GE	4.95
D13H1	GE	.90
D13H2	GE	.85
D13V1	GE	.45
D13V2	GE	.83
D16G6	GE	.45
D16K3	GE	.32
D16P1	GE	.38
D19RA1	GE	.27
D26C1	GE	.76
D26C3	GE	.85
D26E1	GE	1.35
D26E3	GE	.86
D26E4	GE	.89
D26E5	GE	.93
D26E6	GE	.75
D26G1	GE	1.02
D26P1	GE	2.20
D29E1	GE	.52
D29E2	GE	.56
D29E4	GE	.47
D29E5	GE	.52
D29E6	GE	.56
D29E7	GE	.63
D29E9	GE	.88
D29E10	GE	.95
D30A1	GE	1.16
D30A3	GE	1.28
D30A5	GE	2.00
D32P1	GE	.25
D32P2	GE	.25
D33D21	GE	.47
D33D22	GE	.52
D33D25	GE	.47
D33D26	GE	.52
D33D27	GE	.59
D33D30	GE	.88
D33D30J1	GE	.90
D40A5	GE	.45
D40C1	GE	.64
D40C2	GE	.89
D40C4	GE	.71
D40C5	GE	1.02
D40C7	GE	1.02
D40D1	GE	.61
D40D2	GE	.77
D40D4	GE	.74
D40D5	GE	.90
D40D7	GE	.82
D40D8	GE	1.02
D40N1	GE	.77
D40N3	GE	.84
D41D1	GE	.66
D41D2	GE	.87
D41D4	GE	.79
D41D5	GE	1.00
D41D7	GE	.87
D41D8	GE	1.13
D42C1	GE	.90
D42C2	GE	.95
D42C3	GE	1.00
D42C4	GE	.97
D42C5	GE	1.02
D42C7	GE	1.10
D42C8	GE	1.17
D42C9	GE	1.20
D43C1	GE	1.02
D43C2	GE	1.07
D43C4	GE	1.10
D43C5	GE	1.15
D43C7	GE	1.22
D43C8	GE	1.30
D44C1	GE	.97
D44C2	GE	1.02
D44C3	GE	1.07
D44C4	GE	1.05
D44C5	GE	1.10
D44C6	GE	1.17
D44C7	GE	1.17
D44C8	GE	1.25
D44H5	GE	1.66
D44H7	GE	1.68
D44R4	GE	1.48
D45C1	GE	1.10
D45C3	GE	1.20
D45C5	GE	1.23
D45C6	GE	1.30
D45C8	GE	1.38
D45H5	GE	1.91
DA1701	GE	.30
DA1702	GE	.26
DD05-C	GE	.42
DZ800	GE	.14
E150L-F	INT	.63
E300L	INT	1.06
E500L	INT	1.18
EP50-C	INT	2.97
F1604	GE	.49
G7B	GE	1.57
G129	TI	.18
GE-1	GE	1.20
GE-2	GE	1.02
GE-3	GE	1.78
GE-4	GE	2.94
GE-5	GE	1.68
GE-6	GE	1.83
GE-7	GE	1.77
GE-8	GE	1.29
GE-9	GE	1.26
GE-10	GE	1.20
GE-12	GE	2.34
GE-13-MP	GE	3.56
GE-14	GE	3.51
GE-15-MP	GE	7.02
GE-16	GE	3.15

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
GE-17	GE	1.42
GE-18	GE	1.46
GE-19	GE	3.06
GE-20	GE	1.10
GE-21	GE	1.12
GE-22	GE	1.03
GE-23	GE	2.52
GE-24	GE	7.50
GE-24-MP	GE	5.04
GE-26	GE	3.10
GE-27	GE	2.18
GE-28	GE	2.15
GE-29	GE	2.40
GE-30	GE	2.20
GE-31MP	GE	4.40
GE-32	GE	2.79
GE-41	GE	3.36
GE-42	GE	2.28
GE-53	GE	1.02
GE-62	GE	.81
GE-63	GE	1.80
GE-64	GE	.96
GE-66	GE	2.49
GE-67	GE	1.80
GE-69	GE	2.76
GE-90	GE	.81
GE-300	GE	.81
GE-504A	GE	.66
GE-509	GE	.79
GE-FET1	GE	2.25
GE-FET2	GE	1.44
GE-X1	GE	2.60
GE-X2A	GE	2.80
GE-X3	GE	4.00
GE-X4	GE	1.60
GE-X5	GE	2.30
GE-X6	GE	1.40
GE-X7	GE	.90
GE-X8	GE	.70
GE-X9	GE	.70
GE-X10	GE	1.35
GE-X11	GE	1.80
GE-X12	GE	4.50
GE-X13	GE	1.60
GE-X16	GE	3.45
GE-X19	GE	1.10
GEB100	GE	1.23
GEB106	GE	1.75
GEB110	GE	2.38
GECR-1	GE	2.25
GECR-2	GE	.99
GECR-3	GE	.86
GEMR-1	GE	4.80
GEMR-2	GE	6.90
GEMR-3	GE	3.80
GEMR-4	GE	3.80
GEMR-5	GE	1.40
GEMR-6	GE	1.42
GER4001	GE	.38
GER4002	GE	.41
GER4003	GE	.45
GER4004	GE	.53
GER4005	GE	.60
GER4007	GE	.90
GET706	GE	.27
GET708	GE	.37
GET914	GE	.45
GET929	GE	.37
GET930	GE	.37
GET2221	GE	.46
GET2221A	GE	.41
GET2222	GE	.27
GET2222A	GE	.46
GET2369	GE	.34
GET2484	GE	.26
GET3013	GE	.57
GET3014	GE	.67
GET3638	GE	.24
GET3638A	GE	.27
GET3646	GE	.27
GET4870	GE	.75
GET4871	GE	.68
GEX-14	GE	1.15
GEX-15	GE	5.50
GEZD-9.1	GE	1.20
GEZD-10-4	GE	.90
GEZD-12	GE	1.20
GEZD-15	GE	1.20
GEZD-18	GE	1.20
GEZD-20	GE	1.20

Type	Mfg.	*1-24
H11	TI	4.00
H11A1	GE	3.55
H11A2	GE	2.60
H11A3	GE	2.95
H11A4	GE	2.25
H11B1	GE	3.20
H11B2	GE	2.95
H11C1	GE	3.75
H11C2	GE	3.18
H13A1	GE	2.50
H13A2	GE	2.25
H13B1	GE	2.60
H13B2	GE	2.35
H15A1	GE	2.50
H15A2	GE	2.25
H15B1	GE	2.60
H15B2	GE	2.35
H35	TI	5.00
H38	TI	4.00
H60	TI	8.00
H61	TI	9.00
H62	TI	13.50
HEP2-S	MOT	.95
HEP3-S	MOT	.95
HEP50-S	MOT	.59
HEP51-S	MOT	.95
HEP52-S	MOT	.71
HEP53-S	MOT	1.15
HEP54-S	MOT	1.08
HEP55-S	MOT	2.00
HEP56-S	MOT	1.44
HEP57-S	MOT	1.20
HEP101-S	MOT	.95
HEP102-S	MOT	1.20
HEP103-S	MOT	1.20
HEP104-S	MOT	1.20
HEP105-S	MOT	1.20
HEP134-S	MOT	.26
HEP135-S	MOT	.43
HEP153-S	MOT	2.45
HEP154-S	MOT	.36
HEP156-S	MOT	.41
HEP157-S	MOT	.75
HEP158-S	MOT	.54
HEP159-S	MOT	.60
HEP160-S	MOT	.75
HEP162-S	MOT	1.25
HEP170-S	MOT	.82
HEP175-S	MOT	1.49
HEP177-S	MOT	3.75
HEP230-S	MOT	1.25
HEP231-S	MOT	1.99
HEP232-S	MOT	2.34
HEP233-S	MOT	4.20
HEP236-S	MOT	5.70
HEP238-S	MOT	4.70
HEP240-S	MOT	2.05
HEP242-S	MOT	2.40
HEP243-S	MOT	1.79
HEP244-S	MOT	2.15
HEP245-S	MOT	1.99
HEP246-S	MOT	2.29
HEP247-S	MOT	2.80
HEP250-S	MOT	.79
HEP251-S	MOT	.89
HEP253-S	MOT	1.20
HEP254-S	MOT	1.13
HEP302-S	MOT	2.69
HEP310-S	MOT	1.49
HEP311-S	MOT	.99
HEP312-S	MOT	2.49
HEP320-S	MOT	.99
HEP340-S	MOT	4.49
HEP502	MOT	.89
HEP600-S	MOT	1.11
HEP604-S	MOT	1.84
HEP612-S	MOT	4.15
HEP622-S	MOT	5.10
HEP629-S	MOT	3.50
HEP632-S	MOT	1.67
HEP633-S	MOT	1.84
HEP636-S	MOT	1.12
HEP637-S	MOT	1.84
HEP638-S	MOT	3.89
HEP640-S	MOT	1.73
HEP641-S	MOT	1.32
HEP642-S	MOT	1.95
HEP643-S	MOT	1.95
HEP644-S	MOT	8.50
HEP701-S	MOT	2.49

Type	Mfg.	*1-24
HEP703-S	MOT	2.75
HEP704-S	MOT	2.67
HEP707-S	MOT	8.80
HEP709-S	MOT	2.07
HEP713-S	MOT	2.45
HEP714-S	MOT	3.10
HEP715-S	MOT	.95
HEP716-S	MOT	1.24
HEP718-S	MOT	1.40
HEP719-S	MOT	1.49
HEP720-S	MOT	1.55
HEP721-S	MOT	1.55
HEP722-S	MOT	1.05
HEP723-S	MOT	.95
HEP724-S	MOT	.95
HEP726-S	MOT	1.15
HEP730-S	MOT	1.05
HEP734-S	MOT	1.40
HEP736-S	MOT	1.28
HEP738-S	MOT	1.25
HEP739-S	MOT	.65
HEP801-S	MOT	1.59
HEP802-S	MOT	1.59
HEP3001-S	MOT	3.75
HEPF2004-S	MOT	1.89
HEPF2005-S	MOT	2.19
HEPS9001-S	MOT	2.42
HEPS9100-S	MOT	.79
HS5308	HE	.54
IR106A-1	INT	.81
IR106B-1	INT	.90
IR106C-1	INT	1.12
IR106F-1	INT	.48
IR106Y-1	INT	.47
IR122A	INT	1.35
IR122B	INT	1.50
IR122C	INT	1.75
IR122D	INT	2.00
IR122F	INT	1.20
J14C1	INT	2.00
J14C5	INT	4.94
J14C8	INT	6.62
J14C17	INT	9.87
J29B1	INT	3.68
J29B5	INT	10.19
J29B8	INT	13.86
J29B04	INT	2.57
J58B1	INT	5.88
J58B5	INT	17.12
J58B17	INT	36.75
J116B1	INT	10.29
J116B5	INT	30.66
J116B8	INT	43.05
J116B04	INT	7.35
J135B1	INT	12.50
J135B04	INT	7.35
J135D13	INT	35.77
J300A	GE	32.40
JD117K	INT	2.66
KSA1DAF	INT	2.10
KSA2DAF	INT	2.31
KSA4DAF	INT	2.73
KSA5DAF	INT	2.94
KSA6DBF	INT	3.15
KSA7DBF	INT	3.89
KSA8DBF	INT	4.15
KSA9DBF	INT	4.46
KSA11DBF	INT	5.09
KSA12DBF	INT	5.38
KSA13DBF	INT	5.67
KSA15DBF	INT	6.30
KSA17DBF	INT	6.88
KSA18DBF	INT	7.16
KSA19DBF	INT	7.48
KSA20DBF	INT	7.77
KSL1DAF	INT	2.94
KSL2DAF	INT	4.25
KSL5DAF	INT	8.30
KSL6DBF	INT	9.56
KSL7DBF	INT	10.92
KSL8DBF	INT	12.18
KSL10DBF	INT	14.70
KSL11DBF	INT	16.07
KSL12DBF	INT	17.33
KSL13DBF	INT	18.59
KSL15DBF	INT	21.21
KSL19DBF	INT	26.57
KSL20DBF	INT	27.83
KSP11DBF	INT	8.17
KY1DPF	INT	.72

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teldyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
KY3DPF	INT	.88
KY4DPF	INT	.96
KY5DPF	INT	1.03
KY6DPF	INT	1.11
KY7DPF	INT	1.19
KY8DPF	INT	1.26
KY9DPF	INT	1.34
KY10DPF	INT	1.42
KY12DPF	INT	1.56
KY13DPF	INT	1.64
KY15DPF	INT	1.80
KY16DPF	INT	1.87
KY17DPF	INT	1.94
KY18DPF	INT	2.02
KY19DPF	INT	2.10
KY20DPF	INT	2.17
KZ1DPF	INT	.79
KZ2DPF	INT	.92
KZ4DPF	INT	1.18
KZ5DPF	INT	1.30
KZ6DPF	INT	1.43
KZ7DPF	INT	1.54
KZ8DPF	INT	1.67
KZ10DPF	INT	1.92
KZ12DPF	INT	2.16
KZ13DPF	INT	2.28
KZ14DPF	INT	2.42
KZ15DPF	INT	2.53
KZ16DPF	INT	2.65
KZ17DPF	INT	2.77
KZ18DPF	INT	2.89
KZ19DPF	INT	3.01
KZ20DPF	INT	3.15
L8B	GE	11.85
L8F	GE	4.90
L8U	GE	4.50
L9F	GE	5.40
L9G	GE	10.45
L9U	GE	4.95
L14A502/D14A502	GE	3.00
L14E1	GE	.72
L14E2	GE	.59
L14E3	GE	1.08
L14E4	GE	.56
L14F	GE	.00
L14F1	GE	4.40
L14T5	GE	.63
L15E	GE	.30
L811B	GE	13.35
L811U	GE	6.00
L911A	GE	9.15
L911B	GE	14.55
L911U	GE	6.45
LASCS	GE	3.15
LS-400	TI	7.80
LS-600	TI	3.20
M1B	INT	1.98
MA206	MOT	.60
MA882	MOT	.90
MA885	MOT	.60
MA887	MOT	.75
MA1703	MOT	1.30
MAC1-1	MOT	1.00
MAC1-2	MOT	1.20
MAC1-3	MOT	1.50
MAC1-4	MOT	1.70
MAC1-5	MOT	1.90
MAC1-6	MOT	2.10
MAC1-7	MOT	2.40
MAC1-8	MOT	2.60

NEW TYPES STOCKED AS SOON AS RELEASED

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
MAC2-1	MOT	1.15
MAC2-2	MOT	1.35
MAC2-3	MOT	1.65
MAC2-4	MOT	1.97
MAC2-5	MOT	2.14
MAC2-6	MOT	2.32
MAC2-7	MOT	2.48
MAC2-8	MOT	2.86
MAC3-1	MOT	1.10
MAC3-2	MOT	1.30
MAC3-3	MOT	1.60
MAC3-4	MOT	1.78
MAC3-5	MOT	1.91
MAC3-6	MOT	2.13
MAC3-8	MOT	2.67
MAC4-1	MOT	.95
MAC4-2	MOT	1.15
MAC4-3	MOT	1.45
MAC4-4	MOT	1.65
MAC4-5	MOT	1.85
MAC4-6	MOT	2.05
MAC4-7	MOT	2.35
MAC4-8	MOT	2.55
MAC5-2	MOT	1.25
MAC5-4	MOT	1.90
MAC5-6	MOT	2.25
MAC6-2	MOT	1.20
MAC6-4	MOT	1.70
MAC6-6	MOT	2.10
MAC10-1	MOT	1.10
MAC10-2	MOT	1.20
MAC10-3	MOT	1.30
MAC10-4	MOT	1.40
MAC10-5	MOT	1.60
MAC10-6	MOT	1.70
MAC10-7	MOT	1.95
MAC10-8	MOT	2.10
MAC11-1	MOT	1.00
MAC11-2	MOT	1.10
MAC11-3	MOT	1.20
MAC11-4	MOT	1.30
MAC11-5	MOT	1.50
MAC11-6	MOT	1.60
MAC11-7	MOT	1.85
MAC11-8	MOT	2.00
MAC35-1	MOT	2.30
MAC35-2	MOT	2.60
MAC35-3	MOT	2.90
MAC35-5	MOT	3.61
MAC35-6	MOT	3.94
MAC35-7	MOT	4.28
MAC36-1	MOT	2.50
MAC36-2	MOT	2.80
MAC36-3	MOT	3.10
MAC36-4	MOT	3.53
MAC36-5	MOT	3.85
MAC36-6	MOT	4.18
MAC36-7	MOT	4.48
MAC37-1	MOT	2.20
MAC37-2	MOT	2.50
MAC37-3	MOT	2.80
MAC37-4	MOT	3.20
MAC37-5	MOT	3.60
MAC37-6	MOT	3.80
MAC37-7	MOT	4.40
MAC38-1	MOT	2.40
MAC38-2	MOT	2.70
MAC38-3	MOT	3.00
MAC38-4	MOT	3.48
MAC38-5	MOT	3.80
MAC38-6	MOT	4.15
MAC38-7	MOT	4.70
MAC77-1	MOT	.84
MAC77-2	MOT	.95
MAC77-3	MOT	1.07
MAC77-4	MOT	1.17
MAC77-5	MOT	1.23
MAC77-6	MOT	1.28
MAC77-7	MOT	2.23
MAC77-8	MOT	3.15
MAC92-2	MOT	.68
MAC92-4	MOT	.78
MAC92A-2	MOT	.81
MAC92A-4	MOT	.91
MAC40689	MOT	8.25
MAC40797	MOT	3.54
MAC40798	MOT	5.78
MB11A01V05	WES	2.50
MB11A02V10	WES	2.90
MB11A02V20	WES	3.15
MB11A02V30	WES	3.40
MB11A02V40	WES	3.60
MB11A02V60	WES	4.10
MB11A02V80	WES	4.75
MB13A06V20	WES	3.75
MB13A06V30	WES	4.15
MB13A06V40	WES	4.55
MB13A06V60	WES	5.40
MB13A10V10	WES	3.40
MB13A10V20	WES	3.90
MB13A10V30	WES	4.35
MB13A10V40	WES	4.80
MB13A10V60	WES	6.35
MB13A15V20	WES	4.05
MB13A15V60	WES	6.90
MB13A20V10	WES	4.40
MB13A20V20	WES	4.90
MB13A20V30	WES	5.45
MB13A20V60	WES	8.00
MBD101	MOT	.89
MBD102	MOT	.98
MBD501	MOT	.94
MBD502	MOT	1.06
MBD701	MOT	.99
MBD702	MOT	1.16
MBS100	MOT	.68
MBS4991	MOT	.68
MBS4992	MOT	1.35
MCL1301	MOT	1.80
MCL1302	MOT	1.80
MCL1303	MOT	1.80
MCL1304	MOT	1.80
MCR101	MOT	.42
MCR102	MOT	.49
MCR103	MOT	.60
MCR104	MOT	.70
MCR106-1	MOT	.74
MCR106-2	MOT	.78
MCR106-3	MOT	.81
MCR106-4	MOT	.90
MCR106-5	MOT	1.13
MCR106-6	MOT	1.31
MCR106-7	MOT	2.10
MCR106-8	MOT	2.25
MCR115	MOT	.82
MCR120	MOT	.90
MCR201	MOT	.75
MCR202	MOT	.82
MCR203	MOT	.98
MCR204	MOT	1.05
MCR205	MOT	1.13
MCR206	MOT	1.20
MCR406-1	MOT	.90
MCR406-2	MOT	1.05
MCR406-3	MOT	1.12
MCR406-4	MOT	1.27
MCR407-1	MOT	.82
MCR407-2	MOT	.97
MCR407-3	MOT	1.05
MCR407-4	MOT	1.20
MCR649-2	MOT	3.45
MCR649-3	MOT	3.90
MCR649-4	MOT	5.25
MCR649-7	MOT	13.70
MCR649AP1	MOT	2.92
MCR649AP2	MOT	3.56
MCR649P2	MOT	3.45
MCR808R-6	MOT	1.50
MCR846-1	MOT	5.15
MCR846-2	MOT	5.75
MCR846-3	MOT	7.35
MCR846-4	MOT	14.60
MCR914-1	MOT	1.65
MCR914-2	MOT	2.10
MCR914-3	MOT	2.60
MCR914-4	MOT	4.80
MCR914-5	MOT	14.15
MCR914-6	MOT	19.10
MCR1305-5	MOT	3.60
MCR1330	MOT	.72
MCR1350	MOT	.87
MCR1906-1	MOT	1.35
MCR1906-2	MOT	1.43
MCR1906-3	MOT	1.65
MCR1906-4	MOT	1.80
MCR1907-3	MOT	11.25
MCR1907-6	MOT	29.95
MCR2315-3	MOT	1.31
MCR2315-4	MOT	1.64
MCR2315-5	MOT	2.01
MCR2315-6	MOT	2.31
MCR2315-7	MOT	3.51
MCR2315-8	MOT	4.55
MCR2604	MOT	1.55
MCR2604-2	MOT	1.70
MCR2604-3	MOT	1.85
MCR2604-4	MOT	2.05
MCR2604-5	MOT	2.50
MCR2604-6	MOT	2.90
MCR2604-7	MOT	5.10
MCR2604-8	MOT	6.85
MCR2605-1	MOT	1.55
MCR2605-3	MOT	1.85
MCR2605-5	MOT	2.50
MCR2605-6	MOT	2.90
MCR2605-7	MOT	5.10
MCR2605-8	MOT	6.85
MCR2614L7	MOT	3.36
MCR2614L8	MOT	4.39
MCR2835	MOT	4.35
MCR3000-1	MOT	5.63
MCR3000-3	MOT	1.35
MCR3000-5	MOT	1.65
MCR3000-7	MOT	2.60
MCR3818-1	MOT	2.75
MCR3818-2	MOT	3.00
MCR3818-3	MOT	3.45
MCR3818-4	MOT	4.00
MCR3818-5	MOT	4.70
MCR3818-6	MOT	5.45
MCR3818-8	MOT	7.40
MCR3835-3	MOT	4.30
MCR3835-4	MOT	4.55
MCR3835-5	MOT	5.45
MCR3835-6	MOT	6.70
MCR3918-1	MOT	3.10
MCR3918-2	MOT	3.40
MCR3918-4	MOT	4.55
MCR3918-5	MOT	5.10
MCR3918-6	MOT	5.95
MCR3918-7	MOT	6.90
MCR3918-8	MOT	7.90
MCR3935-1	MOT	3.75
MCR3935-2	MOT	4.45
MCR3935-3	MOT	4.80
MCR3935-4	MOT	5.50
MCR3935-5	MOT	6.25
MCR3935-6	MOT	7.20
MCR3935-7	MOT	8.10
MCR3935-8	MOT	9.60
MD708A	MOT	6.75
MD708B	MOT	4.80
MD918	MOT	8.25
MD918A	MOT	15.75
MD985	MOT	9.00
MD2218	MOT	6.75
MD2219A	MOT	13.20
MD2219AF	MOT	17.70
MD2369	MOT	5.85
MD2369A	MOT	11.25
MD2905	MOT	7.95
MD2905A	MOT	13.20
MD3250	MOT	9.75
MD3251	MOT	11.60
MD3251F	MOT	19.10
MD5000	MOT	11.25
MD6002	MOT	13.50
MD6003	MOT	7.35
MD6100	MOT	14.85
MD8001	MOT	2.10
MD8002	MOT	2.25
MD8003	MOT	2.50
MDA866	MOT	19.55
MDA920-1	MOT	1.42
MDA920-2	MOT	1.69
MDA920-3	MOT	1.95
MDA920-4	MOT	2.30
MDA920-5	MOT	2.40
MDA920-6	MOT	2.45
MDA920-7	MOT	3.20
MDA920A1	MOT	1.42
MDA920A2	MOT	1.69
MDA920A3	MOT	1.95
MDA920A4	MOT	2.30
MDA920A5	MOT	2.40
MDA920A6	MOT	2.45
MDA920A7	MOT	3.20
MDA922-1	MOT	1.87
MDA922-2	MOT	2.00
MDA922-3	MOT	2.30
MDA922-4	MOT	2.75
MDA922-5	MOT	2.90
MDA922-6	MOT	3.20
MDA930-1	MOT	.82
MDA930-2	MOT	.90
MDA930-4	MOT	1.14
MDA930-5	MOT	1.21
MDA930-6	MOT	1.27
MDA930-7	MOT	1.65
MDA930A1	MOT	.82
MDA930A2	MOT	.90
MDA930A3	MOT	.97
MDA930A4	MOT	1.14
MDA930A5	MOT	1.21
MDA930A6	MOT	1.27
MDA930A7	MOT	1.65
MDA940-2	MOT	.90
MDA940-3	MOT	.97
MDA940-4	MOT	1.14
MDA940-5	MOT	1.21
MDA940-6	MOT	1.27
MDA940-7	MOT	1.65
MDA940A1	MOT	.82
MDA940A2	MOT	.90
MDA940A3	MOT	.97
MDA940A4	MOT	1.14
MDA940A6	MOT	1.27
MDA940A7	MOT	1.65
MDA940A-5	MOT	1.21
MDA942-1	MOT	2.50
MDA942-2	MOT	2.80
MDA942-3	MOT	3.25
MDA942-4	MOT	3.70
MDA942-5	MOT	4.20
MDA942-6	MOT	4.65
MDA942A1	MOT	2.60
MDA942A2	MOT	2.90
MDA942A3	MOT	3.40
MDA942A4	MOT	3.85
MDA942A5	MOT	4.30
MDA942A6	MOT	4.80
MDA950-1	MOT	.82
MDA950-3	MOT	.97
MDA950-6	MOT	1.27
MDA950A1	MOT	.82
MDA950A2	MOT	.90
MDA950A3	MOT	.97
MDA950A4	MOT	1.14
MDA950A5	MOT	1.21
MDA950A6	MOT	1.17
MDA950A7	MOT	1.65
MDA952-1	MOT	3.25
MDA952-2	MOT	3.50
MDA952-3	MOT	4.45
MDA952-4	MOT	4.90
MDA952-5	MOT	6.00
MDA952-6	MOT	7.30
MDA952A1	MOT	4.05
MDA952A2	MOT	4.40
MDA952A3	MOT	5.55
MDA952A4	MOT	6.15
MDA952A5	MOT	7.50
MDA952A6	MOT	9.10
MDA952FR1	MOT	7.10
MDA952FR2	MOT	7.50
MDA952FR3	MOT	8.25
MDA952FR4	MOT	9.00
MDA952FR5	MOT	10.85
MDA960-1	MOT	2.90
MDA960-2	MOT	3.35

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
MDA960-3	MOT	3.75
MDA962-1	MOT	3.65
MDA962-2	MOT	3.90
MDA962-3	MOT	4.85
MDA962-4	MOT	5.30
MDA962-5	MOT	6.40
MDA962-6	MOT	7.85
MDA962A1	MOT	4.55
MDA962A2	MOT	4.90
MDA962A3	MOT	6.05
MDA962A4	MOT	6.65
MDA962A5	MOT	8.00
MDA962A6	MOT	9.80
MDA970-1	MOT	3.20
MDA970-2	MOT	3.65
MDA970-3	MOT	4.10
MDA972-1	MOT	12.05
MDA972-2	MOT	12.80
MDA972-3	MOT	14.30
MDA972-4	MOT	15.70
MDA972-5	MOT	17.20
MDA980-1	MOT	3.20
MDA980-2	MOT	3.45
MDA980-3	MOT	4.05
MDA980-4	MOT	4.50
MDA980-5	MOT	5.05
MDA980-6	MOT	6.90
MDA990-1	MOT	4.25
MDA990-3	MOT	4.80
MDA990-4	MOT	5.30
MDA990-5	MOT	5.80
MDA1491-1	MOT	3.75
MDA1491-2	MOT	4.15
MDA1491-3	MOT	5.00
MDA1491-4	MOT	5.55
MDA1491-5	MOT	6.40
MDA1491-6	MOT	8.00
MDA1505-1	MOT	5.65
MDA1505-2	MOT	6.05
MDA1505-3	MOT	7.32
MDA1505-4	MOT	7.91
MDA1505-5	MOT	9.30
MDA1505-6	MOT	10.45
MDA1505A1	MOT	7.05
MDA1505A2	MOT	7.55
MDA1505A3	MOT	9.10
MDA1505A4	MOT	9.90
MDA1505A5	MOT	11.60
MDA1505A6	MOT	13.05
MDA1591-1	MOT	3.35
MDA1591-3	MOT	4.55
MDA1591-4	MOT	4.90
MDA1591-5	MOT	5.65
MDA1591-6	MOT	7.05
MDA1595-2	MOT	3.50
MFE2000	MOT	1.58
MFE2004	MOT	2.25
MFE2005	MOT	1.85
MFE2006	MOT	2.70
MFE2007	MOT	3.65
MFE2012	MOT	6.00
MFE2093	MOT	2.10
MFE2094	MOT	2.10
MFE2095	MOT	2.10
MFE3001	MOT	2.25
MFE3002	MOT	3.35
MFE3003	MOT	3.00
MFE3004	MOT	1.80
MFE3006	MOT	1.50
MFE3007	MOT	1.65
MFE3008	MOT	1.29
MFE3020	MOT	10.20
MFE4009	MOT	2.90
MFE4011	MOT	2.90
MH745	MOT	.10
MHP401	MOT	5.85
MHQ2222	MOT	6.75
MHQ2369	MOT	6.15
MHQ3798	MOT	7.00
MHQ3799	MOT	8.45
MHQ6002	MOT	6.75
MHQ6100	MOT	7.00
MHQ6100A	MOT	8.45
MHW560	MOT	43.00
MHW561	MOT	50.00
MHW562	MOT	57.00
MJ250	MOT	1.26
MJ340	MOT	1.06
MJ400	MOT	1.65
MJ410	MOT	2.85
MJ411	MOT	3.40
MJ413	MOT	3.70
MJ420	MOT	1.39
MJ421	MOT	1.63
MJ423	MOT	5.55
MJ424	MOT	6.66
MJ425	MOT	7.96
MJ430	MOT	1.62
MJ431	MOT	10.11
MJ440	MOT	1.25
MJ450	MOT	6.62
MJ480	MOT	1.30
MJ481	MOT	1.55
MJ490	MOT	2.02
MJ491	MOT	2.40
MJ802	MOT	4.86
MJ900	MOT	3.08
MJ901	MOT	3.66
MJ921	MOT	9.18
MJ1000	MOT	2.12
MJ1001	MOT	2.89
MJ1090	MOT	2.66
MJ1201	MOT	7.83
MJ1800	MOT	3.54
MJ2249	MOT	1.49
MJ2250	MOT	1.65
MJ2251	MOT	1.87
MJ2252	MOT	2.02
MJ2253	MOT	1.93
MJ2254	MOT	2.16
MJ2255	MOT	2.70
MJ2267	MOT	4.95
MJ2268	MOT	5.45
MJ2500	MOT	4.05
MJ2501	MOT	4.58
MJ2801	MOT	2.85
MJ2840	MOT	1.69
MJ2841	MOT	2.02
MJ2901	MOT	3.75
MJ2940	MOT	3.48
MJ2941	MOT	4.20
MJ2955	MOT	1.42
MJ3000	MOT	3.24
MJ3001	MOT	3.82
MJ3011	MOT	11.85
MJ3026	MOT	2.30
MJ3027	MOT	2.56
MJ3028	MOT	2.84
MJ3029	MOT	2.56
MJ3030	MOT	3.91
MJ3055	MOT	1.97
MJ3101	MOT	1.30
MJ3201	MOT	1.72
MJ3202	MOT	1.87
MJ3701	MOT	1.63
MJ3771	MOT	3.14
MJ3772	MOT	3.14
MJ4000	MOT	1.75
MJ4001	MOT	2.10
MJ4010	MOT	2.40
MJ4011	MOT	3.00
MJ4030	MOT	5.80
MJ4031	MOT	6.30
MJ4032	MOT	6.95
MJ4033	MOT	5.40
MJ4034	MOT	5.90
MJ4035	MOT	6.65
MJ4200	MOT	4.72
MJ4201	MOT	5.80
MJ4210	MOT	5.26
MJ4211	MOT	6.48
MJ4502	MOT	5.26
MJ4647	MOT	11.57
MJ5203	MOT	1.85
MJ6701	MOT	29.60
MJ9000	MOT	7.30
MJE101	MOT	2.10
MJE102	MOT	2.70
MJE103	MOT	2.40
MJE104	MOT	2.85
MJE105	MOT	2.33
MJE170	MOT	.62
MJE201	MOT	1.75
MJE202	MOT	2.35
MJE203	MOT	2.05
MJE204	MOT	2.40
MJE205	MOT	1.92
MJE220	MOT	.88
MJE230	MOT	1.00
MJE341	MOT	.98
MJE344	MOT	1.07
MJE345	MOT	1.01
MJE350	MOT	1.33
MJE370	MOT	1.07
MJE371	MOT	1.50
MJE520	MOT	.94
MJE521	MOT	1.32
MJE700	MOT	1.52
MJE701	MOT	1.73
MJE702	MOT	1.79
MJE703	MOT	2.11
MJE710	MOT	.73
MJE711	MOT	.83
MJE712	MOT	.99
MJE720	MOT	.66
MJE721	MOT	.77
MJE722	MOT	.92
MJE800	MOT	1.30
MJE801	MOT	1.48
MJE802	MOT	1.52
MJE803	MOT	1.78
MJE1090	MOT	2.66
MJE1091	MOT	2.90
MJE1092	MOT	3.10
MJE1093	MOT	3.44
MJE1100	MOT	1.82
MJE1101	MOT	1.99
MJE1102	MOT	2.21
MJE1103	MOT	2.44
MJE1290	MOT	3.25
MJE1291	MOT	3.64
MJE2021	MOT	1.53
MJE2160	MOT	1.75
MJE2370	MOT	1.05
MJE2490	MOT	1.37
MJE2491	MOT	1.55
MJE2520	MOT	.94
MJE2522	MOT	1.00
MJE2523	MOT	1.05
MJE2801	MOT	1.50
MJE2901	MOT	2.23
MJE2955	MOT	2.23
MJE3055	MOT	1.50
MJE3439	MOT	1.07
MJE3440	MOT	.84
MJE4919	MOT	1.73
MK10	MOT	.25
MK15	MOT	.25
MK20	MOT	.30
MK25	MOT	.30
MK30	NOT	.15
MK35	MOT	.25
MLED50	MOT	.59
MLED55	MOT	.59
MLED60	MOT	.62
MLED90	MOT	.58
MLED600	MOT	1.27
MLED610	MOT	3.90
MLED630	MOT	1.50
MLED650	MOT	.50
MLED900	MOT	.85
MLED910	MOT	3.60
MLED930	MOT	3.50
MM1500	MOT	36.40
MM1941	MOT	1.95
MM2259	MOT	4.20
MM2484	MOT	.48
MM2894A	MOT	3.25
MM3000	MOT	1.25
MM3001	MOT	1.40
MM3002	MOT	1.65
MM3003	MOT	1.90
MM3004	MOT	1.60
MM3005	MOT	1.60
MM3007	MOT	2.55
MM4000	MOT	1.24
MM4001	MOT	1.39
MM4002	MOT	1.65
MM4003	MOT	1.85
MM4005	MOT	1.85
MM4018	MOT	1.55
MM4036	MOT	1.60
MM4049	MOT	11.40
MM4208	MOT	3.75
MM4208A	MOT	4.50
MM4209	MOT	6.75
MM4209A	MOT	7.50
MM5001	MOT	3.15
MM5006	MOT	1.35
MM5007	MOT	1.73

Key	Mfr.
GE	General Electric
INT	International Rectrifier
IIT	IIT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
MM8000	MOT	2.85
MM8001	MOT	3.30
MM8006	MOT	3.80
MM8008	MOT	12.35
MM8009	MOT	8.45
MM8010	MOT	8.45
MMD70	MOT	.35
MMD6050	MOT	.68
MMD6100	MOT	.90
MMD6150	MOT	2.40
MMD7000	MOT	2.55
MMF3	MOT	15.75
MMF5	MOT	12.75
MMF6	MOT	12.75
MMT70	MOT	.53
MMT71	MOT	.65
MMT72	MOT	.75
MMT74	MOT	.98
MMT76	MOT	.59
MMT807	MOT	19.50
MMT809	MOT	22.50
MMT918	MOT	1.65
MMT930	MOT	1.13
MMT2222	MOT	1.43
MMT2369	MOT	1.65
MMT2484	MOT	1.28
MMT2857	MOT	5.45
MMT2907	MOT	1.73
MMT3014	MOT	2.28
MMT3798	MOT	3.75
MMT3799	MOT	3.40
MMT3828	MOT	2.60
MMT3903	MOT	1.35
MMT3904	MOT	1.50
MMT3905	MOT	1.35
MMT3906	MOT	1.50
MMT3906A	MOT	10.35
MOC1000	MOT	2.60
MOC1001	MOT	2.95
MOC1002	MOT	2.25
MOC1003	MOT	1.50
MOC1100	MOT	2.95
MOC1200	MOT	2.95
MOC2000	MOT	4.75
MP500	MOT	5.70
MP501	MOT	9.00
MP502	MOT	12.00
MP504	MOT	6.60
MP505	MOT	10.20
MP506	MOT	13.85
MP506AML	MOT	16.85
MP525	MOT	1.00
MP801	MOT	42.00
MP1612B	MOT	4.20
MP1613	MOT	1.35
MP2000A	MOT	1.75
MP2060	MOT	1.05
MP2061	MOT	1.15
MP2062	MOT	1.35
MP2063	MOT	1.65
MP2100A	MOT	2.15
MP2200A	MOT	2.75
MP2400A	MOT	7.85
MP3730	MOT	2.50
MP3731	MOT	3.38
MPD200	GE	1.21
MPD300	GE	1.49
MPD400	GE	1.62
MPF102	MOT	.60
MPF108	MOT	.97

NEW TYPES STOCKED AS SOON AS RELEASED

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
MPF109	MOT	.75
MPF111	MOT	.38
MPF112	MOT	.38
MPF120	MOT	.70
MPF121	MOT	.68
MPF122	MOT	.67
MPF161	MOT	.67
MPF256	MOT	.80
MPF820	MOT	.85
MPF4391	MOT	1.42
MPN3401	MOT	.52
MPN3402	MOT	.52
MPQ2222	MOT	3.80
MPQ2906	MOT	3.60
MPR10	GE	.80
MPR15	GE	1.45
MPS214	MOT	.43
MPS404	MOT	.37
MPS404A	MOT	.45
MPS706	MOT	.45
MPS708	MOT	.49
MPS834	MOT	.52
MPS835	MOT	.60
MPS918	MOT	.83
MPS2369	MOT	.53
MPS2711	MOT	.34
MPS2713	MOT	.41
MPS2714	MOT	.43
MPS2716	MOT	.90
MPS2923	MOT	.32
MPS2924	MOT	.34
MPS2925	MOT	.41
MPS2926	MOT	.29
MPS3390	MOT	.90
MPS3391	MOT	.60
MPS3391A	MOT	.69
MPS3392	MOT	.32
MPS3393	MOT	.32
MPS3394	MOT	.27
MPS3395	MOT	.45
MPS3397	MOT	.43
MPS3398	MOT	.41
MPS3563	MOT	.38
MPS3638	MOT	.45
MPS3638A	MOT	.59
MPS3639	MOT	.34
MPS3640	MOT	.44
MPS3646	MOT	.52
MPS3693	MOT	.44
MPS3694	MOT	.44
MPS3702	MOT	.37
MPS3703	MOT	.34
MPS3704	MOT	.34
MPS3705	MOT	.29
MPS3706	MOT	.27
MPS3707	MOT	.34
MPS3708	MOT	.27
MPS3709	MOT	.29
MPS3711	MOT	.29
MPS4354	MOT	.48
MPS4355	MOT	.52
MPS4356	MOT	.51
MPS5172	MOT	.21
MPS6507	MOT	.53
MPS6511	MOT	.68
MPS6512	MOT	.54
MPS6513	MOT	.57
MPS6514	MOT	.60
MPS6515	MOT	.64
MPS6516	MOT	.64
MPS6517	MOT	.63
MPS6518	MOT	.67
MPS6519	MOT	.75
MPS6520	MOT	.82
MPS6521	MOT	.90
MPS6522	MOT	.90
MPS6523	MOT	.97
MPS6530	MOT	.64
MPS6531	MOT	.75
MPS6532	MOT	.54
MPS6533	MOT	.71
MPS6534	MOT	.81
MPS6539	MOT	.60
MPS6540	MOT	.63
MPS6543	MOT	1.32
MPS6544	MOT	.54
MPS6545	MOT	.84
MPS6547	MOT	1.35
MPS6548	MOT	.90
MPS6560	MOT	.48
MPS6561	MOT	.45
MPS6562	MOT	.54
MPS6563	MOT	.51
MPS6565	MOT	.52
MPS6566	MOT	.57
MPS6568	MOT	1.50
MPS6568A	MOT	.70
MPS6571	MOT	.60
MPS6515	MOT	.64
MPSA05	MOT	.53
MPSA06	MOT	.60
MPSA09	MOT	.54
MPSA12	MOT	.67
MPSA13	MOT	.47
MPSA14	MOT	.54
MPSA16	MOT	.36
MPSA17	MOT	.36
MPSA18	MOT	.99
MPSA20	MOT	.33
MPSA42	MOT	.87
MPSA43	MOT	.76
MPSA55	MOT	.59
MPSA56	MOT	.66
MPSA65	MOT	.57
MPSA66	MOT	.63
MPSA70	MOT	.38
MPSA92	MOT	.94
MPSA93	MOT	.87
MPSH02	MOT	.76
MPSH04	MOT	.38
MPSH05	MOT	.32
MPSH07	MOT	.68
MPSH08	MOT	.73
MPSH10	MOT	.49
MPSH19	MOT	.45
MPSH20	MOT	.59
MPSH24	MOT	.62
MPSH30	MOT	.51
MPSH31	MOT	.51
MPSH32	MOT	.63
MPSH34	MOT	.65
MPSH37	MOT	.51
MPSH54	MOT	.40
MPSH55	MOT	.38
MPSH81	MOT	.45
MPSH83	MOT	1.15
MPSH300	MOT	49.50
MPSL01	MOT	.59
MPSL51	MOT	.61
MPSU01	MOT	.85
MPSU01A	MOT	.93
MPSU02	MOT	.89
MPSU03	MOT	1.35
MPSU04	MOT	1.50
MPSU05	MOT	.90
MPSU06	MOT	1.05
MPSU07	MOT	1.20
MPSU10	MOT	1.44
MPSU45	MOT	1.14
MPSU51	MOT	.90
MPSU51A	MOT	1.02
MPSU52	MOT	.98
MPSU55	MOT	.99
MPSU56	MOT	1.14
MPSU57	MOT	1.29
MPSU60	MOT	1.65
MPSU95	MOT	1.26
MPU131	MOT	.71
MPU132	MOT	.84
MPU133	MOT	.90
MPU6027	MOT	.63
MQ3251	MOT	26.25
MR325R	MOT	1.27
MR327	MOT	2.40
MR328	MOT	3.35
MR328R	MOT	3.35
MR331	MOT	7.89
MR331R	MOT	9.75
MR501	MOT	.45
MR502	MOT	.49
MR504	MOT	.58
MR506	MOT	.70
MR508	MOT	.90
MR510	MOT	1.25
MR751	MOT	.68
MR752	MOT	.74
MR754	MOT	.93
MR756	MOT	1.35
MR810	MOT	.45
MR811	MOT	.53
MR812	MOT	.60
MR814	MOT	.89
MR816	MOT	1.04
MR830	MOT	1.50
MR831	MOT	1.80
MR832	MOT	1.97
MR834	MOT	3.09
MR836	MOT	3.87
MR840	MOT	1.27
MR841	MOT	1.42
MR842	MOT	1.80
MR846	MOT	3.47
MR856	MOT	1.74
MR880	MOT	2.10
MR881	MOT	2.45
MR882	MOT	3.30
MR884	MOT	5.25
MR886	MOT	6.75
MR890	MOT	3.75
MR896	MOT	14.90
MR990A	MOT	.75
MR991A	MOT	.82
MR992A	MOT	.90
MR993A	MOT	.97
MR994A	MOT	1.05
MR995A	MOT	1.20
MR996A	MOT	1.35
MR1033A	MOT	.66
MR1033B	MOT	.93
MR1035A	MOT	1.32
MR1035B	MOT	1.32
MR1036B	MOT	.00
MR1120	MOT	1.14
MR1120R	MOT	1.14
MR1121	MOT	1.23
MR1122	MOT	1.32
MR1123	MOT	1.48
MR1123R	MOT	1.48
MR1124	MOT	1.65
MR1124R	MOT	1.65
MR1125	MOT	2.02
MR1125R	MOT	2.02
MR1126	MOT	2.45
MR1126R	MOT	2.45
MR1128	MOT	5.60
MR1130	MOT	7.85
MR1130R	MOT	7.85
MR1200FL	MOT	4.00
MR1203FL	MOT	5.60
MR1207FL	MOT	7.30
MR1208FL	MOT	8.65
MR1209FL	MOT	10.30
MR1210SB	MOT	5.20
MR1210SBR	MOT	5.20
MR1210SL	MOT	5.00
MR1211SL	MOT	5.45
MR1212SLR	MOT	6.60
MR1213SL	MOT	6.60
MR1214SL	MOT	7.80
MR1214SLR	MOT	7.80
MR1215SB	MOT	8.15
MR1217SB	MOT	10.35
MR1220SL	MOT	11.95
MR1221SB	MOT	11.95
MR1222SB	MOT	12.65
MR1223FL	MOT	12.65
MR1229FB	MOT	23.95
MR1229SL	MOT	23.95
MR1230FB	MOT	15.30
MR1230SB	MOT	15.30
MR1237SLR	MOT	24.25
MR1241SB	MOT	23.95
MR1242FL	MOT	25.25
MR1247FL	MOT	30.05
MR1247FLR	MOT	30.05
MR1263FL	MOT	55.20
MR1263FLR	MOT	55.20
MR1267FL	MOT	67.85
MR1269FL	MOT	99.75
MR1291	MOT	66.50
MR1291R	MOT	66.50
MR1293	MOT	76.50
MR1297	MOT	98.50
MR1337-1	MOT	3.35
MR1337-2	MOT	4.95
MR1337-5	MOT	12.00
MR1366	MOT	5.63
MR1376	MOT	7.88
MR1386	MOT	10.80
MR1813SL	MOT	7.25
MR2064	MOT	.38
MR2065	MOT	.41
MR2066	MOT	.45
MR2067	MOT	.53
MR2068	MOT	.60
MR2080HA	MOT	49.00
MR2100HA	MOT	59.85
MR2101HA	MOT	66.50
MR2102HA	MOT	76.45
MR2266	MOT	1.08
MR2271	MOT	.87
MR2272	MOT	.57
MR2273	MOT	.48
MR2369	MOT	.60
MR2370	MOT	.67
MR2370R	MOT	.67
MR2371	MOT	.76
MR2371R	MOT	.76
MR2372	MOT	.87
MR2372R	MOT	.87
MR2373	MOT	1.06
MR2373R	MOT	1.06
MR2374	MOT	1.26
MR2374R	MOT	1.26
MR2375	MOT	1.44
MR2375R	MOT	1.44
MR3282	MOT	1.85
MR3283	MOT	2.25
MR3285	MOT	9.35
MR5020	MOT	2.20
MR5040	MOT	3.30
MRA130	MOT	42.50
MRA131	MOT	21.95
MRA131B	MOT	50.55
MRA132B	MOT	61.20
MRA133	MOT	31.25
MRA134	MOT	36.55
MRA134B	MOT	77.15
MRA163	MOT	48.55
MRA163B	MOT	117.05
MRA330	MOT	20.60
MRA332B	MOT	62.50
MRA333	MOT	32.60
MRA361	MOT	39.25
MRA361B	MOT	85.10
MRA361R	MOT	39.25
MRA362	MOT	45.90
MRA362B	MOT	98.40
MRA363	MOT	49.85
MRA363B	MOT	105.50
MRD148	MOT	.55
MRD150	MOT	1.20
MRD300	MOT	2.50
MRD310	MOT	2.25
MRD450	MOT	1.13
MRD500	MOT	10.90
MRD510	MOT	9.90
MRD601	MOT	3.45
MRD602	MOT	3.60
MRD603	MOT	3.80
MRD604	MOT	4.10
MRD810	MOT	6.00
MRD3050	MOT	1.20
MRD3051	MOT	1.35
MRD3052	MOT	1.80
MRD3053	MOT	1.80
MRD3054	MOT	1.95
MRD3055	MOT	1.45
MRD3056	MOT	1.65
MRF502	MOT	.65

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
MS10	MOT	2.00
MS15	MOT	2.00
MSD6100	MOT	.36
MSD6101	MOT	.40
MSD6102	MOT	.30
MSD6150	MOT	.37
MSD7000	MOT	.38
MSS1000	MOT	.20
MU10	MOT	.40
MU20	MOT	.50
MU4891	MOT	.90
MU4892	MOT	1.15
MU4893	MOT	.96
MU4894	MOT	1.05
MUS4987	MOT	.65
MV104	MOT	.89
MV109	MOT	1.15
MV830	MOT	1.35
MV832	MOT	1.35
MV833	MOT	1.35
MV834	MOT	1.35
MV835	MOT	1.35
MV836	MOT	1.35
MV837	MOT	1.35
MV838	MOT	1.35
MV839	MOT	1.35
MV1401	MOT	8.95
MV1402	MOT	8.95
MV1403	MOT	8.95
MV1404	MOT	8.95
MV1405	MOT	8.95
MV1620	MOT	1.42
MV1622	MOT	1.42
MV1624	MOT	1.42
MV1626	MOT	1.42
MV1628	MOT	1.42
MV1630	MOT	1.42
MV1632	MOT	1.42
MV1634	MOT	1.42
MV1636	MOT	1.42
MV1638	MOT	1.42
MV1640	MOT	1.42
MV1642	MOT	1.42
MV1644	MOT	1.42
MV1646	MOT	1.42
MV1648	MOT	1.42
MV1650	MOT	3.60
MV1652	MOT	3.60
MV1654	MOT	3.60
MV1660	MOT	3.60
MV1809C1	MOT	33.00
MV1860D	MOT	10.40
MV1862D	MOT	10.40
MV1864D	MOT	10.40
MV1866D	MOT	10.40
MV1868D	MOT	10.40
MV1872	MOT	10.50
MV1878	MOT	10.50
MV2101	MOT	.90
MV2102	MOT	.90
MV2103	MOT	.90
MV2104	MOT	.90
MV2106	MOT	.90
MV2107	MOT	.90
MV2108	MOT	.90
MV2109	MOT	.90
MV2110	MOT	.90
MV2111	MOT	.90
MV2112	MOT	.90
MV2113	MOT	.90
MV2114	MOT	.90
MV2115	MOT	.90
MV2201	MOT	.53
MV2203	MOT	.53
MV2205	MOT	.53
MV2209	MOT	.53
MV3102	MOT	1.05
MV3103	MOT	.82
MV3140	MOT	1.20
MV3141	MOT	.82
MV3142	MOT	.60
MZ5.1T5	MOT	3.52
MZ16T5	MOT	3.52
MZ92-2.48	MOT	.78
MZ92-2.5	MOT	.51
MZ92-2.7	MOT	.51
MZ92-3.0	MOT	.51
MZ500-1	MOT	.51
MZ500-2	MOT	.51
MZ500-4	MOT	.51
MZ500-5	MOT	.51
MZ500-7	MOT	.51
MZ500-9	MOT	.51
MZ500-10	MOT	.51
MZ500-11	MOT	.51
MZ500-12	MOT	.51
MZ500-14	MOT	.51
MZ500-15	MOT	.51
MZ500-16	MOT	.51
MZ500-18	MOT	.51
MZ500-19	MOT	.51
MZ500-20	MOT	.51
MZ500-21	MOT	.51
MZ500-22	MOT	.51
MZ500-23	MOT	.51
MZ500-27	MOT	.51
MZ500-29	MOT	.51
MZ500-33	MOT	.51
MZ500-37	MOT	.51
MZ500-40	MOT	.51
MZ1000-6	MOT	.60
MZ1000-9	MOT	.60
MZ1000-10	MOT	.60
MZ1000-11	MOT	.60
MZ1000-13	MOT	.60
MZ1000-15	MOT	.60
MZ1000-20	MOT	.60
MZ1000-23	MOT	.60
MZ1000-24	MOT	.60
MZ1000-26	MOT	.60
MZ1000-27	MOT	.60
MZ1000-33	MOT	.60
MZ1000-37	MOT	.60
MZ2360	MOT	.28
MZ2361	MOT	.57
MZ4614	MOT	3.85
MZ4615	MOT	3.85
MZ4616	MOT	3.85
MZ4617	MOT	3.85
MZ4618	MOT	3.85
MZ4620	MOT	3.85
MZ4621	MOT	3.85
MZ4622	MOT	3.85
MZ4623	MOT	3.85
MZ4624	MOT	3.85
MZ4625	MOT	3.85
MZ4626	MOT	3.85
MZ4627	MOT	3.85
MZK100	MOT	79.00
Q1B	INT	.47
Q2T2222	TI	3.50
Q4B	INT	1.81
Q8B	INT	3.58
R210-F	INT	.57
R250-F	INT	.61
R1520010	WES	.65
R1520110	WES	.70
R1520210	WES	.75
R1520310	WES	.85
R1520410	WES	.90
R1520610	WES	1.25
R3100015	WES	1.25
R3100115	WES	1.41
R3100215	WES	2.48
R3100315	WES	3.47
R3100415	WES	4.46
R3100515	WES	5.33
R3100615	WES	6.19
RA1	GE	4.95
RA1A	GE	8.75
RA1B	GE	15.51
RA2	GE	8.75
RA2A	GE	24.75
RA3	GE	9.08
RCA106A1	RCA	.71
S1M-C	INT	1.80
S1V1P	INT	.79
S1W1P	INT	1.61
S1Y1P	INT	.84
S2W1P	INT	1.84
S2X1P	INT	1.42
S2Y1P	INT	.90
S2Z1P	INT	1.08
S3W3P	INT	2.50
S3X3P	INT	1.81
S4W2P	INT	2.50
S4W4P	INT	2.95
S4Z2P	INT	1.24
S4Z4P	INT	1.32
S5M-C	INT	4.95
S5V5P	INT	.93
S5W2P	INT	2.73
S5X2P	INT	1.95
S5Y5P	INT	1.08
S5Z2P	INT	1.29
S5Z5P	INT	1.43
S6W6P	INT	3.87
S6X2P	INT	2.06
S6Y2P	INT	1.03
S6Y6P	INT	1.12
S6Z2P	INT	1.32
S7V2P	INT	.91
S7X2P	INT	2.16
S100A2	GE	8.95
S100B2	GE	9.75
S100B5	GE	10.40
S100B6	GE	14.05
S100C2	GE	10.80
S100C5	GE	12.45
S100D5	GE	11.85
S100E1	GE	8.80
S100E5	GE	12.35
S100F5	GE	11.85
S100G2	GE	7.75
S100G5	GE	8.30
S400A1	GE	7.15
S400A1S	GE	8.15
S400A1SC	GE	8.80
S1020GE10PL	INT	3.67
S2004-3	GE	15.73
S6221-2	GE	2.25
S-100A1	GE	6.90
S-100A3	GE	7.45
S-100A4	GE	9.85
S-100A5	GE	9.50
S-100B1	GE	7.80
S-100B3	GE	8.35
S-100B4	GE	10.70
S-100C1	GE	8.80
S-100C3	GE	9.30
S-100C4	GE	11.70
S-100D3	GE	8.70
S-100E3	GE	9.30
S-100E4	GE	11.70
S-100F1	GE	8.20
S-100F3	GE	8.70
S-100F4	GE	11.20
S-100G1	GE	5.70
S-100G3	GE	6.25
S-100G4	GE	8.65
S-200A1	GE	16.95
S-200A4	GE	20.60
SC35B	GE	2.70
SC35D	GE	3.39
SC36B	GE	2.25
SC40B	GE	2.94
SC40D	GE	3.77
SC40D2	GE	5.03
SC40E	GE	4.22
SC41B	GE	2.58
SC41D	GE	3.41
SC41E	GE	3.86
SC45B	GE	3.69
SC45D	GE	4.35
SC45E	GE	5.22
SC46B	GE	3.33
SC46E	GE	4.86
SC50B	GE	3.90
SC50B12	GE	3.90
SC50D	GE	4.59
SC50D2	GE	5.85
SC50E	GE	5.52
SC51B	GE	3.54
SC51D	GE	4.23
SC51E	GE	5.16
SC60B	GE	6.85
SC60D	GE	9.50
SC60E	GE	11.20
SC61B	GE	6.30
SC61D	GE	8.98
SC141B	GE	2.58
SC141D	GE	3.41
SC146B	GE	1.79
SC146D	GE	2.20
SC146F	GE	2.53
SC240B	GE	2.94
SC240D	GE	3.77
SC240E	GE	4.22
SC241B	GE	2.58
SC241D	GE	3.41

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teledyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
SC245B	GE	3.69
SC245D	GE	4.35
SC245E	GE	5.22
SC246D	GE	3.99
SC246E	GE	4.86
SC250B	GE	3.90
SC250D	GE	4.59
SC250E	GE	5.52
SC251D	GE	4.23
SD91	INT	.45
SD91A	INT	.09
SD92	INT	.54
SD94	INT	.76
SD94A	INT	.81
SD95A	INT	.90
SD500-C	INT	.54
SE708	GE	1.58
SF13X10	INT	1.02
SF13X15	INT	1.02
SF13X20	INT	1.02
SF13X25	INT	1.02
SF13X60	INT	2.28
SF13X100	INT	4.20
SF13X200	INT	4.20
SF13X250	INT	4.20
SF13X300	INT	4.20
SF13X400	INT	4.20
SF23X30	INT	1.02
SF25X10	INT	1.20
SF25X15	INT	1.20
SF25X20	INT	1.20
SF25X25	INT	1.20
SF25X30	INT	1.20
SF25X50	INT	4.10
SF25X100	INT	4.10
SF25X400	INT	6.40
SH138-C	INT	.75
SK3003	RCA	.99
SK3004	RCA	1.14
SK3005	RCA	1.17
SK3006	RCA	1.41
SK3007	RCA	1.26
SK3008	RCA	1.23
SK3009	RCA	2.34
SK3010	RCA	1.26
SK3012	RCA	2.88
SK3013	RCA	4.68
SK3014	RCA	3.15
SK3015	RCA	6.30
SK3016	RCA	.57
SK3017A	RCA	.60
SK3018	RCA	1.35
SK3019	RCA	1.47
SK3020	RCA	1.32
SK3021	RCA	1.95
SK3022	RCA	3.96
SK3023	RCA	3.96
SK3024	RCA	1.98
SK3025	RCA	2.70
SK3026	RCA	1.80
SK3027	RCA	3.15
SK3028	RCA	3.60
SK3029	RCA	6.30
SK3030	RCA	.42
SK3031	RCA	.51
SK3032	RCA	.61
SK3033	RCA	.81
SK3034	RCA	4.50
SK3035	RCA	5.49
SK3036	RCA	5.85

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PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
SK3037	RCA	11.70
SK3038	RCA	1.44
SK3039	RCA	1.98
SK3040	RCA	2.25
SK3041	RCA	2.52
SK3042	RCA	3.96
SK3043	RCA	1.80
SK3044	RCA	5.49
SK3045	RCA	5.67
SK3047	RCA	2.88
SK3048	RCA	5.58
SK3049	RCA	8.10
SK3052	RCA	2.35
SK3055MP	RCA	1.08
SK3058MP	RCA	1.08
SK3060MP	RCA	1.08
SK3062MP	RCA	1.08
SK3071	RCA	7.00
SK3077	RCA	7.00
SK3078	RCA	7.00
SK3088	RCA	.34
SK3113	RCA	2.25
SK3505	RCA	6.57
SK30011	RCA	1.62
SSL-3	GE	8.84
SSL-4	GE	3.30
SSL-5A	GE	4.13
SSL-5B	GE	6.14
SSL-5C	GE	6.86
SSL-12	GE	1.98
SSL-15	GE	5.49
SSL-22	GE	1.73
SSL-22L	GE	1.73
SSL-34	GE	3.75
SSL-35	GE	8.10
SSL-54	GE	3.14
SSL-55B	GE	5.84
SSL-55C	GE	6.51
SSL-140	GE	14.78
SSL-190	GE	20.63
SSL-212	GE	1.98
SSL-315	GE	6.89
ST2	GE	.61
ST4	GE	.84
ST-2A	INT	7.50
ST-3	INT	5.00
ST-7A	INT	9.00
ST-11	INT	8.25
ST-14	INT	3.50
STB567	GE	.48
STB569	GE	.81
T5000 24005	WES	17.50
T5000 28005	WES	23.50
T5000 44005	WES	26.00
T5000 64005	WES	36.00
T5000 84005	WES	45.00
T5000 88005	WES	55.00
T5001 08005	WES	65.00
T5001 24005	WES	70.00
T6000 41804	WES	60.00
TA8032	RCA	10.00
TA8034	RCA	10.00
TA8055R	RCA	25.00
TD256	GE	8.25
TD-9	GE	4.40
TD-251	GE	8.25
TD-251A	GE	13.20
TD-252	GE	8.25
TD-252A	GE	13.20
TD-253	GE	6.60
TD-253A	GE	9.90
TD-253B	GE	13.20
TD-254A	GE	13.20
TD-256A	GE	13.20
TI54	TI	.50
TI58	TI	.81
TI145A0	TI	1.28
TI145A1	TI	1.65
TI145A2	TI	2.03
TI145A3	TI	2.40
TI145A4	TI	2.78
TI1124	TI	12.70
TI1135	TI	9.90
TI-51	TI	.39
TI-52	TI	.42
TI-53	TI	.45
TI-56	TI	.65
TI-57	TI	.73
TI-60	TI	.96
TI-71	TI	.76
TI-402	TI	.92
TI-409	TI	.18
TI-480	TI	1.55
TI-481	TI	1.90
TI-483	TI	6.35
TI-484	TI	7.75
TI-486	TI	4.90
TI-487	TI	5.60
TI-492	TI	1.55
TI-493	TI	1.90
TI-494	TI	2.50
TI-495	TI	3.00
TI-496	TI	1.75
TIC116B	TI	1.35
TIC126A	TI	1.35
TIC126B	TI	1.50
TIC226D	TI	1.29
TIC263D	TI	3.10
TIC-44	TI	.53
TIC-45	TI	.60
TIC-46	TI	.68
TIC-47	TI	.83
TID124	TI	3.50
TIL23	TI	4.00
TIL24	TI	5.50
TIL31	TI	3.50
TIL32	TI	1.30
TIL63	TI	1.00
TIL64	TI	1.16
TIL65	TI	1.18
TIL66	TI	1.26
TIL67	TI	1.50
TIL77	TI	1.00
TIL78	TI	1.05
TIL81	TI	2.50
TIL102	TI	10.00
TIL103	TI	12.00
TIL107	TI	4.35
TIL108	TI	5.20
TIL111	TI	5.00
TIL112	TI	2.50
TIL138	TI	5.85
TIL139	TI	5.85
TIL203	TI	.98
TIL204	TI	.98
TIL207	TI	.98
TIL209	TI	.59
TIL210	TI	1.03
TIL302	TI	12.50
TIL303	TI	12.50
TIL304	TI	10.00
TIL305	TI	19.75
TIL306	TI	22.00
TIL307	TI	22.00
TIL308	TI	19.00
TIL309	TI	19.00
TIL311	TI	19.00
TIL360	TI	41.50
TIL601	TI	3.52
TIL603	TI	3.80
TIL604	TI	4.10
TIL606	TI	3.97
TIL610	TI	3.70
TIL611	TI	3.88
TIL612	TI	4.10
TIL613	TI	3.70
TIL614	TI	3.97
TIL616	TI	4.36
TIP29B	TI	.72
TIP29C	TI	.81
TIP30B	TI	.80
TIP30C	TI	.88
TIP31B	TI	.81
TIP31C	TI	.90
TIP32B	TI	.88
TIP32C	TI	.97
TIP33A	TI	1.04
TIP33B	TI	1.12
TIP33C	TI	1.27
TIP34B	TI	1.24
TIP34C	TI	1.39
TIP35C	TI	2.90
TIP36A	TI	2.70
TIP41	TI	.88
TIP41A	TI	.96
TIP41B	TI	1.04
TIP41C	TI	1.19
TIP42A	TI	1.08
TIP42B	TI	1.16
TIP42C	TI	1.31
TIP48	TI	1.12
TIP52	TI	2.60
TIP110	TI	1.05
TIP120	TI	1.70
TIP140	TI	2.30
TIP145	TI	2.45
TIP146	TI	2.70
TIP147	TI	3.25
TIP2955	TI	1.22
TIP3055	TI	1.08
TIP-29	TI	.61
TIP-29A	TI	.65
TIP-30	TI	.68
TIP-30A	TI	.72
TIP-31	TI	.70
TIP-31A	TI	.74
TIP-32	TI	.77
TIP-32A	TI	.81
TIP-33	TI	.96
TIP-34	TI	1.08
TIP-34A	TI	1.16
TIP-35	TI	2.35
TIP-35A	TI	2.50
TIP-36	TI	2.55
TIS38	TI	.35
TIS69	TI	2.11
TIS70	TI	1.76
TIS92	TI	.35
TIS100	TI	.47
TIS111	TI	.44
TIS114	TI	.70
TIS-25	TI	8.90
TIS-26	TI	7.10
TIS-37	TI	.38
TIS-43	TI	.76
TIS-58	TI	.62
TIS-59	TI	.61
TIS-62	TI	.37
TIS-64	TI	.29
TIS-73	TI	1.76
TIS-74	TI	1.54
TIS-75	TI	1.60
TIS-86	TI	.48
TIS-87	TI	.51
TIS-92M	TI	.37
TIS-93	TI	.42
TIS-93M	TI	.43
TIS-97	TI	.34
TIS-98	TI	.29
TIS-99	TI	.30
TIV306	TI	1.00
TIV308	TI	1.00
TIXL26	TI	3.20
TIXL27	TI	14.00
TIXL109	TI	5.80
TIXL113	TI	4.60
TR01-C	INT	1.38
TR03-C	INT	1.38
TR08C	INT	.85
TR23-C	INT	2.22
V130LA1	GE	1.80
V130LA2	GE	1.80
V130LA10	GE	1.80
V130LA20	GE	3.75
V130PA10A	GE	1.80
V130PA20A	GE	4.80
V130PA20C	GE	4.80
V130PA20B	GE	4.80
V150LA1	GE	1.85
V150LA2	GE	1.85
V150LA10	GE	1.85
V150LA20	GE	3.83
V150PA10A	GE	1.85
V150PA20A	GE	4.85
V250LA2	GE	2.93
V250LA4	GE	2.93
V250LA15	GE	2.93
V250LA20	GE	4.26
V250LA40	GE	6.09
V250PA20A	GE	4.85
V250PA40A	GE	9.57
V250PA40B	GE	9.57
V250PA40C	GE	9.57
V420LB20	GE	4.98
V420LB40	GE	6.55
V460LB20	GE	5.15
V460LB40	GE	6.67
V480LB20	GE	5.25
V480LB40	GE	6.75
V480LB80	GE	9.37
V480PA20A	GE	5.64
V480PA40A	GE	10.14
V480PA80A	GE	16.14
V510A20A	GE	5.72
V510LB20	GE	5.35
V510LB40	GE	6.83
V510LB80	GE	9.49
V510PA40A	GE	10.23
V510PA80A	GE	16.23
V1000LB80	GE	12.75
V1000LB160	GE	24.00
Z4XL16	GE	.62
1-4M11Z10	MOT	2.63
1-4M120Z10	MOT	3.50
1-4M150Z5	MOT	4.35
1-4M18Z10	MOT	2.60
1-4M18Z5	MOT	4.00
1-4M19Z5	MOT	4.00
3F20	INT	2.20
3F30	INT	2.75
3F40D	INT	1.12
3F50	INT	4.95
3F80D	INT	4.05
3F100	INT	11.75
4D4	INT	.40
5A1	INT	.28
5A2	INT	.32
5A3	INT	.37
5A4	INT	.41
5A5	INT	.45
5A6	INT	.50
5A8	INT	.85
5A10	INT	1.20
5MA2	INT	.75
5MA5	INT	1.25
5MA6	INT	1.70
6F5	INT	1.01
6F10	INT	1.20
6F60D	INT	3.00
6F100D	INT	6.00
6RS5SP1B1	GE	.75
6RS5SP20B20	GE	2.28
6RS5SP2B2	GE	.83
6RS5SP383	GE	.91
6RS5SP4B4	GE	.98
6RS5SP5B5	GE	1.05
6RS5SP9B9	GE	1.41
6RS5VP6B	GE	.92
6RS20A4B2	GE	.95
6RS20SP10B10	GE	2.09
6RS20SP14B14	GE	2.67
6RS20SP15B15	GE	2.81
6RS20SP1B1	GE	.84
6RS20SP2B2	GE	.97
6RS20SP3B3	GE	1.10
6RS20SP4B4	GE	1.24
6RS20SP5B5	GE	1.40
6RS20SP6B6	GE	1.53
6RS20SP7B7	GE	1.67
6RS20SP8B8	GE	1.82
6RS20VP15B	GE	1.76
6RS20VP1B	GE	.77
6RS20VP3B	GE	.92
6RS21A1D1	GE	2.17
6RS21SA10D10	GE	4.20
6RS21SA11D11	GE	4.42
6RS21SA12D12	GE	4.66
6RS21SA13D13	GE	4.84
6RS21SA15D15	GE	5.29
6RS21SA16D16	GE	5.51

NEW TYPES STOCKED AS SOON AS RELEASED

Type	Mfg.	*1-24
6RS21SA17D17	GE	5.75
6RS21SA1D1	GE	2.27
6RS21SA20D20	GE	6.36
6RS21SA2D2	GE	2.42
6RS21SA3D3	GE	2.66
6RS21SA4D4	GE	2.84
6RS21SA5D5	GE	3.09
6RS21SA6D6	GE	3.33
6RS21SA7D7	GE	3.51
6RS21SA8D8	GE	3.75
6RS25SA9D9	GE	3.99
6RS21VA10D	GE	2.87
6RS25SA11D11	GE	17.19
6RS25SA2D2	GE	4.57
6RS25SA8D8	GE	12.98
6RS25SA9D9	GE	14.39
6RS25VA13D	GE	10.88
6RS25VA15D	GE	12.29
8D4	INT	.44
10B1	INT	.50
10B2	INT	.55
10B4	INT	.80
10B5	INT	.95
10B6	INT	1.10
10B8	INT	1.60
10B10	INT	2.05
10C1	INT	.54
10C2	INT	.60
10C3	INT	.68
10C4	INT	.76
10C5	INT	.85
10C6	INT	.90
10C8	INT	.97
10D1	INT	.28
10D1C	INT	1.20
10D2	INT	.32
10D3	INT	.37
10D6	INT	.50
10DB1P	INT	1.80
10DB2P	INT	1.90
10DB3P	INT	2.00
10DB4P	INT	2.10
10RC50A	INT	9.50
12F30	INT	3.45
12F40	INT	4.40
14M2.4AZ	MOT	2.10
14M2.4AZ1	MOT	2.60
14M2.4AZ5	MOT	4.00
14M3.9AZ	MOT	2.10
14M6.8Z10	MOT	2.60
14M24Z5	MOT	4.00
14M25Z5	MOT	4.00
14M75Z	MOT	2.80
14M82Z5	MOT	4.35
14M200Z	MOT	2.80
16RC20A	INT	5.85
16RC30A	INT	6.70
16RC40A	INT	8.25
16RC60A	INT	12.75
16RC100A	INT	25.15
18DB2A	INT	2.00
18DB3A	INT	2.30
18DB4A	INT	2.60
18DB5A	INT	2.75
18DB6A	INT	2.90
18DB7A	INT	3.25
18DB8A	INT	3.50
18DB10A	INT	5.00
20A1	INT	.50
20A2	INT	.55
20A3	INT	.60
20A4	INT	.70
20A5	INT	.80
20A6	INT	.90
20A8	INT	1.30
20A05	INT	.45
20A10	INT	1.60
20F10	INT	.66
20F30	INT	1.03
20F40	INT	1.08
20HB20-C	INT	1.57
30DB2T	INT	4.52
30RB4AL	INT	4.60
30S1	INT	.55
30S3	INT	.70
30S4	INT	.86
30S10	INT	2.50
35H5	INT	1.27
35H10	INT	1.57
35H20	INT	2.32

Type	Mfg.	*1-24
35H40	INT	3.60
36RC40A	INT	23.75
37RC40A	INT	15.70
40HF5	INT	1.55
40HF50	INT	5.25
40HF50R	INT	5.25
40HF60	INT	6.00
40HF80	INT	7.75
40HF100	INT	9.90
40HF-10	INT	1.95
40HF-20	INT	2.85
40HF-40	INT	4.45
40HFR5	INT	1.55
40HFR50	INT	5.25
40HFR60	INT	6.00
40HFR80	INT	7.75
40RCS40	INT	23.75
40RCS50	INT	28.00
40RCS60	INT	33.00
50FB1L	INT	2.75
50FB2L	INT	3.20
50FB5L	INT	4.70
60FB1L	INT	3.45
60FB2L	INT	4.25
60FB3L	INT	4.70
60FB4L	INT	5.57
60FB6L	INT	7.00
60FB05L	INT	3.20
60S1	INT	.68
60S2	INT	.74
60S4	INT	.93
60S6	INT	1.35
60S05	INT	.64
60S10	INT	3.75
61-8969-C	INT	2.23
70H10A	INT	3.80
70H15A	INT	4.50
70H20A	INT	5.05
70H30A	INT	6.15
70H60A	INT	9.50
70H80A	INT	12.00
70H100A	INT	14.80
70HR10A	INT	3.80
70HR15A	INT	4.50
70HR20A	INT	5.05
70HR60A	INT	9.50
70HR100A	INT	14.80
80-5260	INT	11.40
100PB1P	INT	4.30
100PB2P	INT	5.15
100PB3P	INT	5.55
100PB4P	INT	6.35
100PB6P	INT	9.95
100PB05P	INT	4.05
150L15A	INT	14.33
150L20A	INT	16.80
150L30A	INT	18.68
150LR30A	INT	18.68
151-04	WES	6.65
151-08	WES	12.00
151-10	WES	16.00
152-06	WES	10.40
152-08	WES	13.90
152-10	WES	17.45
152-22	WES	36.00
152.08	WES	13.90
153-04	WES	6.60
153-06	WES	9.70
153-08	WES	13.30
153-12	WES	18.20
153-16	WES	23.00
154-04	WES	7.40
154-05	WES	9.00
154-06	WES	10.20
154-07	WES	12.30
154-08	WES	13.95
154-10	WES	17.60
154-12	WES	20.70
154-14	WES	23.00
154-16	WES	26.40
154-18	WES	29.00
154-20	WES	32.35
163-04	WES	16.40
163-06	WES	20.00
163-08	WES	24.40
163-10	WES	26.60
163-12	WES	28.00
163-14	WES	31.70
163-16	WES	34.80
163.04	WES	16.40

Type	Mfg.	*1-24
164-04	WES	21.40
164-06	WES	23.80
164-08	WES	26.00
164-12	WES	31.00
164-14	WES	34.80
164-16	WES	38.15
164-20	WES	45.40
1714-0405	WES	6.50
1714-0805	WES	8.20
1714-1005	WES	9.10
1714-1205	WES	10.00
1714-1402	WES	10.00
1723-0810	WES	10.95
1723-1210	WES	13.15
1743-0610	WES	13.50
1763-0620	WES	20.70
4039V1	RCA	1.64
40022	RCA	.75
40050	RCA	1.16
40051	RCA	1.40
40080	RCA	1.08
40081	RCA	1.41
40082	RCA	4.04
40084	RCA	.99
40108	RCA	.99
40109	RCA	1.16
40110	RCA	1.57
40111R	RCA	2.14
40112	RCA	2.48
40114	RCA	3.71
40115	RCA	6.60
40250	RCA	.94
40250V1	RCA	1.08
40251	RCA	1.49
40254	RCA	.75
40266	RCA	.29
40267	RCA	.33
40280	RCA	4.62
40281	RCA	10.60
40282	RCA	11.90
40290	RCA	2.48
40292	RCA	11.30
40309	RCA	.58
40310	RCA	.91
40311	RCA	.59
40312	RCA	.93
40313	RCA	1.55
40314	RCA	.61
40315	RCA	.59
40316	RCA	.99
40317	RCA	.61
40318	RCA	1.55
40319	RCA	.71
40320	RCA	.61
40321	RCA	.86
40322	RCA	1.57
40323	RCA	.58
40324	RCA	.91
40325	RCA	1.57
40326	RCA	.61
40327	RCA	.87
40328	RCA	1.58
40340	RCA	29.00
40346	RCA	.64
40347	RCA	.75
40347V1	RCA	.91
40347V2	RCA	.91
40348	RCA	1.06
40348V1	RCA	1.14
40349	RCA	1.56
40349V2	RCA	1.64
40360	RCA	.79
40361	RCA	.83
40361V2	RCA	1.11
40362	RCA	.76
40363	RCA	1.49
40364	RCA	1.82
40372	RCA	.99
40373	RCA	1.65
40374	RCA	1.57
40389	RCA	.64
40390	RCA	1.06
40391	RCA	.81
40392	RCA	.74
40394	RCA	.81
40406	RCA	.76
40407	RCA	.58
40408	RCA	.84
40409	RCA	.87
40410	RCA	.89

Key	Mfr.
GE	General Electric
INT	International Rectifier
ITT	ITT Semiconductors
MOT	Motorola
RCA	Radio Corp. of America
TEL	Teldyne Semiconductor
TI	Texas Instrument
WES	Westinghouse

Type	Mfg.	*1-24
40411	RCA	3.30
40412	RCA	1.06
40412V1	RCA	1.14
40412V2	RCA	1.14
40429	RCA	1.57
40430	RCA	1.89
40431	RCA	2.40
40432	RCA	2.88
40433	RCA	2.30
40439	RCA	2.56
40440	RCA	1.98
40446	RCA	4.29
40467A	RCA	1.24
40468A	RCA	.75
40485	RCA	1.49
40486	RCA	1.79
40502	RCA	1.74
40503	RCA	2.05
40504	RCA	1.64
40505	RCA	1.94
40506	RCA	2.38
40509	RCA	1.65
40510	RCA	1.95
40511	RCA	2.56
40512	RCA	3.21
40513	RCA	1.24
40514	RCA	1.26
40525	RCA	1.57
40526	RCA	1.78
40527	RCA	2.48
40528	RCA	1.29
40529	RCA	1.49
40530	RCA	1.79
40531	RCA	1.73
40532	RCA	1.94
40533	RCA	2.65
40534	RCA	1.46
40535	RCA	1.65
40536	RCA	1.95
40537	RCA	.69
40538	RCA	.62
40539	RCA	.56
40542	RCA	1.31
40543	RCA	1.37
40544	RCA	.58
40553	RCA	2.75
40554	RCA	4.44
40555	RCA	4.76
40559A	RCA	.70
40575	RCA	2.01
40576	RCA	2.48
40581	RCA	4.87
40582	RCA	5.12
40594	RCA	1.30
40595	RCA	1.51
40600	RCA	1.24
40601	RCA	1.16
40602	RCA	.83
40603	RCA	1.04
40604	RCA	.98
40608	RCA	2.48
40611	RCA	.54
40613	RCA	.70
40616	RCA	.56
40618	RCA	.71
40622	RCA	.81
40624	RCA	.93
40625	RCA	.74
40626	RCA	1.24
40627	RCA	.99

NEW TYPES STOCKED AS SOON AS RELEASED

*

PRICES SHOWN ARE TYPICAL - MAY VARY BETWEEN MFG.

FOR PRICES ON LARGER QUANTITIES CONTACT YOUR NEWARK FACILITY

Type	Mfg.	*1-24
40628	RCA	.76
40629	RCA	.74
40630	RCA	.86
40631	RCA	.97
40632	RCA	1.24
40633	RCA	1.27
40634	RCA	.84
40635	RCA	.63
40636	RCA	1.65
40638	RCA	1.57
40639	RCA	1.87
40640	RCA	2.72
40641	RCA	2.85
40642	RCA	.99
40643	RCA	.91
40644	RCA	.83
40653	RCA	2.61
40654	RCA	1.41
40655	RCA	1.69
40656	RCA	1.49
40657	RCA	1.77
40659	RCA	1.85
40660	RCA	4.52
40661	RCA	5.41
40662	RCA	4.85
40663	RCA	5.74
40664	RCA	1.57
40667	RCA	1.65
40668	RCA	1.45
40669	RCA	1.72
40672	RCA	7.10
40673	RCA	1.01
40680	RCA	5.12
40681	RCA	6.02
40682	RCA	7.43
40683	RCA	8.85
40684	RCA	1.35
40685	RCA	1.57
40686	RCA	1.85
40687	RCA	2.28
40691	RCA	1.57
40692	RCA	1.89
40694	RCA	1.64
40697	RCA	1.47
40698	RCA	1.85
40700	RCA	6.93
40701	RCA	8.63
40703	RCA	7.26
40704	RCA	8.96
40706	RCA	5.58
40707	RCA	5.02
40708	RCA	5.91
40709	RCA	6.93
40710	RCA	7.26
40711	RCA	3.42
40712	RCA	4.06
40713	RCA	3.15
40714	RCA	4.39
40715	RCA	2.48
40716	RCA	3.27
40717	RCA	3.22
40718	RCA	3.83
40719	RCA	3.55
40720	RCA	4.16
40721	RCA	1.62
40722	RCA	2.18
40724	RCA	2.05
40725	RCA	1.57
40726	RCA	2.06
40728	RCA	2.39
40731	RCA	1.73
40732	RCA	2.23
40733	RCA	1.65
40735	RCA	26.00
40738	RCA	1.57
40739	RCA	2.39
40740	RCA	3.38
40741	RCA	1.82
40742	RCA	1.90
40744	RCA	3.71
40747	RCA	3.85
40748	RCA	4.87
40749	RCA	2.34
40750	RCA	2.48
40751	RCA	3.75
40752	RCA	4.95
40753	RCA	2.67
40755	RCA	4.08
40756	RCA	5.28
40758	RCA	3.96
40759	RCA	5.23
40761	RCA	1.74
40762	RCA	2.05
40766	RCA	1.37
40768	RCA	7.12
40770	RCA	2.77
40771	RCA	1.77
40772	RCA	2.21
40773	RCA	1.88
40774	RCA	2.48
40775	RCA	3.07
40776	RCA	4.36
40777	RCA	3.55
40778	RCA	4.83
40779	RCA	4.74
40781	RCA	5.45
40782	RCA	6.70
40783	RCA	5.20
40796	RCA	4.92
40799	RCA	4.54
40805	RCA	6.00
40806	RCA	6.90
40807	RCA	8.25
40809	RCA	.78
40811	RCA	1.32
40812	RCA	1.59
40819	RCA	1.73
40822	RCA	.86
40823	RCA	.81
40841	RCA	.66
40850	RCA	2.48
40854	RCA	9.80
40868	RCA	1.40
40888	RCA	3.10
40889	RCA	3.63
40890	RCA	1.24
40892	RCA	.99
40901	RCA	1.62
40934	RCA	9.90
40945	RCA	4.58
45411	RCA	.46

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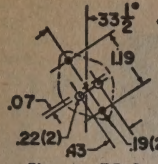


Fig. A—TO-3

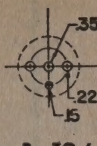


Fig. B—TO-6 & 36

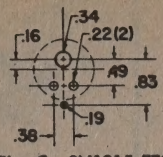
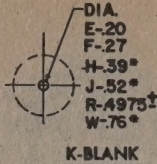


Fig. C—2N1015 ETC.



K-BLANK NO HOLES

L- 8-32X1/2 DEEP
M-10-32X5/8 DEEP
N-1/4-28X5/8DEEP

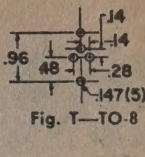


Fig. T—TO-8

Fig. 1

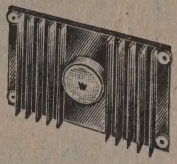
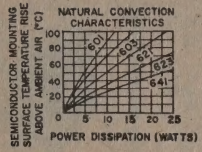


Fig. 2



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600 SERIES CIRCUIT BOARD COOLERS

Externally mounted applications. Models 601 and 603 especially designed to accommodate the TO-8. Models 621, 623 and 641 accept all standard transistor case styles and case sizes up to 1¼". Shpg. wt., 16 oz.

Stk. No.	Type	Fig.	Inches H	W	D	1-49	50-99	100-249
58F536	601K	1	1.25	2.24	.56	.79	.63	.53
58F537	603K	1	2.00	2.24	.56	.89	.74	.63
58F482	621A	2	1.50	4.81	.46	.95	.76	.64
58F538	621K	2	1.50	4.81	.46	.95	.76	.64
58F480	623A	2	3.00	4.81	.46	1.42	1.14	.98
58F539	623K	2	3.00	4.81	.46	1.42	1.14	.98
58F467	641A	1	3.00	4.12	1.00	1.47	1.18	.99
58F540	641K	1	3.00	4.12	1.00	1.47	1.18	.99

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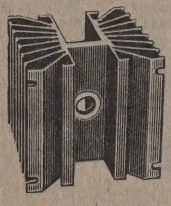


465, 476

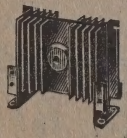
486, 489

Type 465 accepts 1 1/16" hex high power rectifiers and SCR's; 476 accepts 1¼" hex rectifiers and SCR's; 486 and 489 accept 1¾" hex SCR's. Tapped ¼-20. Weight, 1.8 to 5.8 lbs.

Stk. No.	Type	Inches H	W	D	1-49	50-99	100-249
58F419	465-J	5.00	4.00	4.00	4.94	4.36	4.15
58F420	465-K	5.00	4.00	4.00	4.42	3.89	3.68
58F1005	476-J	6.00	5.00	5.00	6.68	5.84	5.57
58F422	476-K	6.00	5.00	5.00	6.05	5.31	5.00
58F421	476-W	6.00	5.00	5.00	6.68	5.84	5.57
58F425	486-K	6.00	6.25	6.25	9.73	8.57	.....
58F428	489-K	9.00	6.25	6.25	14.05	12.31	.....

VERTICAL MOUNTING BRACKETS

Meets vibration requirements of Mil 202B. Two brackets required per sink. To insulate, use Teflon insulator #103. Heat sinks 402 and 403 use #111, 421 uses #113. Wt., 10 oz.



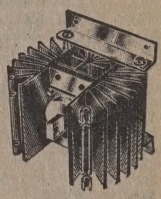
Stk. No.	Type	Pkgs. of 2 1-99	100-499
58F525	111	.42	.34
58F526	113	.60	.50

SERIES 680 CIRCUIT BOARD COOLERS

Provides optimum natural convection cooling per unit volume occupied above the circuit board. Mounting in any position is possible, since the cooler permits free air flow in any direction. High thermal conductivity aluminum alloy. Temp. rise: 680-.5, 90°C at 10 watts; 680-.75, 90°C at 13 watts; 680-1.0, 90°C at 15 watts; 680-1.25, 100°C at 21 watts. All have 1.81" sq. base with 1.50" between mtg. holds. 1.3 to 1.9 oz.

Stk. No.	Type	Hgt. (in.)	1-49	50-99	100-499	500-999
58F401	680-.5A	1.03	.98	.84	.73	.65
58F400	680-.5B					
58F1008	680-.5G1					
58F399	680-.5K					
58F398	680-.75A	1.05	1.00	.86	.74	.66
58F397	680-.75B					
58F1009	680-.75G1					
58F396	680-.75K					
58F395	680-1.0A	1.16	1.08	.93	.81	.74
58F394	680-1.0B					
58F1010	680-1.0G1					
58F393	680-1.0K					
58F392	680-1.25A	1.21	1.13	.96	.83	.75
58F391	680-1.25B					
58F1011	680-1.25G1					
58F390	680-1.25K					

SERIES 490 KING-SIZE HEAT SINKS



Designed to mount and cool multicell 240/650 amp rectifiers. Takes square plate types as large as 3½" x 3½". Type 490-12.0, under natural convection conditions, will permit case temperature rise of only 110°C at 600 watts dissipation, with 3½" sq. rectifier. Aluminum alloy; black anodized finish. Four mounting lugs on each end. Type no. suffix indicates mounting (see specs above).

Stk. No.	Type	Dimensions (in.)	1-49	50-99
58F409	490-3.5-K	3.5x9.25x6.75	9.36	8.21
58F1012	490-3.5-W	3.5x9.25x6.75	9.00	7.89
58F1013	490-3.5-Y	3.5x9.25x6.75	9.00	7.89
58F1014	490-3.5-Z	3.5x9.25x6.75	9.00	7.89
58F408	490-6-K	6.0x9.25x6.75	14.74	12.89
58F1015	490-6-W	6.0x9.25x6.75	14.11	12.32
58F1016	490-6-Y	6.0x9.25x6.75	14.11	12.32
58F1017	490-6-Z	6.0x9.25x6.75	14.11	12.32
58F407	490-12-K	12.0x9.25x6.75	25.26	22.21
58F1018	490-12-W	12.0x9.25x6.75	24.84	21.79
58F1019	490-12-Y	12.0x9.25x6.75	24.84	21.79
58F1020	490-12-Z	12.0x9.25x6.75	24.84	21.79
58F403	109	1.5x7.5x1.5	Fiberglass Mtg. 1.52 ea.	

TYPE 120 THERMAL COMPOUND

Used between semiconductor and heat sink, or for thermoelectric modules. Zinc oxide crystals in a silicon grease will increase thermal conductivity between semiconductor and heat sink.

Stk. No.	Type	Quantity	1-9	10-24	25-49
58F470	120-2	2 oz.	1.57	1.47	1.26
58F372	120-5	5 oz. tube	2.73	2.52	2.26
58F471	120-8	8 oz.	4.35	4.05	3.52
58F402	120-80	5 lb.	20.50	20.00	.....

200 Series

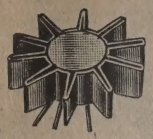


Fig. 1

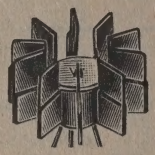


Fig. 2

Fig. 3

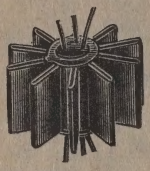
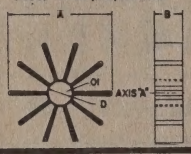


Fig. 4



300 Series

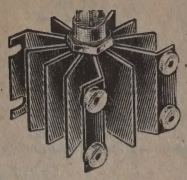
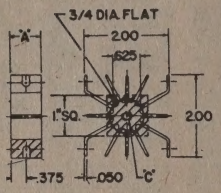


Fig. 5



400 Series

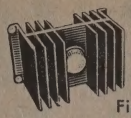


Fig. 6

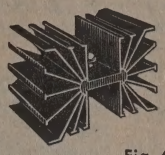


Fig. 6A

Fig. 7

500 Series

Fig. 8

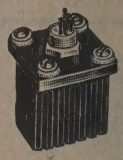


Fig. 9

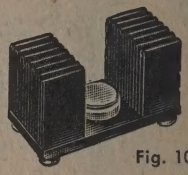
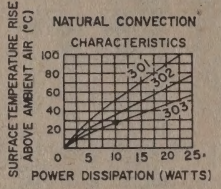
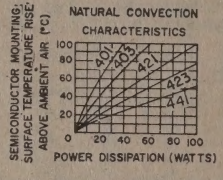
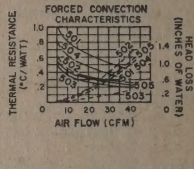


Fig. 10

CONVECTION CHARACTERISTICS







200 SERIES FEATHERWEIGHT COOLERS

Flexin design. Spring action provides maximum contact of large area to assure repeatable thermal performance. Black copper.

Stk. No.	Type	Fig.	Inches H	Inches D	Fits Case Dia.	Pkgs. of 100 1-4	Pkgs. of 100 5-9	Pkgs. of 100 10-Up
58F527	201CB	1	.64	.19	.161/.195	16.15	14.63	13.57
58F388	202CB	1	.49	.20	.161/.195	14.21	12.89	12.05
58F528	203CB	2	.64	.38	.161/.195	23.15	20.94	19.47
58F387	204CB	1	.55	.20	.275/.335	14.21	12.89	12.05
58F529	205CB	1	.72	.19	.275/.335	16.15	14.63	13.57
58F530	207CB	2	.72	.38	.275/.335	23.15	20.94	19.47
58F531	209CB	3	1.26	.44	.275/.335	25.52	23.36	21.68
58F441	211CB	1	.82	.19	.444/.524	23.15	20.94	19.47
58F442	213CB	2	.82	.38	.444/.524	25.00	22.63	21.31
58F443	215CB	3	1.38	.44	.444/.524	25.00	22.63	21.31
58F499	222CB	4	.64	.38	.161/.195	22.52	20.42	19.00
58F498	224CB	4	.72	.44	.275/.335	25.52	23.36	21.68

58F532. 160 tool for Models 201, 2, 3, 4, 5, 7, 9.....1.50
58F389. 161 Installation tool for Models 211, 213, 215.....1.50

300 SERIES RADIAL RECTIFIER COOLERS

Radial fin coolers for rectifier or stud mounting transistor applications. Adaptable to stack arrangements. Uses standard teflon insulating washers. Accommodates press-fitted and stud-mounted rectifiers and transistors up to 1"/16" hex case. Semiconductor mounting surface and one mounting foot unanodized. Type no. suffix indicates mtg. accommodations.

Stk. No.	Type	Fig.	Inches H	Inches W	Inches D	1-49	50-99	100-249
58F533	301K	5	.75	2.00	2.00	1.05	.86	.71
58F497	301L	5	.75	2.00	2.00	1.26	1.10	.91
58F496	301M	5	.75	2.00	2.00	1.26	1.10	.91
58F495	301N	5	.75	2.00	2.00	1.26	1.10	.91
58F494	301R	5	.75	2.00	2.00	1.26	1.10	.91
58F534	302K	5	1.50	2.00	2.00	1.26	1.02	.85
58F1000	302L	5	1.50	2.00	2.00	1.68	1.34	1.12
58F493	302M	5	1.50	2.00	2.00	1.68	1.34	1.12
58F492	302N	5	1.50	2.00	2.00	1.68	1.34	1.12
58F491	302R	5	1.50	2.00	2.00	1.68	1.34	1.12
58F535	303K	5	3.00	2.00	2.00	1.47	1.17	.98
58F1001	303L	5	3.00	2.00	2.00	1.94	1.57	1.31
58F1002	303M	5	3.00	2.00	2.00	1.94	1.57	1.31
58F487	303N	5	3.00	2.00	2.00	1.94	1.57	1.31
58F486	303R	5	3.00	2.00	2.00	1.94	1.57	1.31

400 SERIES NATURAL CONVECTION COOLERS

Type 401 has thermal resistance of 1.8°C W at medium power.
Type 413, 1.4°C/W natural convection, 0.3°C W moderate air flow. Type 433, 70°C rise at 100 W power dissipation.
Type 441 with 400 sq. in. cooling area, 55°C/W at high power levels.
Type 423, 0.8°C/W at higher power levels.
Type no. suffix refers to mounting specs: see chart on following page.

Stk. No.	Type	Fig.	Inches H	Inches W	Inches D	1-49	50-99	100-249
58F500	401A	6	1.50	4.81	1.25	1.07	.86	.71
58F501	401B	6	1.50	4.81	1.25	1.28	1.02	.85
58F502	401K	6	1.50	4.81	1.25	1.07	.86	.71
58F503	403A	6	3.00	4.81	1.25	1.57	1.26	1.05
58F504	403B	6	3.00	4.81	1.25	1.78	1.42	1.17
58F505	403K	6	3.00	4.81	1.25	1.57	1.26	1.05
58F1003	413A	6	3.00	4.75	.....	2.47	2.00	1.68
58F1004	413K	6	3.00	4.75	.....	2.47	2.00	1.68
58F506	421A	6	3.00	4.81	1.25	2.26	1.81	1.50
58F507	421B	6	3.00	4.81	2.63	2.47	1.96	1.64
58F508	421K	6	3.00	4.81	2.63	2.26	1.81	1.50
58F509	423A	6	5.50	4.81	2.63	3.63	2.89	2.42
58F510	423B	6	5.50	4.81	2.63	3.84	3.05	2.57
58F511	423K	6	5.50	4.81	2.63	3.63	2.89	2.42
58F332	433J	6A	5.50	4.37	3.00	5.26	4.21	3.52
58F334	433K	6A	5.50	4.37	3.00	4.57	3.68	3.05
58F521	441K	7	5.50	4.75	4.50	6.00	4.81	4.00

500 SERIES COPPERCOOL

For maximum performance under medium air pressure conditions. Semiconductors of any mounting style may be used. Type number suffix refers to mounting: see chart on following page.

Stk. No.	Type	Fig.	Inches H	Inches W	Inches D	1-4	5-9	10-24
58F514	501K	8	1.75	1.75	2.25	7.50	6.93	6.33
58F523	504K	9	1.75	1.75	1.75	6.78	6.22	5.72
58F524	505K	9	1.75	1.75	2.00	9.56	8.89	8.11
58F517	502K	10	1.75	3.50	1.75	11.67	10.61	9.72
58F522	503K	10	1.75	3.50	3.50	20.61	19.00	17.50

SERIES 170 INSULATING WAFERS

For TO-3 transistors. Features thermally conductive dielectric coating providing excellent thermal path between the case and heat sink. Coating on transistor side only, including edges, hole, I.D.

Stock No.	Type	Finish	For Case	Package of 10		
				1-9	10-49	50-99
58F177	170 DC	Delta Coat 151H	TO-3	.75	.65	.61
58F1337	171 DC	Delta Coat 151H	TO-3	.75	.65	.61
58F1338	172 DC	Delta Coat 151H	TO-66	.75	.65	.61
58F176	170 HC	Hard Coat	TO-3	.92	.80	.74
58F1339	171 HC	Hard Coat	TO-3	.92	.80	.74
58F1340	172 HC	Hard Coat	TO-66	.92	.80	.74

TYPE 690 CIRCUIT BOARD HEAT SINKS

Designed to give the most power dissipation per unit cost. Dissipation of 10-20 watts is obtainable. Made of 1100 alloy aluminum in mounting patterns for TO-3 or TO-66 JEDEC packages. Available plain (suffix P) or black anodized (suffix B).

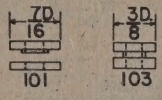
Stock No.	Type	Fits Case	Size, Inches W x H	Pkgs. of 100		
				1-9	10-24	25-49
58F1310	690-3-P	TO-3	1.81x1.31	26.00	24.00	22.00
58F1311	690-66-P	TO-66	1.81x1.31	26.00	24.00	22.00
58F1312	690-3-B	TO-3	1.81x1.31	32.00	29.00	26.00
58F1313	690-66-B	TO-66	1.81x1.31	32.00	29.00	26.00

TYPE 695 CIRCUIT BOARD HEAT SINKS

Designed to accept semiconductor in Jedec DO-4 case, with threaded studs up to 10-32. Made of 1100 .414 aluminum with up to 5 watts heat dissipation for low power stud devices. Available plain (suffix P) or with black anodized finish (suffix B).

Stock No.	Type	Size, Inches W x H	Pkgs. of 100		
			1-9	10-24	25-49
58F1314	695-1-P	1.33x.484	11.60	10.70	9.70
58F1315	695-1-B	1.33x.484	17.10	15.80	13.80

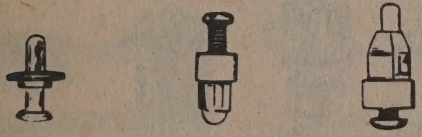
TEFLON INSULATORS



Insular heat sinks from chassis, eliminating mica insulators between sink and semiconductor. ⅛ to 3½ oz.

Stk. No.	Type	For Type	Reqd.	Pkgs. of 100		
				1-9	10-49	50-99
58F519	101	501	3			
		502, 530, 504, 505	4	13.70	12.80	12.25
58F518	103	301	2			
		401	3			
		302, 303, 403, 421, 431	4			
		423, 433, 621, 623, 641	4	5.25	5.00	4.70
58F469	105	441, 1244, 1245, 1541	4	21.00	19.60	18.65
58F412	107	Same as 103	2	21.00	19.60	18.65

"BLIND" NYLON INSULATOR FASTENERS

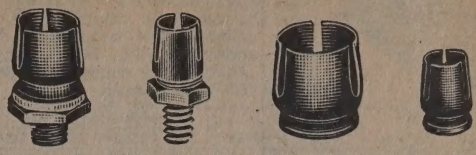


102 104 106

Type 102: Fastener-washer pair quickly mounts and electrically isolates most Series 400 and 600 heat sinks. Size, 7/16" O.D. x 1/16" thick; for .187" panel hole in .063" max. panel thickness. **Type 104:** Screw mount with #8 sheet metal or machine screw; screw length, 5/8" plus panel thickness. **Type 106:** Larger screw mount type; screw length, ¾" plus panel thickness.

Stock No.	Type	For Sink Type	Package of 100			
			1-9	10-49	50-99	100-249
58F159	102	Same as 103	3.20	3.02	2.86	2.60
58F160	104	Same as 103	2.68	2.47	2.36	2.20
58F161	106	Same as 105	4.40	4.05	3.83	3.52

SERIES 260 CUP CLIPS FOR TO-5 AND TO-18



260-10SH5B Stud Mtg. for TO-5 | 260-4SH18E Stud Mtg. for TO-18 | 26X-4T5 Tapped Base | 260-P18 Plain Base

Beryllium copper cup clips with brass bases for TO-5 case style transistors except (*) for TO-18. "E" suffix are epoxy insulated. "B" suffix are beryllium oxide insulated for applications requiring low stray capacity. No suffix are non-insulated and are soldered together with 63/67 tin lead alloy. Max. temperature is 300°F. Size: 0.29" I.D. cup, hex base .37" across flats for TO-5; .170" I.D. with .25" hex for TO-18.

Stock No.	Type	Base	Package of 10		
			1-4	5-9	10-49
58F178	260-P5	Plain, .112"	1.44	1.24	1.15
58F1054	260-P5B	Plain, .185"	6.31	5.42	5.05
58F179	*260-P18	Plain, .089"	1.44	1.24	1.15
58F180	*260-P18B	Plain, .128"	6.31	5.42	5.05
58F1055	*260-2T18	2-56 tapped	3.65	3.15	2.94
58F181	*260-2TH18	2-56 tapped	3.65	3.15	2.94
58F182	*260-2TL18E	2-56 tapped	4.21	3.60	3.31
58F1056	*260-2TH18E	2-56 tapped	4.86	4.21	3.84
58F184	260-4T5	4-40 tap; chamfer	3.20	2.75	2.57
58F185	260-4T5E	4-40 tap; chamfer	4.21	3.60	3.31
58F1057	260-4TH5B	4-40 tapped	8.47	7.31	6.78
58F1058	260-4TH5E	4-40 tapped	4.21	3.60	3.31
58F1059	*260-4SH18	4-40 stud	3.65	3.15	2.94
58F1060	*260-4SH18B	4-40 stud	8.47	7.31	6.78
58F187	*260-4SH18E	4-40 stud	4.86	4.21	3.89
58F1061	260-6SH5	6-32 stud	4.86	4.21	3.89
58F1062	260-6SH5E	6-32 stud	6.31	5.42	5.05
58F188	260-6SH5B	6-32 stud	8.47	7.31	6.78
58F1063	*260-6SH18	6-32 stud	3.65	3.15	2.94
58F1064	*260-6SH18B	6-32 stud	8.47	7.31	6.78
58F1065	*260-6SH18E	6-32 stud	4.86	4.21	3.89
58F1066	260-10SH5	10-32 stud	3.65	3.15	2.94
58F189	260-10SH5B	10-32 stud	8.47	7.31	6.78
58F1067	260-10SH5E	10-32 stud	4.86	4.21	3.89

SERIES 256 BRASS CLIPS

Type 256-ST Type 256-DT 56-D—DM

Clips as electrostatic shields and or thermal retainers. For one or two plastic transistors. .20" dia. Dual clip maintains 2 transistors at the same temperature. Material: ½ hard brass. *256-DM is beryllium copper.

Stock No.	Type	Hgt. x Length	Package of 100			
			1-9	10-24	25-49	50-99
58F173	256-ST	.20" x .16"	1.91	1.62	1.50	1.40
58F174	256-DT	.20" x .31"	1.47	1.25	1.15	1.08
58F175	256-D	.20" x .31"	1.68	1.42	1.31	1.23
58F1068	256-DM*	.19" x .24"	1.51	1.28	1.18	1.10

THERMALLY CONDUCTIVE ADHESIVE

Type 152. High conductivity adhesive used: As general adhesive, for bonding semi-conductors to chassis heat sinks, fabricating heat sinks or thermal links, for permanent bonding of all materials with highly thermal conductive interface. Porous and nonporous surfaces. Excellent dielectric strength. Bond shear strength, 1" overlap psi, 30 immersion in water unaffected. Temp. range −70°F to +300°F.

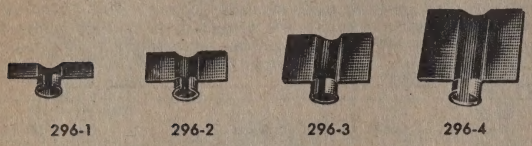
Stk. No.	Type	Size	1-9	10-24	25-49	50-99
58F345	152-1-A	1 oz.	2.35	2.05	2.00	1.85
58F386	152-K-A	7½ oz.	4.90	4.55	4.20	3.90

HEAT SINK FOR TO-92 TRANSISTOR

Type 292. Heat Sink accommodates most TO-92 plastic transistors for heat dissipation. Natural convection characteristics show that for power dissipation of .20 watts, collector lead temperature rise above ambient is 18°C. Made of type 6061-T6 Aluminum or copper with black ebonal "C" finish, or plain.

Stock No.	Type	Material	Finish	Per Package of 100			
				1-9	10-24	25-49	50-99
58F1021	292AP	Alum.	Plain	1.78	1.52	1.36	1.21
58E373	292AB	Alum.	Black	6.94	5.78	5.36	4.63
58F162	292CP	Copper	Plain	5.15	4.31	4.00	3.47
58F1022	292CB	Copper	Black	7.15	6.00	5.52	4.78

TYPE 296 HEAT SINK FOR TO-5 TRANSISTORS



296-1 296-2 296-3 296-4

Heat Sink snaps onto TO-5 transistor, uses minimum amount of PC board layout space. Material: 6061T6 aluminum, or copper. Plain or Black finish. Use type 120 thermal joint compound.

ALUMINUM

Stock No.	Type	Wing Height	Finish	Package of 100			
				1-9	10-24	25-49	50-99
58F163	296-1-AP	¼"	Plain	2.10	1.73	1.63	1.42
58F1028	296-1-AB	¼"	Black	4.63	3.89	3.57	3.10
58F164	296-2-AP	½"	Plain	2.31	1.94	1.78	1.57
58F1024	296-2-AB	½"	Black	4.94	4.10	3.84	3.31
58F165	296-3-AP	¾"	Plain	2.57	2.10	1.94	1.68
58F1025	296-3-AB	¾"	Black	6.42	5.36	4.94	4.31
58F166	296-4-AP	1"	Plain	2.73	2.31	2.10	1.84
58F1026	296-4-AB	1"	Black	6.63	5.52	5.10	4.42

COPPER

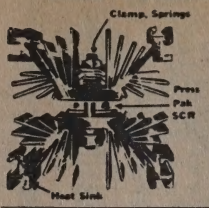
Stock No.	Type	Wing Height	Finish	Package of 100			
				1-9	10-24	25-49	50-99
58F1027	296-1-CP	¼"	Plain	9.57	8.00	7.36	6.36
58F1028	296-1-CB	¼"	Black	10.94	9.10	8.42	7.31
58F1029	296-2-CP	½"	Plain	13.57	11.31	10.52	9.05
58F1030	296-2-CB	½"	Black	15.26	12.73	11.73	10.15
58F1031	296-3-CP	¾"	Plain	17.57	14.73	13.57	11.78
58F1032	296-3-CB	¾"	Black	19.68	16.42	15.15	13.15
58F1033	296-4-CP	1"	Plain	21.78	18.10	16.73	14.47
58F1034	296-4-CB	1"	Black	24.52	20.31	18.84	16.31

SERIES 630 HEAT SINKS FOR TO-3 AND TO-66

Provides maximum cooling per unit cost. Suffix -3 in Type No. indicates unit is for TO-3 transistor; suffix -66, for TO-66 transistor. Made of type 1100-H14 aluminum, .062" thick. Black anodized (suffix B) or plain (suffix P) finish. Temperature rise for 5 watts: type 631, 68°C; type 632, 57°C; 633, 45°C.

Stock No.	Type	Height	Finish	Package of 100			
				1-9	10-24	25-49	50-99
58F1035	631-3-B	1"	Black	12.60	10.90	10.30	9.70
58F167	631-3-P	1"	Plain	5.70	4.80	4.60	4.30
58F1036	631-66-B	1"	Black	12.60	10.90	10.30	9.70
58F168	631-66-P	1"	Plain	5.70	4.80	4.60	4.30
58F1037	632-3-B	2"	Black	14.70	12.80	12.00	11.30
58F169	632-3-P	2"	Plain	8.00	6.80	6.40	6.10
58F1038	632-66-B	2"	Black	14.70	12.80	12.00	11.30
58F170	632-66-P	2"	Plain	8.00	6.80	6.40	6.10
58F1039	633-3-B	3"	Black	17.10	14.70	13.80	12.90
58F171	633-3-P	3"	Plain	10.20	8.80	8.30	7.80
58F1040	633-66-B	3"	Black	17.10	14.70	13.80	12.90
58F172	633-66-P	3"	Plain	10.20	8.80	8.30	7.80

SERIES PP PRESS-PAK HEAT SINKS AND CLAMPS



Single heat sinks for use with Type 130 clamps and springs (listed below). T slots accept standard hex head machine bolts for mounting, stacking and bussing. Only one sink of a given pair should be bolted to rigid bussing. Made of aluminum alloy 6063-T5. Finishes: Black anodize (suffix B) or gold iridite (suffix G) per QQ-416A, Type II, Class II. Size, 5" wide x 4½" deep except 133-4.5, 7x4½"; 133-7.5, 7x7½".

Stock No.	Type	Temp. Rise Per Watt Per Pair	Ht. (in.)	Net		
				1-9	10-24	25-49
58F1316	131-4.5B	88	1¼	2.27	2.15	2.06
58F1041	131-4.5G	88	1¼	1.66	1.57	1.50
58F1317	131F-4.5B	105	1¼	2.18	2.07	1.98
58F1042	131F-4.5G	105	1¼	1.57	1.49	1.43
58F1318	132-4.5B	88	2¼	2.72	2.59	2.47
58F1043	132-4.5G	88	2¼	2.18	2.07	1.98
58F1319	132F-4.5B	105	3¼	3.32	3.16	3.02
58F1044	132F-4.5G	105	3¼	2.41	2.29	2.19
58F1320	133-4.5B	66	3⅛	4.64	4.41	4.22
58F1045	133-4.5G	66	3⅛	4.09	3.89	3.72
58F1321	133-7.5B	76	3⅛	7.46	7.09	6.78
58F1046	133-7.5G	76	3⅛	6.60	6.27	6.00

SERIES 130 CLAMP AND SPRING ASSEMBLIES

Fit all Press-Pak SCR sizes up to 2.25" dia. Affords clamping force centering accuracy of less than 10% of junction diameter with PP series heat sinks (above).

SPRING ASSEMBLIES

Each leaf provides up to 400 lbs. clamping force; integral force indicator reads lbs./leaf in 100-lb. graduations. Stainless steel alloy has low creepage rate (less than 15) in 5 years at 400 lbs./leaf at 150°C operating).

Stock No.	Type	Leaves		Each			
		No.	Ht.	1-9	10-24	25-49	50-99
58F1306	130-2	2	.50"	2.28	1.93	1.67	1.48
58F1307	130-3	3	.61"	2.53	2.14	1.85	1.64
58F1308	130-4	4	.72"	2.88	2.34	2.03	1.80
58F1309	130-5	5	.83"	3.03	2.55	2.21	1.96

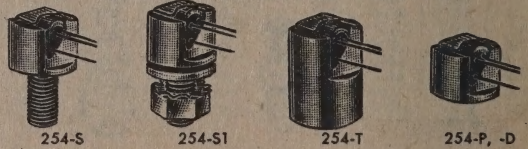
CLAMP-STUD ASSEMBLY

Cross bar is CRS, 3.8" long x 13/16" w x ½" thick. Stainless steel studs spaced 2.75". Delta coated for 5 kV AC breakdown min.

Stock No.	Type	Clearance (in.) Min.-Max.*	Net		
			1-9	10-24	25-49
58F1300	130-A	1.74-2.12	2.49	2.10	1.82
58F1301	130-B	2.05-2.43	2.49	2.10	1.82
58F1302	130-C	2.36-2.74	2.49	2.10	1.82
58F1303	130-D	2.67-3.05	2.63	2.22	1.92
58F1304	130-E	2.98-3.36	2.63	2.22	1.92
58F1305	130-F	3.29-3.67	2.63	2.22	1.92
58F1047	130-H	3.91-4.29	2.69	2.27	1.97
58F1048	130-J	4.22-4.60	2.69	2.27	1.97
58F1049	130-K	4.53-4.91	2.84	2.39	2.08
58F1050	130-L	4.84-5.22	2.84	2.39	2.08
58F1051	130-M	5.15-5.53	2.84	2.39	2.08
58F1052	130-N	5.46-5.84	3.02	2.55	2.22
58F1053	130-P	5.77-6.15	3.02	2.55	2.22

*Stud bar to top of clamp; includes spring assembly height.

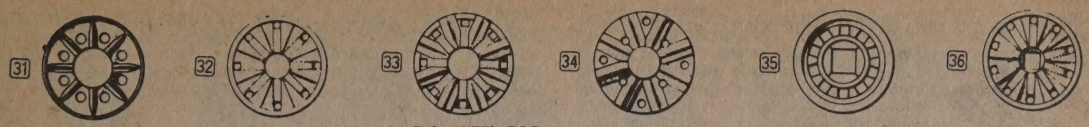
THERMAL RETAINERS FOR TO-5 CASES



254-S 254-S1 254-T 254-P, -D

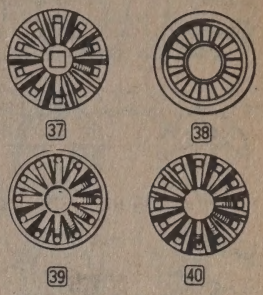
Designed as thermal links from TO-5 transistor case to cooler or chassis member acting as heat sink. Provides heat sink contact at bottom of case flange for best cooling. Ideal for Kovar header case. Made of Zamak 3, with chromate conversion finish. Type 254-S1 has built-in electrical isolation, with stud mount of 6061-T6 aluminum with gold iridite finish.

Stock No.	Type	Mounting	Per Package of 10		
			1-9	10-24	25-49
58F381	254-S	Stud	2.60	2.23	2.08
58F382	254-S1	Stud	2.58	2.22	2.08
58F383	254-T	Tapped hole	3.92	3.36	3.12
58F384	254-P	Plain	.63	.54	.51
58F385	254-D	Plain; 4-40 tapped	2.84	2.45	2.27



MOUNTING PADS (WHITE) FOR TO-99, TO-100 AND TO-101 INTEGRATED CIRCUITS

Stock No.	Type No.	Thermalloy Equiv.	Fig.	Max. No. of Leads	Size, In. O.D.	Size, In. Thickness	Spacing of Leads, In. Entry	Spacing of Leads, In. Exit	PKG. OF 100 1-9	PKG. OF 100 10-50	PKG. OF 100 60-100	PKG. OF 100 110-250
13F3269	3003	.....	....	8/10/12	.365	.080	.200/.230	.200/.230	4.00	2.10	1.90	1.60
13F3279	3014	.....	....	8/10/12	.330	.100	.200/.230	.350	4.00	2.10	1.90	1.60
13F3293	4001	7717-201	31	8	.375	.085	.200/.230	.200/.230	4.50	2.30	2.10	1.80
13F3294	4002	.....	32	8	.500	.130	.200/.230	.400	6.00	3.20	2.90	2.60
13F3295	4003	.....	33	8	.500	.250	.200/.230	.400	6.00	3.20	2.90	2.60
13F3296	4004	.....	34	8	.500	.250	.200/.230	.281/.400	6.00	3.20	2.90	2.60
13F3297	4005	.....	35	10	.375	.075	.200/.230	.200/.230	4.50	2.30	2.10	1.80
13F3298	4006	.....	36	10	.500	.130	.200/.230	.400	6.00	3.20	2.90	2.60
13F3299	4007	7717-119	37	10	.500	.250	.200/.230	.400	6.00	3.20	2.90	2.60
13F3300	4008	.....	38	12	.375	.075	.200/.230	.200/.230	4.50	2.30	2.10	1.80
13F3301	4009	.....	39	12	.500	.130	.200/.230	.400	6.00	3.20	2.90	2.60
13F3302	4010	.....	40	12	.500	.250	.200/.230	.400	6.00	3.20	2.90	2.60



5

TRANSISTOR CAPS AND COMPONENT HARDWARE

TEK-CAP TRANSISTOR INSULATION CAPS

Tek-Caps protect transistor case and serve as mounting pad.

Stock No.	Type No.	Fig.	Description	PKG. OF 100 1-9	10-50	60-100	110-250
13F3303	7004	A	For TO-3; holds flat against board	1.60	1.45	.....	.....
13F3304	7007	B	For TO-5; holds .050" above board	6.00	3.20	2.90	2.60
13F3305	7008	B	For TO-18; holds .050" above board	6.00	3.20	2.90	2.60

CAPACITOR PADS

Suspend capacitors for cleaning space.

Stock No.	Type No.	Fig.	Description	PKG. OF 100 1-9	10-50	60-100	110-250
13F3306	8100	C	Leads spaced .100"	3.00	1.80	1.60	1.40
13F3307	8150	C	Leads spaced .150"	3.00	1.80	1.60	1.40
13F3308	8200	C	Leads spaced .200"	3.00	1.80	1.60	1.40

BUSHINGS/SPACERS

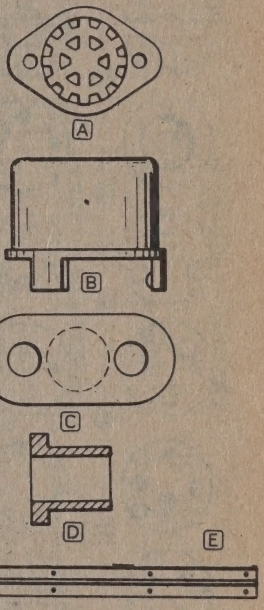
Insulates screws, rivets, wires, posts; and spaces boards.

Stock No.	Type No.	Fig.	I.D.	Fits Hole	Length	PKG. OF 100 1-9	10-50	60-100	110-250
1F33309	7115	D	.125"	.172"	.115"	2.00	.90	.85	.80
13F3310	7175	D	.125"	.172"	.115"	2.00	.90	.85	.80

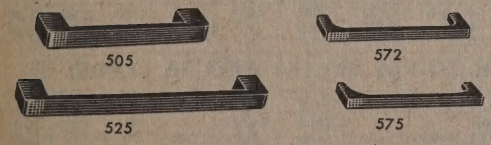
DELRIN® CARD GUIDES

Stock No.	Type No.	Fig.	Size	PKG. OF 100		
13F3311	9100	E	10.25" long, .531" wide, .188" high	30.00	.....	.....
13F3312	9200	E	6.00" long, .531" wide, .188" high	20.00	.....	.....

®Registered DuPont trademark.



HANDLES/PULLS



Can be used horizontally or vertically on doors, drawers, panels, rack or portable items. Die-cast zinc (Zamak #3) with satin-brushed, chrome-plated finish.

Stock No.	Type No.	Overall Lgth.	Total Ht.	Inside D.	Inside W.	Each 1-23	Each 24-Up
13F3313	505	4⅛"	1 1/16"	⅞"	3½"	2.00	1.90
13F3314	525	7⅝"	1 1/16"	⅞"	6¼"	2.20	2.10
13F3315	572	4 5/16"	1"	¾"	3⅝"	1.10	1.00
13F3316	575	4 1/16"	1 5/16"	1/16"	3⅜"	1.00	.90

TYPE 900 TEK-KIT ASSORTMENT

Contains 5750 pieces (over 50 different items), at one-third the cost of individual Tek-Pads and other hardware. All items are in marked containers for easy selection. Includes mounting pads and insulating caps for TO-18 case, TO-18 spreaders, TO-5 case, TO-5 spreaders, TO-8 case, TO-98 (3-in-line), TO-99 case, TO-99 spreaders, TO-100, TO-100 spreaders, TO-101, and TO-101 spreaders; plus TO-3 caps, pads, bushings; TO-5 and TO-18 combination caps and pads; capacitor mtg. pads; diode/resistor sleeves; DIP pads; bushings/spacers. In cabinet.

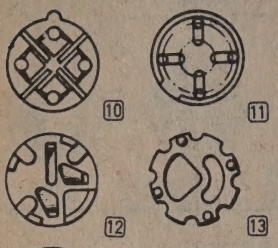
13F3317 ..... 99.00

TEKNA Tek-Pad Transistor and IC Mounting Pads

Tek-Pads and Tek-Caps insulate, ventilate, provide shock and vibration resistance for transistors and integrated circuits; protect from excessive heat and solder, and permit washout space. Several of the items listed give room for test probing from the top side of the board, allowing easy replacement of defective units. Tek-Pad spreaders relieve the bending stress of leads. Press-fit DIP Tek-Pads allow presassembly of pads prior to insertion of unit by automatic equipment. Made of nylon per MIL-P-20693. Tolerances: ±.005" or less. White in color, except as indicated. Federal Supply Code: 24227.

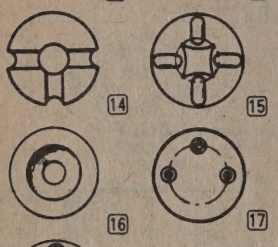
MOUNTING PADS FOR TO-18 CASE

Stock No.	Type No.	Thermalloy Equiv.	Fig.	Max. No. of Leads	Size, Inches O.D.	Size, Inches Thickness	Spacing of Leads, In. Entry	Spacing of Leads, In. Exit	PKG. OF 100 1-9	PKG. OF 100 10-50	PKG. OF 100 51-100	PKG. OF 100 101-250
13F3250	1000	7717-112	1	4	.200	.030	.100	.100	3.00	1.80	1.60	1.40
13F3251	1001	7717-220	1	4	.270	.045	.100	.100	3.00	1.80	1.60	1.40
13F3252	1002	.....	2	4	.225	.080	.100	.100	3.00	1.80	1.60	1.40
13F3253	1003	7717-124	3	4	.225	.020	.100	.100	3.00	1.80	1.60	1.40
13F3254	1004	7717-16	4	4	.250	.021	.100	.100	3.00	1.80	1.60	1.40
13F3255	1005	.....	4	4	.200	.061	.100	.100	3.00	1.80	1.60	1.40
13F3256	1006	7717-188	5	4	.200	.095	.100	.100	3.00	1.80	1.60	1.40
13F3257	1007	.....	4	4	.250	.125	.100	.100	3.00	1.80	1.60	1.40
13F3258	1008	.....	6	4	.225	.187	.100	.100	3.00	1.80	1.60	1.40
13F3259	1009	.....	7	4	.200	.090	.100	.100	3.00	1.80	1.60	1.40



SPREADER PADS FOR TO-18 CASE

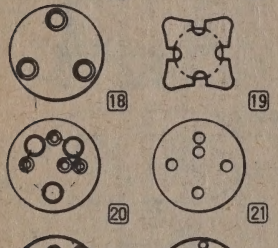
13F3260	1010	7717-26	8	3	.345	.120	.100	.200	4.00	2.10	1.90	1.60
13F3261	2001	7717-93	9	4	.225	.085	.100	.150	4.00	2.10	1.90	1.60
13F3262	2002	7717-145	10	4	.310	.150	.100	.200	4.00	2.10	1.90	1.60
13F3263	2003	.....	11	4	.265	.115	.100	.200	4.00	2.10	1.90	1.60
13F3264	2004	7717-2	12	3	.280	.215	.100	.200	4.00	2.10	1.90	1.60
13F3265	2005	.....	13	4	.200	.125	.100	.100	4.00	2.10	1.90	1.60
13F3266	2007	.....	14	3	.250	.150	.100	.200	4.00	2.10	1.90	1.60



MOUNTING PADS FOR TO-5 CASE

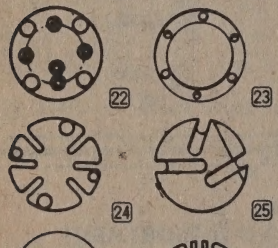
13F3267	3001	7717-3	15	4	.345	.075	.200	.200	4.00	2.10	1.90	1.60
13F3268	3002	.....	2	4	.365	.080	.215	.215	4.00	2.10	1.90	1.60
13F3269	3003	.....	2	12	.365	.080	.200	.200	4.00	2.10	1.90	1.60
13F3270	3004	.....	16	1	.312	.100	*	*	4.00	2.10	1.90	1.60
13F3271	3005	7717-198	17	3	.350	.038	.200	.200	4.00	2.10	1.90	1.60
13F3272	3006	7717-151	18	4	.281	.021	.200	.200	4.00	2.10	1.90	1.60
13F3273	3008	7717-22	17	3	.350	.075	.200	.200	4.00	2.10	1.90	1.60
13F3274	3009	7717-200	19	4	.312	.060	.200	.200	4.00	2.10	1.90	1.60
13F3275	3010	.....	20	4	.340	.100	.200	.200	4.00	2.10	1.90	1.60
13F3276	3011	.....	7	4	.350	.120	.200	.200	4.00	2.10	1.90	1.60
13F3277	3012	7717-127	21	5	.350	.036	.200	.200	4.00	2.10	1.90	1.60
13F3278	3013	7717-128	22	5	.350	.120	.200	.200	4.00	2.10	1.90	1.60
13F3279	3014	.....	23	12	.330	.100	.200	.350	4.00	2.10	1.90	1.60
13F3280	3015	.....	24	6	.350	.120	.200	.200	4.00	2.10	1.90	1.60

*Has .078" center hole.



SPREADER PADS FOR TO-5 CASE

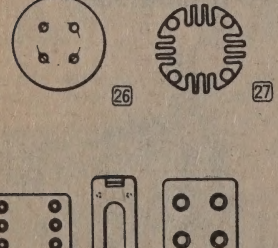
13F3260	1010	7717-26	8	3	.345	.120	.100	.200	4.00	2.10	1.90	1.60
13F3262	2002	7717-44	10	4	.310	.150	.100	.200	4.00	2.10	1.90	1.60
13F3264	2004	7717-126	12	3	.280	.215	.100	.200	4.00	2.10	1.90	1.60



MOUNTING PADS FOR TO-98 CASE

13F3264	2004*	7717-126	12	3	.280	.215	.050#	.200	4.00	2.10	1.90	1.60
13F3265	2005†	.....	13	3	.200	.125	.050#	.050#	4.00	2.10	1.90	1.60
13F3281	2006	7717-2	25	3	.200	.200	.050#	.200	4.00	2.10	1.90	1.60
13F3266	2007*	.....	14	4	.250	.150	.050#	.200	4.00	2.10	1.90	1.60

*Spreader pad. †Also for TO-99 case. #Three-in-line.



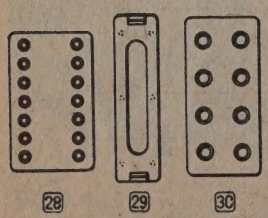
MOUNTING PADS FOR TO-8 CASE

13F3282	5001	.....	26	4	.600	.062	.281	.281	6.00	3.20	2.90	2.60
13F3283	5002	.....	27	12	.500	.187	.300	.300	6.00	3.20	2.90	2.60

MOUNTING PADS FOR TO-116 DIP (14 AND 16 LEADS)

Stock No.	Type No.*	Thermalloy Equiv.	Fig.	Max. No. of Leads	Size, Inches Width	Size, Inches Lgth.	Size, Inches Thickness	Entry / Exit	PKG. OF 100 1-9	PKG. OF 100 10-50	PKG. OF 100 51-100	PKG. OF 100 101-250
13F3284	4160	7717-156	28	14	.450	.750	.060	.100	6.00	3.20	2.90	2.60
13F3285	4180	.....	28	14	.450	.750	.080	.100	6.00	3.20	2.90	2.60
13F3286	4200	.....	28	14	.450	.750	.100	.100	6.00	3.20	2.90	2.60
13F3287	4360	.....	28	16	.450	.850	.060	.100	6.00	3.20	2.90	2.60
13F3288	4380	.....	28	16	.450	.850	.080	.100	6.00	3.20	2.90	2.60
13F3289	4400	.....	28	16	.450	.850	.100	.100	6.00	3.20	2.90	2.60
13F3290	4500	.....	29	14	.230	.820	.050	.100	6.00	3.20	2.90	2.60
13F3291	4600	.....	29	16	.230	.875	.050	.100	6.00	3.20	2.90	2.60

(*) All black.

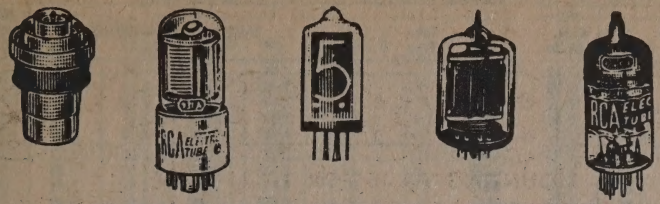


RELAY MOUNTING PAD

13F3292	4013	7717-129	30	8	.400	.800	.080	.200	6.00	3.20	2.90	2.60

Receiving, Industrial & Special Purpose Tubes

NATIONAL ELECTRONICS • EIMAC • GENERAL ELECTRIC



RAYTHEON • RCA • SYLVANIA • THERMOSEN
AMPEREX VICTOREEN • WESTINGHOUSE MACHLETT

LARGEST STOCKS OF MAJOR BRANDS

Whatever your tube needs — standard receiving, industrial or special purpose types — Newark can quickly fill your order. We can ship OEM quantities at OEM prices directly from stock. Just order by tube type and we will ship one of the leading manufacturer's tubes to fill your order.

***Receiving tubes (only) may be assorted to obtain best quantity prices up to the 50-99 price break.**

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

5

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
0A2	1.61	....	....	....	....
0A2WA	3.72	3.53	3.35	3.16	....
0A3	1.89	1.80	1.70	1.61	....
0A3A	1.74	1.65	1.57	1.49	....
0A4G	2.55	2.42	2.30	2.17	....
0A5	6.96	6.61	6.26	....	....
0B2	1.75	1.66	1.58	1.49	....
0B2WA	3.15	....	....	....	....
0B3	2.55	2.42	2.30	2.17	....
0C2	1.95	1.85	1.76	1.66	....
0C3	1.81	1.72	1.63	1.54	....
0C3A	1.83	1.74	1.65	1.56	....
0C3A/0C3	1.83	1.73	1.65	1.56	....
0C3W	8.19	7.78	7.37	6.96	....
0D3	1.81	1.72	1.63	1.54	....
0D3A	1.83	1.74	1.65	1.56	....
0D3A/0D3	1.83	1.73	1.65	1.56	....
0D3W	9.00	8.55	8.10	7.65	....
0Z4	2.55	2.30	2.30	1.91	1.70
0Z4A/DZ4	2.55	2.30	2.30	1.91	1.70
1A3	3.53	....	....	....	....
1A5GT	1.92	....	....	....	....
1AD2A	2.55	2.30	2.30	1.91	1.70
1AD4	3.10	2.95	2.79	....	....
1AY2A	2.43	2.19	2.19	1.82	1.62
1BC2A	2.25	2.03	2.03	1.69	1.50
1BH2A	2.34	2.11	2.11	1.76	1.56
1C21	5.70	5.42	5.13	4.85	....
1D21/SN4	15.25	14.49	....	....	....
1DG3A	2.70	2.43	2.43	2.03	1.80
1EP1	35.00	33.25	31.50	....	....
1EP11	35.70	33.92	32.13	....	....
1G3GT	2.19	....	....	....	....
1G3GTA/1B3GT	2.61	2.35	2.35	1.96	1.74
1H5GT	2.36	....	....	....	....
1J3	2.74	....	....	....	....
C1K/6014	12.30	11.69	....	....	....
1K3A/1J3	2.61	2.35	2.35	1.96	1.74
1L4	1.67	1.59	1.50	1.42	....
1L6	8.28	7.45	7.45	6.21	5.52
1N5GT	2.94	2.65	2.65	2.21	1.96
1P21	58.80	55.86	52.92	....	....
1P22	22.65	21.52	20.39	....	....
1P28	26.15	24.84	23.54	....	....
1P28A	32.45	30.83	29.21	....	....
1P29	12.05	11.45	10.85	....	....
1P37	9.60	9.12	8.64	....	....
1P39	5.00	4.75	4.50	4.25	....
1P40	8.05	7.65	7.25	6.84	....
1P41	9.65	9.17	8.69	8.20	....
1P42	23.10	....	....	....	....
1R5	3.42	3.08	3.08	2.57	2.28
1RK23	1.53	1.38	1.38	1.15	1.02
1S2A	1.22	....	....	....	....
1S2A/DY87	1.53	1.38	....	....	....
1S5	2.04	1.84	1.84	1.53	1.36
1T4	2.55	2.30	2.30	1.91	1.70
1U4	2.55	2.30	2.30	1.91	1.70
1U5	2.25	2.03	2.03	1.69	1.50
1V2	1.56	1.40	1.40	1.17	1.04
1X2C	2.70	2.43	2.43	2.03	1.80
1X2C/1X2B	2.70	....	....	....	....
2-01C	23.60	22.42	21.24	....	....
2-50A	52.00	49.40	46.80	....	....
2A3	6.45	5.81	5.81	4.84	4.30
2AC15	12.50	10.00	8.85	8.85	....
2AF4B/2DZ4	2.70	2.43	2.43	2.03	1.80
2AF4B/2DZ4/2AF4BR	2.70	2.43	2.43	2.03	1.80

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
2AP1A	27.65	26.27	24.89	....	....
2AS15A	11.00	8.80	7.70	7.70	....
2AS2	2.16	....	....	....	....
2AS2A	2.55	2.30	2.30	1.91	1.70
2AV2	2.07	1.86	1.86	1.55	1.38
2BJ2	2.76	2.48	2.48	2.07	1.84
2BN4A	2.34	2.11	2.11	1.76	1.56
2BP1	19.10	18.15	17.19	....	....
2BU2/2AH2	2.55	2.30	2.30	1.91	1.70
2C39A	20.75	19.71	18.68	....	....
2C39B	40.25	38.24	....	....	....
2C39WA	28.00	26.60	25.20	....	....
2C40A	39.35	37.38	35.42	....	....
2C43	29.00	27.55	26.10	....	....
2C51	5.15	....	....	....	....
2CN3A	2.67	2.40	2.40	2.00	1.78
2CW4	3.21	2.89	2.89	2.41	2.14
2CY5	3.21	2.89	2.89	2.41	2.14
2D21	1.64	1.56	1.48	....	....
2DS4	3.21	2.89	2.89	2.41	2.14
2DV4	4.26	3.83	3.83	3.20	2.84
2E24	9.40	8.93	8.46	....	....
2E26	5.15	4.89	4.64	....	....
2EG4	4.08	3.67	3.67	3.06	2.72
2EN5	1.92	1.73	1.73	1.44	1.28
2FH5	2.22	2.00	2.00	1.67	1.48
2FS5	3.18	2.86	2.86	2.39	2.12
2GK5/2FQ5A	2.52	2.27	2.27	1.89	1.68
2HA5	2.52	2.27	2.27	1.89	1.68
2HQ5	2.52	2.27	2.27	1.89	1.68
RK2K25	43.00	40.85	38.70	....	....
RK2K28	100.00	....	....	....	....
2SM15	12.00	9.60	8.40	8.40	....
2K26	68.00	64.60	....	....	....
2X2A	5.55	5.27	5.00	4.72	....
3-400Z/8163	37.00	35.15	33.00	....	....
3-500Z	37.00	35.15	33.00	....	....
C3J/L	17.95	17.05	16.16	....	....
C3J/5632	13.65	12.96	12.28	11.60	....
NL-C3J/L	17.95	17.05	16.16	....	....
NL-C3J/AL	18.35	....	....	....	....
C3JA/5684	14.05	13.35	12.65	....	....
3A2	3.30	2.97	2.97	2.48	2.20
3A3C	2.64	2.38	2.38	1.98	1.76
3A4	2.58	2.45	2.32	2.19	....
3A5	2.79	2.65	2.51	....	....
3AF4A/3DZ4	2.70	2.43	2.43	2.03	1.80
3AL5	1.74	1.57	1.57	1.31	1.16
3AP1A	50.40	47.88	45.36	....	....
3AQP1	34.35	32.63	30.92	29.20	....
3AT2B	2.55	2.30	2.30	1.91	1.70
3AU6	1.95	1.76	1.76	1.46	1.30
3AW2A	2.67	2.40	2.40	2.00	1.78
3B4WA	6.33	6.01	5.70	5.38	....
RK3B22/1C	10.85	....	....	....	....
3B24W	11.85	11.26	....	....	....
RK3B24W	11.25	10.69	10.13	....	....
RK3B24WB	13.45	12.78	12.11	....	....
3B28	10.55	10.02	....	....	....
3BC5/3CE5	1.95	1.76	1.76	1.46	1.30
3BGP1	66.10	62.80	....	....	....
3BGP2	66.10	62.80	....	....	....
3BL2A	2.70	2.43	2.43	2.03	1.80
3BM2	2.49	2.24	2.24	1.87	1.66
3BN2	1.92	....	....	....	....
3BN4A	2.04	1.84	1.84	1.53	1.36
3BN6	3.12	2.81	2.81	2.34	2.08
3BP1A	38.50	36.58	34.65	32.73	....

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

5

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
3BU8/3GS8	3.18	2.86	2.86	2.39	2.12
3BW2/3BS2A/3BT2	2.79	2.51	2.51	2.09	1.86
3BY6	1.80	1.62	1.62	1.35	1.20
3BZ6	2.46	2.21	2.21	1.85	1.64
3C23	11.98	11.38	10.78	10.18	....
3CA3	2.43	2.19	2.19	1.82	1.62
3CB6/3CF6	1.77	1.59	1.59	1.33	1.18
3CN3B	2.70	2.43	2.43	2.03	1.80
3CS6	2.43	2.19	2.19	1.82	1.62
3CU3A	3.21	2.89	2.89	2.41	2.14
3CW500F3	260.00	....	....	....	....
3CX3	2.40	2.16	2.16	1.80	1.60
3CX100A5	25.70	....	....	....	....
3CX2500F3	205.00	....	....	....	....
3CX3000F1	245.00	....	....	....	....
3CY5	2.49	2.24	2.24	1.87	1.66
3CZ3A	2.85	2.57	2.57	2.14	1.90
3D22A	48.00	45.60	43.20	....	....
3DB3/3CY3	2.88	2.59	2.59	2.16	1.92
3DC3	3.03	2.73	2.73	2.27	2.02
3DF3	2.79	2.51	2.51	2.09	1.86
3DG4	3.81	3.43	3.43	2.86	2.54
3DJ3	2.79	2.51	2.51	2.09	1.86
3DK6	2.34	2.11	2.11	1.76	1.56
3DT6A	2.16	1.94	1.94	1.62	1.44
3E29	25.55	24.27	23.00	....	....
3EH7/XF183	1.53	1.38	1.38	1.15	1.02
3EJ7/XF184	1.53	1.38	1.38	1.15	1.02
3ER5	2.94	2.65	2.65	2.21	1.96
3EH5	1.95	1.76	1.76	1.46	1.30
3FS5	2.85	2.57	2.57	2.14	1.90
3GK5	2.52	2.27	2.27	1.89	1.68
3HM5	2.52	2.27	2.27	1.89	1.68
3HQ5	3.72	3.35	3.35	2.79	2.48
3JC6A	3.33	3.00	3.00	2.50	2.22
3KP1	37.10	....	....	....	....
3KT6	2.49	2.24	2.24	1.87	1.66
3Q4	2.01	1.81	1.81	1.51	1.34
3Q5GT	3.51	3.16	3.16	2.63	2.34
3RP1	22.40	....	....	....	....
3RP1A	39.90	37.91	35.91	....	....
3S4	2.04	1.84	1.84	1.53	1.36
3WP1	46.20	....	....	....	....
3V4	2.94	2.65	2.65	2.21	1.96
4-125/4D21	49.60	47.12	44.64	....	....
4-125A	54.00	51.30	48.60	....	....
4-250A/5D22	53.60	50.92	48.24	....	....
4-400A/8438	57.00	....	....	....	....
4-400C/6775	64.50	61.27	58.05	54.82	....
4AU6	2.55	2.30	2.30	1.91	1.70
4AV6	1.95	1.76	1.76	1.46	1.30
WL-4B24/3C	13.25	....	....	....	....
4B32	15.50	....	....	....	....
4BC8	2.61	2.35	2.35	1.96	1.74
4BL8/XCF80	1.44	1.30	1.30	1.08	.96
4BL8	1.44	1.30	1.30	1.08	.96
4BQ7A	2.67	2.40	2.40	2.00	1.78
4BS8	2.55	2.30	2.30	1.91	1.70
4BQ7A/4BZ7	2.64	2.38	2.38	1.98	1.76
4BU8/4GS8	2.91	2.62	2.62	2.18	1.94
4BZ6	....	....	....	....	....
4CB6	1.77	1.59	1.59	1.33	1.18
4CS6	2.43	2.19	2.19	1.82	1.62
4CX125-C	67.50	64.13	....	....	....
4CX250B	2.25	....	....	....	....
4CX250B	34.35	....	....	....	....
4CX250B/7203	34.20	32.49	....	....	....
4CX250K/8245	76.00	72.20	68.40	....	....
4CX300A/8167	66.00	62.70	....	....	....
4CX350A/8321	51.50	48.93	46.35	....	....
4CX350F/8322	54.00	51.30	....	....	....
4CX1500B/8660	205.00	....	....	....	....
4DE6	1.77	1.59	1.59	1.33	1.18
4DK6	2.25	2.03	2.03	1.69	1.50
4DT6A	2.49	2.24	2.24	1.87	1.66
4E27A/5-125B	55.00	52.25	49.50	....	....
4EH7/LF183	2.34	2.11	2.11	1.76	1.56
4EJ7/LF184	2.34	2.11	2.11	1.76	1.56
4ES8/XCC189	3.30	2.97	2.97	2.48	2.20
4EW6	1.74	1.57	1.57	1.31	1.16
4GK5	2.52	2.27	2.27	1.89	1.68
4GM6	1.04	....	....	....	....
4GX7	3.03	2.73	2.73	2.27	2.02
4HA5/PC900	1.41	1.27	1.27	1.06	.94
4HA5	1.38	1.24	1.24	1.04	.92
4HA7/4HC7	2.06	....	....	....	....
4HC7	2.06	....	....	....	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
4HM6	2.04	1.84	1.84	1.53	1.36
4HQ5	3.03	2.73	2.73	2.27	2.02
4HS8	2.43	2.19	2.19	1.82	1.62
4JC6A	3.30	2.97	2.97	2.48	2.20
4JD6	3.03	2.73	2.73	2.27	2.02
4JH6	2.22	2.00	2.00	1.67	1.48
4KE8	3.99	3.59	3.59	2.99	2.66
4KT6	3.12	2.81	2.81	2.34	2.08
4LJ8	2.88	2.59	2.59	2.16	1.92
4PR60C/8252W	126.00	....	....	....	....
4X150A	23.15	21.99	20.84	....	....
4X150A/7034	23.00	21.85	20.70	....	....
4X150D/7035	31.75	30.16	28.58	....	....
4X500A	138.60	131.67	....	....	....
5ABP1	59.50	56.53	....	....	....
5ABP7	53.90	51.21	48.51	....	....
5ADP1	59.50	56.53	53.55	....	....
5ADP31	55.30	52.54	49.77	....	....
5AM8	3.21	2.89	2.89	2.41	2.14
5AN8	3.42	3.08	3.08	2.57	2.28
5AQ5	2.46	2.21	2.21	1.85	1.64
5AR4/GZ34	2.79	2.51	2.51	2.09	1.86
5AS4A	2.01	1.81	1.81	1.51	1.34
5AS8	2.64	2.38	2.38	1.98	1.76
5AT8	2.88	2.59	2.59	2.16	1.92
5AV8	2.43	2.19	2.19	1.82	1.62
5AZ4	3.18	2.86	2.86	2.39	2.12
PL5B1	.38	....	....	....	....
5B8	3.30	2.97	2.97	2.48	2.20
5BE8	1.86	1.67	1.67	1.40	1.24
5BK7A	2.40	2.16	2.16	1.80	1.60
5BP1A	49.00	46.55	44.10	....	....
5BQ7A	2.82	2.54	2.54	2.12	1.88
5BR8/5FV8	3.21	2.89	2.89	2.41	2.14
5BT8	1.86	1.67	1.67	1.40	1.24
5BW8	2.70	2.43	2.43	2.03	1.80
5CG8	2.64	2.38	2.38	1.98	1.76
5CL8A	3.21	2.89	2.89	2.41	2.14
5CP1A	50.40	....	....	....	....
5CQ8	2.46	2.21	2.21	1.85	1.64
5CZ5	2.67	2.40	2.40	2.00	1.78
5D22/4-250A	53.50	50.83	48.15	....	....
5DJ4	2.13	1.92	1.92	1.60	1.42
5EA8	3.72	3.35	3.35	2.79	2.48
5ES8	2.64	....	....	....	....
5EU8	2.61	2.35	2.35	1.96	1.74
5EW6	2.64	2.38	2.38	1.98	1.76
5FG7	3.03	2.73	2.73	2.27	2.02
5GJ7/LCF801	1.95	1.76	1.76	1.46	1.30
5GM6	2.16	1.94	1.94	1.62	1.44
5GS7	2.19	1.97	1.97	1.64	1.46
5GX7	3.03	2.73	2.73	2.27	2.02
5HA7	2.06	....	....	....	....
5HB7	2.04	1.84	1.84	1.53	1.36
5HG8/LCF86	2.22	2.00	2.00	1.67	1.48
5HZ6	2.16	1.94	1.94	1.62	1.44
5J6	2.13	1.92	1.92	1.60	1.42
5JK6	2.52	2.27	2.27	1.89	1.68
5JL6	2.52	2.27	2.27	1.89	1.68
5KD8	1.65	1.49	1.49	1.24	1.10
5KE8	3.99	3.59	3.59	2.99	2.66
5KZ8	2.55	2.30	2.30	1.91	1.70
5LJ8	2.88	2.59	2.59	2.16	1.92
5MB8	2.40	2.16	2.16	1.80	1.60
5R4GYB	2.60	2.47	2.34	2.21	....
5R4WGA	11.33	....	....	....	....
5T8	2.67	2.40	2.40	2.00	1.78
5U4G	2.07	1.86	1.86	1.55	1.38
5U4GB	2.01	1.81	1.81	1.51	1.34
5U8	3.09	2.78	2.78	2.32	2.06
5U9/LCF201	1.86	1.67	1.67	1.40	1.24
5UP1	21.70	20.62	19.53	....	....
5UP7	36.40	34.58	32.76	....	....
5UP31	30.80	....	....	....	....
5V3A/5AU4	2.49	2.24	2.24	1.87	1.66
5V4GA	2.82	2.54	2.54	.21	1.88
5X8	2.49	2.24	2.24	1.87	1.66
5Y3GT	1.95	1.76	1.76	1.46	1.30
5Y4GA	1.47	1.32	1.32	1.10	.98
5Y4GT	2.04	1.84	1.84	1.53	1.36
NL-C6J-KP	34.45	32.73	31.00	....	....
NLC6J/L	33.95	32.25	....	....	....
C6J/5C21	28.10	26.70	....	....	....
C6JA/5685	28.30	26.89	25.47	....	....
6AB4	2.37	2.13	2.13	1.78	1.58
6AC7	3.78	3.40	3.40	2.84	2.52
6AC7W	5.84	5.55	5.26	....	....

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6AC10	2.79	2.51	2.51	2.09	1.86
6AD10	5.31	4.78	4.78	3.54	3.54
6AF3	2.61	2.35	2.35	1.96	1.74
6AF4A	3.21	2.89	2.89	2.41	2.14
6AF6G	4.53	4.08	4.08	3.40	3.02
6AF11	3.42	3.08	3.08	2.57	2.28
6AG5	2.82	2.54	2.54	2.12	1.88
6AG7	5.07	4.56	4.56	3.80	3.38
6AG7Y	3.60	3.42	3.24	....	....
6AG9	4.11	3.70	3.70	3.08	2.74
6AH4GT	1.95	1.76	1.76	1.46	1.30
6AH6	3.84	3.46	3.46	2.88	2.56
6AH6WA	8.25	7.84	7.43	....	....
6AH9	3.12	2.81	2.81	2.34	2.08
6AJ5	3.85	3.66	3.47	....	....
6AJ8	1.65	1.49	1.49	1.24	1.10
6AK5	2.97	2.67	2.67	2.23	1.98
6AK5/EF95	3.12	2.81	2.81	2.34	2.08
6AK6	1.68	1.60	1.51	1.43	....
6AK8/EABC80	1.98	1.78	1.78	1.49	1.32
6AL3/EY88	1.71	1.54	1.54	1.28	1.14
6AL5	1.95	1.76	1.76	1.46	1.30
6AL5/EB91	3.25	3.08	2.92	2.76	....
6AL11	3.75	3.38	3.38	2.81	2.50
6AM4	4.32	3.89	3.89	3.24	2.88
6AM8A	3.03	2.73	2.73	2.27	2.02
6AN4	3.69	3.32	3.32	2.77	2.46
6AN5	4.56	4.33	4.10	....	....
6AN5WA	11.25	10.69	10.13	....	....
6AN8A	3.30	2.97	2.97	2.48	2.20
6AQ5A	2.22	2.00	2.00	1.67	1.48
6AQ6	2.16	1.94	1.94	1.62	1.44
6AQ7GT	2.82	2.54	2.54	2.12	1.88
6AQ8/ECC85	1.80	1.62	1.62	1.35	1.20
6AQ8	1.80	1.62	1.62	1.35	1.20
6AR5	1.62	1.46	1.46	1.22	1.08
6AR8	2.85	....	....	....	....
6AR11	3.45	3.11	3.11	2.59	2.30
6AS6	3.88	3.69	3.49	3.30	....
6AS7G	5.61	5.33	5.05	4.77	....
6AS7GA	5.38	5.11	4.84	4.57	....
WL6AS7GA	5.37	5.10	4.83	4.56	....
6AS8	3.45	3.11	3.11	2.59	2.30
6AS11	3.63	3.27	3.27	2.72	2.42
6AT6	1.23	1.11	1.11	.92	.82
6AT8A	3.39	3.05	3.05	2.54	2.26
6AU4GTA	3.18	2.86	2.86	2.39	2.12
6AU5GT	3.42	3.08	3.08	2.57	2.28
6AU6A	1.95	1.76	1.76	1.46	1.30
6AU6A/10M	2.28	2.05	2.05	1.71	1.52
6AU6WB	3.56	3.38	3.20	3.03	....
6AU8A	3.72	3.35	3.35	2.79	2.48
6AV5GA	3.42	3.08	3.08	2.57	2.28
6AV6	1.77	1.59	1.59	1.33	1.18
6AV11	2.88	2.59	2.59	2.16	1.92
6AW8A	2.93	2.65	2.65	2.21	1.96
6AX3	2.25	2.03	2.03	1.69	1.50
6AX4GTB	2.43	2.18	2.18	1.82	1.62
6AX5GT	2.55	2.30	2.30	1.91	1.70
6AX8	1.67	....	....	....	....
6AY3B	2.43	2.19	2.19	1.82	1.62
6AYL1	2.99	....	....	....	....
6AZ8	3.60	3.24	3.24	2.70	2.40
6B8	4.11	3.70	3.70	3.08	2.74
6B10	2.94	2.65	2.65	2.21	1.96
6BA3	1.83	1.65	1.65	1.37	1.22
6BA6/EF93	2.16	1.94	1.94	1.62	1.44
6BA7	3.87	3.48	3.48	2.91	2.58
6BA8A	3.42	3.08	3.08	2.57	2.28
6BA11	3.21	2.89	2.89	2.41	2.14
6BC4	3.54	3.19	3.19	2.66	2.36
6BC5	1.89	....	....	....	....
6BC5	1.89	....	....	....	....
6BC6/6CF5	2.16	1.94	1.94	1.62	1.44
6BC7	2.16	1.94	1.94	1.62	1.44
6BC8	2.72	....	....	....	....
6BC8/6BZ8	3.21	2.89	2.89	2.41	2.14
6BD6	1.41	1.27	1.27	1.06	.94
6BD11	3.69	3.32	3.32	2.77	2.46
6BE3	2.69	....	....	....	....
6BE3/6BZ3	2.94	2.65	2.65	2.21	1.96
6BE6	2.25	2.03	2.03	1.69	1.50
6BF5	2.01	1.81	1.81	1.51	1.34
6BF8	1.86	1.67	1.67	1.40	1.24
6BF7	5.21	....	....	....	....
6BF11	3.33	3.00	3.00	2.50	2.22
6BG6G	4.71	4.24	4.24	3.14	3.14

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6BH3A	1.68	1.51	1.51	1.26	1.12
6BH6	2.64	2.38	2.38	1.98	1.76
6BH8	3.03	2.73	2.73	2.27	2.02
6BH11	3.09	2.78	2.78	2.32	2.06
6BJ3	1.95	1.76	1.76	1.46	1.30
6BJ6	2.67	2.40	2.40	2.00	1.78
6BJ7	1.77	1.59	1.59	1.33	1.18
6BJ8	2.85	2.57	2.57	2.14	1.90
6BK4C/6EL4A	4.89	4.40	4.40	3.67	3.26
6BK5	2.10	1.89	1.89	1.58	1.40
6BK7B	3.12	2.81	2.81	2.34	2.08
6BL6	100.00	....	....	....	....
6BL7GTA	3.99	3.59	3.59	2.99	2.66
6BL8	1.62	1.46	1.46	1.22	1.08
6BL8/ECF80	1.77	1.59	1.59	1.33	1.18
6BM6	100.00	....	....	....	....
6BM8/ECL82	1.74	1.56	1.56	1.30	1.16
6BN4A	2.37	2.13	2.13	1.78	1.58
6BN6	2.97	2.67	2.67	2.23	1.98
6BN6/6KS6	2.97	2.67	2.67	2.23	1.98
6BN8	2.82	2.54	2.54	2.12	1.88
6BN11	3.39	3.05	3.05	2.54	2.26
6BQ5/EL84	2.55	2.30	2.30	1.91	1.70
6BQ6GTB/6CU6	3.54	3.19	3.19	2.66	2.36
6BQ7A	2.42	....	....	....	....
6BQ7A/6BZ7/6BS8	3.27	2.94	2.94	2.45	2.18
6BR3/6RK19	2.79	2.51	2.51	2.09	1.86
6BR8A/6FV8A	3.42	3.08	3.08	2.57	2.28
6BS3A	2.43	2.19	2.19	1.82	1.62
6BU8	3.33	3.00	3.00	2.50	2.22
6BV8	2.16	1.94	1.94	1.62	1.44
6BV11	3.24	2.92	2.92	....	....
6BW4	1.80	1.62	1.62	1.35	1.20
6BW8	3.09	2.78	2.78	2.32	2.06
6BW11	3.39	3.05	3.05	2.54	2.26
6BX6	2.73	2.46	2.46	2.05	1.82
6BX7GT	3.90	3.51	3.51	2.93	2.60
6BY5GA	2.88	2.59	2.59	2.16	1.92
6BY6	2.25	2.03	2.03	1.69	1.50
6BY8	1.77	1.59	1.59	1.33	1.18
6BZ6	2.04	1.84	1.84	1.53	1.36
6BZ7	3.27	2.94	2.94	2.45	2.18
6C4	2.43	2.19	2.19	1.82	1.62
6C4WA	3.15	2.99	2.84	2.68	....
6C5	3.51	3.16	3.16	2.63	2.34
6C6	4.71	4.24	4.24	3.53	3.14
6C9	3.60	3.24	3.24	2.70	2.40
6C10	2.43	2.19	2.19	1.82	1.62
6CA4	2.49	2.24	2.24	1.87	1.66
6CA4/EZ81	2.46	2.21	2.21	1.85	1.64
6CA5	1.98	1.78	1.78	1.49	1.32
6CA7/EL34	3.54	3.19	3.19	2.66	2.36
6CA7/EL34MP	6.72	....	....	....	....
6CB5A	6.51	5.86	5.86	4.88	4.34
6CB6A/6CF6	2.16	1.94	1.94	1.62	1.44
6CD6GA	4.38	3.94	3.94	3.29	2.92
6CG3/6BW3	2.58	2.32	2.32	1.94	1.72
6CG8A	2.82	2.54	2.54	2.12	1.88
6CH8	3.36	3.02	3.02	2.52	2.24
6CJ3/6CH3	2.46	2.21	2.21	1.85	1.64
6CK3	2.43	2.19	2.19	1.82	1.62
6CK4	2.13	1.92	1.92	1.60	1.42
6CL3/6CK3	2.46	2.21	2.21	1.85	1.64
6CL6	3.12	2.81	2.81	2.34	2.08
6CL8A	2.94	2.65	2.65	2.21	1.96
6CM3	3.15	2.84	2.84	2.36	2.10
6CM4	2.57	....	....	....	....
6CM6	2.55	2.30	2.30	1.91	1.70
6CM7	2.73	2.46	2.46	2.05	1.82
6CM8	2.67	2.40	2.40	2.00	1.78
6CN7	2.94	2.65	2.65	2.21	1.96
6CQ8	3.03	2.73	2.73	2.27	2.02
6CR6	1.77	1.59	1.59	1.33	1.18
6CS6	2.70	2.43	2.43	2.03	1.80
6CS6V	2.15	....	....	....	....
6CS7	2.49	2.24	2.24	1.87	1.66
6CU5	2.64	2.38	2.38	1.98	1.76
6CU8	3.03	2.73	2.73	2.27	2.02
6CW4	3.72	3.35	3.35	2.79	2.48
6CW5	1.65	1.49	1.49	1.24	1.10
6CW5FL86	1.65	1.49	1.49	1.24	1.10
6CX8	3.36	3.02	3.02	2.52	2.24
6CY5	3.21	2.89	2.89	2.41	2.14
6CY7	2.01	1.81	1.81	1.51	1.34
6CZ5	3.12	2.81	2.81	2.34	2.08
6D4	3.66	3.48	3.29	3.11	....
6D10	3.06	2.75	2.75	2.30	2.04

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6DA6	2.52	2.27	2.10	....	....
6DC6	2.55	2.30	2.30	1.91	1.70
6DE4/6CQ4	2.73	2.46	2.46	2.05	1.82
6DE6	2.16	1.94	1.94	1.62	1.44
6DE7	2.94	2.65	2.65	2.21	1.96
6DG6GT	2.76	2.48	2.48	2.07	1.84
6DJ8/ECC88	2.42	2.30	2.18	2.06	....
6DK6	2.34	2.11	2.11	1.76	1.56
6DL4	4.74	4.27	4.27	3.56	3.16
6DL4/EC88	4.77	4.29	4.29	3.58	3.18
6DL5	2.10	1.89	1.89	1.58	1.40
6DL5/EL95	2.43	2.19	2.19	1.82	1.62
6DN3	2.28	2.05	2.05	1.71	1.52
6DN6	4.20	3.78	3.78	3.15	2.80
6DN7	3.03	2.73	2.73	2.27	2.02
6DQ5	5.25	4.73	4.73	3.94	3.50
6DS4	3.54	3.19	3.19	2.66	2.36
6DS5	2.34	2.10	2.10	1.75	1.56
6DT5	2.34	2.11	2.11	1.76	1.56
6DT6A	2.13	1.92	1.92	1.60	1.42
6DT8	2.46	2.21	2.21	1.85	1.64
6DV4	4.26	3.83	3.83	2.84	2.84
6DW4B	2.46	2.21	2.21	1.85	1.64
6DW5	2.79	2.51	2.51	2.09	1.86
6DX8/ECL84	1.74	1.57	1.57	1.31	1.16
6DZ4	3.21	2.89	2.89	2.41	2.14
6E5	3.72	3.35	3.35	2.79	2.48
6EA8	2.58	2.32	2.32	1.94	1.72
6EB8	3.72	3.35	3.35	2.79	2.48
6EH4A	5.16	4.64	4.64	3.87	3.44
6EH5	2.34	2.11	2.11	1.76	1.56
6EH7/EF183	2.52	2.27	2.27	1.89	1.68
6EH7	2.52	2.27	2.27	1.89	1.68
6EH8	2.31	2.08	2.08	1.73	1.54
6EJ4A	6.18	5.56	5.56	4.64	4.12
6EJ7/EF184	2.34	2.11	2.11	12.76	1.56
6EM5	2.94	2.65	2.65	2.21	1.96
6EM7/6EA7	3.69	3.32	3.32	2.77	2.46
6EN4	5.55	5.00	5.00	4.16	3.70
6EQ7	1.95	1.76	1.76	1.46	1.30
6ER5	2.79	2.51	2.51	2.09	1.86
6ES5	1.89	1.70	1.70	1.42	1.26
6ES8/ECC189	3.27	2.94	2.94	2.45	2.18
6ET7	2.40	2.16	2.16	1.80	1.60
6EU7	2.61	2.35	2.35	1.96	1.74
6EU8	2.43	2.19	2.19	1.82	1.62
6EV5	2.82	2.54	2.54	2.12	1.88
6EV7	1.95	1.76	1.76	1.46	1.30
6EW6	2.34	2.11	2.11	1.76	1.56
6EW7	4.29	3.86	3.86	3.22	2.86
6EX6	4.50	4.05	4.05	3.38	3.00
6EZ5	3.33	3.00	3.00	2.50	2.22
6EZ8	2.34	2.11	2.11	1.76	1.56
6F4	15.68	14.90	14.11	13.33	
6F5	3.87	3.48	3.48	2.90	2.58
6F6	4.02	3.62	3.62	3.02	2.68
6F6G	1.59	....	....	....	....
6F6GT	3.84	3.46	3.46	2.88	2.56
6F8G	5.07	4.56	4.56	3.80	3.38
6FA7	1.77	1.59	1.59	1.33	1.18
6FD7	3.72	3.35	3.35	2.79	2.48
6FE5	2.64	....	....	....	....
6FG6/EM84	2.19	1.97	1.97	1.64	1.46
6FG7	3.03	2.73	2.73	2.27	2.02
6FH5	3.30	2.97	2.97	2.48	2.20
6FJ8	2.91	2.62	2.62	2.18	1.94
6FJ7	2.73	2.46	2.46	2.05	1.82
6FM7	3.03	2.73	2.73	2.27	2.02
6FM8	2.49	2.24	2.24	1.87	1.66
6FM8	2.49	2.24	2.24	1.87	1.66
6FQ7/6CG7	1.95	1.76	1.76	1.46	1.30
6FS5	2.73	2.46	2.46	2.05	1.82
6FV6	2.94	2.65	2.65	2.21	1.96
6FW5	3.21	2.89	2.89	2.41	2.14
6FY5/EC97	1.65	1.49	1.49	1.24	1.10
6FY7	2.31	2.08	2.08	1.73	1.54
6G11	3.78	3.40	3.40	2.84	2.52
6GB5/EL500	2.49	2.24	2.24	1.87	1.66
6GC5	3.72	3.35	3.35	2.79	2.48
6GE5	3.78	3.40	3.40	2.84	2.52
6GF5	2.49	2.24	2.24	1.87	1.66
6GF7A	3.48	3.13	3.13	2.61	2.32
6GH8A	2.10	1.89	1.89	1.58	1.40
6GJ5A	3.99	3.59	3.59	2.99	2.66
6GJ7/ECF801	2.04	1.84	1.84	1.53	1.36
6GK5/6FQ5A	3.03	2.73	2.73	2.27	2.02

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6GK6	2.43	2.19	2.19	1.82	1.62
6GL7	3.48	3.13	3.13	2.61	2.32
6GM5	1.83	1.65	1.65	1.37	1.22
6GM6	2.55	2.30	2.30	1.91	1.70
6GM8	5.40	4.86	4.86	4.05	3.60
6GN8	3.72	3.35	3.35	2.79	2.48
6GQ7	2.25	2.03	2.03	1.69	1.50
6GS7	2.31	2.08	2.08	1.73	1.54
6GU7	2.73	2.46	2.46	2.05	1.82
6GV5	2.70	2.43	2.43	2.03	1.80
6GV8/ECL85	2.76	2.48	2.48	2.07	1.84
6GW6	2.57	....	....	....	....
6GW6/6DQ6B	3.51	3.16	3.16	2.63	2.34
6GW8/ECL86	1.83	1.65	1.65	1.37	1.22
6GX7	3.03	2.72	2.72	2.27	2.02
6GY5	3.03	2.73	2.73	2.27	2.02
6GY6/6GX6	2.25	2.03	2.03	1.69	1.50
6GY8	3.09	2.78	2.78	2.32	2.06
6H6	3.63	3.27	3.27	2.72	2.42
6HA5/6HM5	2.52	2.26	2.26	1.89	1.70
6HB5	3.03	2.73	2.73	2.27	2.02
6HB6/6HA6	2.94	2.65	2.65	2.21	1.96
6HB7	2.85	2.57	2.57	2.14	1.90
6HF5	5.76	5.18	5.18	4.32	3.84
6HF8	3.90	3.51	3.51	2.93	2.60
6HG5	2.22	2.00	2.00	1.67	1.48
6HG8/ECF86	1.86	1.67	1.67	1.39	1.24
6HJ8	1.86	1.67	1.67	1.40	1.24
6HK5	2.34	2.11	2.11	1.76	1.56
6HL8	2.01	1.81	1.81	1.51	1.34
6HM5/6HA5	2.52	2.27	2.27	1.89	1.68
6HM6	1.77	1.59	1.59	1.33	1.18
6HQ5	3.33	3.00	3.00	2.50	2.22
6HR5	2.46	2.21	2.21	1.85	1.64
6HR6	2.43	2.19	2.19	1.82	1.62
6HS5	5.10	4.59	4.59	3.83	3.40
6HS6	2.43	2.19	2.19	1.82	1.62
6HS8	3.12	2.81	2.81	2.34	2.08
6HU6/EM87	2.91	2.62	2.62	2.18	1.94
6HU8/ELL80	3.69	3.32	3.32	2.77	2.46
6HV5A	6.15	5.54	5.54	4.61	4.10
6HZ5/6JD5	4.65	4.19	4.19	3.49	3.10
6HZ6	2.10	1.89	1.89	1.58	1.40
6J4	4.93	4.68	4.44	4.19	....
6B-6J4WA	5.84	5.55	5.23	....	....
6J5	3.03	2.73	2.73	2.27	2.02
6J5GT	3.03	2.73	2.73	2.27	2.02
6J6A	2.94	2.65	2.65	2.21	1.96
6J6WA	5.99	5.69	5.39	5.09	....
6J7	4.17	3.75	3.75	3.13	2.78
6J9	2.88	2.59	2.59	2.16	1.92
6J11	3.45	3.11	3.11	2.59	2.30
6JB6A	4.20	3.78	3.78	3.15	2.80
6JC6A	2.94	2.65	2.65	2.21	1.96
6JC8	2.19	1.97	1.97	1.64	1.46
6JD6	3.03	2.73	2.73	2.27	2.02
6JF6	4.77	4.29	4.29	3.58	3.18
6JG5	1.92	1.73	1.73	1.44	1.28
6JG6A	4.29	3.86	3.86	3.22	2.86
6JH6	2.34	2.11	2.11	1.76	1.56
6JH8	3.54	3.19	3.19	2.66	2.36
6JK6	2.52	2.27	2.27	1.89	1.68
6JK8	2.43	2.19	2.19	1.82	1.62
6JM6A	3.78	3.40	3.40	2.84	2.52
6JN6	3.51	3.16	3.16	2.63	2.34
6JN8	2.40	2.16	2.16	1.80	1.60
6JQ6	2.55	2.30	2.30	1.91	1.70
6JR6	3.81	3.43	3.43	2.86	2.54
6JS6C	4.86	4.37	4.37	3.65	3.24
6JT8	2.94	2.65	2.65	2.21	1.96
6JU6	4.59	4.13	4.13	3.44	3.06
6JU8A	2.91	2.62	2.62	2.18	1.94
6JV8	2.91	2.62	2.62	2.18	1.94
6JW8/ECF802	2.04	1.84	1.84	1.53	1.36
6JZ6	3.06	2.75	2.75	2.30	2.04
6JZ8	2.31	2.08	2.08	1.73	1.54
6K6GT	2.64	2.38	2.38	1.98	1.76
6K7	3.60	3.24	3.24	2.70	2.40
6K8	4.62	4.16	4.16	3.47	3.08
6K11/6Q11	2.49	2.24	2.24	1.87	1.66
6KA8	3.21	2.89	2.89	2.41	2.14
6KD6	5.85	5.27	5.27	4.39	3.90
6KE8	3.99	3.59	3.59	2.99	2.66
6KM6	5.85	5.27	5.27	4.39	3.90
6KM8	2.07	1.86	1.86	1.55	1.38
6KN6	4.77	4.29	4.29	3.58	3.18
6KN8	3.57	....	....	....	....

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6KR8	2.55	2.30	2.30	1.91	1.70
6KT6	3.21	2.89	2.89	2.41	2.14
6KT8	3.54	3.19	3.19	2.66	2.36
6KU8	2.88	2.59	2.59	2.16	1.92
6KV6A	4.80	4.32	4.32	3.60	3.20
6KV8	3.87	3.48	3.48	2.90	2.58
6KY8A	4.89	4.40	4.40	3.67	3.26
6KZ8	2.70	2.43	2.43	2.03	1.80
6L6	6.72	6.05	6.05	5.04	4.48
6L6GC	3.99	3.59	3.59	2.99	2.66
6L6WGB	5.80	5.51	5.22	4.93	....
6L6WGB	5.40	....	....	....	....
6L7	4.17	3.75	3.75	3.13	2.78
6LB6	5.58	5.02	5.02	4.19	3.72
6LB8	3.09	2.78	2.78	2.32	2.06
6LC8	3.12	2.81	2.81	2.34	2.08
6LE8	3.66	3.29	3.29	2.75	2.44
6LF6	5.55	5.00	5.00	4.16	3.70
6LF8	3.39	3.05	3.05	2.54	2.26
6LJ6A	5.31	4.78	4.78	3.98	3.54
6LJ6A/6LH6A	5.31	4.78	4.78	3.98	3.54
6LJ8	2.88	2.59	2.59	2.16	1.92
6LM8	3.21	2.89	2.89	2.41	2.14
6LN8/LCF80	1.59	1.43	1.43	1.19	1.06
6LQ6/6JE6C	5.79	5.21	5.21	4.34	3.86
6LQ8	3.63	3.26	3.26	2.72	2.42
6LR6	5.31	4.78	4.78	3.98	3.54
6LR8	3.15	2.84	2.84	2.36	2.10
6LT8	2.64	2.38	2.38	1.98	1.76
6LU8	3.15	2.84	2.84	2.36	2.10
6LX8/LCF802	1.56	1.40	1.40	1.17	1.04
6LY8	2.55	2.30	2.30	1.91	1.70
6M11	3.81	3.43	3.43	2.86	2.54
6MB8	2.40	2.16	2.16	1.80	1.60
6MD8	3.48	3.13	3.13	2.61	2.32
6ME6	6.05	5.45	5.45	4.55	4.04
6ME8	3.72	3.35	3.35	2.79	2.48
6MF8	3.15	2.84	2.84	2.36	2.10
6MG8	1.62	1.46	1.46	1.22	1.08
6MJ8	3.03	2.73	2.73	2.27	2.02
6MK8A	2.82	2.54	2.54	2.12	1.88
6MN8	3.18	2.86	2.86	2.39	2.12
6MQ8	2.49	2.24	2.24	1.87	1.66
6MU8	3.42	3.08	3.08	2.57	2.28
6N7	3.33	2.99	2.99	2.49	2.22
6N7GT	3.90	3.51	3.51	2.93	2.60
6Q7	3.54	3.19	3.19	2.66	2.36
6R4/EC81	9.75	....	....	....	....
6S4A	2.43	2.19	2.19	1.82	1.62
6SA7	3.30	2.97	2.97	2.48	2.20
6SA7GT	2.64	2.38	2.38	1.98	1.76
6SB7Y	3.57	3.21	3.21	2.68	2.38
6SC7	3.54	3.19	3.19	2.66	2.36
6SF5	3.30	2.97	2.97	2.48	2.20
6SF7	3.78	3.40	3.40	2.84	2.52
6SG7	3.69	3.32	3.32	2.77	2.46
6SH7	4.08	3.67	3.67	3.06	2.72
6SJ7	3.51	3.16	3.16	2.63	2.34
6SJ7GT	3.12	2.81	2.81	2.34	2.08
6SJ7WGT	3.25	3.09	2.93	....	....
6SJ7Y	2.82	2.68	2.54	....	....
6SK7	3.27	2.94	2.94	2.45	2.18
6SL7GT	3.24	2.92	2.92	2.43	2.16
6SL7WGT	3.15	2.99	....	....	....
6SN7GTB	2.64	2.38	2.38	1.98	1.76
GB-6SN7WGT	2.35	2.23	2.12	....	....
6SN7WGTA	4.90	4.66	4.41	....	....
6SQ7	3.24	2.92	2.92	2.43	2.16
6SR7	2.94	2.65	2.65	2.21	1.96
6T4	3.09	2.78	2.78	2.32	2.06
6T8A	3.09	2.78	2.78	2.32	2.06
6T9	2.64	2.38	2.38	1.98	1.76
6T10	3.54	3.19	3.19	2.66	2.36
6U5	4.44	4.00	4.00	3.33	2.96
6U8	3.06	2.75	2.75	2.30	2.04
6U8A/6AX8/6KD8	2.55	2.29	2.29	1.91	1.70
6U8A/6KD8	2.55	2.30	2.30	1.91	1.70
6U9/ECF201	1.74	1.57	1.57	1.31	1.16
6U10	2.67	2.40	2.40	2.00	1.78
6V3A	2.73	2.46	2.46	2.05	1.82
6V4/EZ80	.99	.89	.89	.74	.66
6V6	4.44	4.00	4.00	3.33	2.96
6V6GTA	2.94	2.65	2.65	2.21	1.96
6V6GTY	1.62	1.54	1.46	....	....
6W4GT	2.16	1.94	1.94	1.62	1.44
6W4GTA	2.16	1.94	1.94	1.62	1.44
6W6GT	3.03	2.73	2.73	2.27	2.02

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6X4	2.25	2.03	2.03	1.69	1.50
6X4W	2.87	2.73	2.58	....	....
6X4WA	2.85	2.71	2.57	....	....
6X5GT	2.37	2.13	2.13	1.78	1.58
6X5WGT	2.45	2.33	2.21	....	....
6X8A	2.94	2.65	2.65	2.21	1.96
6X9	1.40	....	....	....	....
6X9/ECF200	1.95	1.76	1.76	1.46	1.30
6Y6GA/6Y6G	3.27	2.94	2.94	2.45	2.18
6Y9	2.04	1.84	1.84	1.53	1.36
6Y9/EFL200	2.01	1.81	1.81	1.51	1.34
6Z10/6J10	3.99	3.59	3.59	2.99	2.66
7A8	4.68	4.21	4.21	3.51	3.12
7AU7	2.04	1.84	1.84	1.53	1.36
7C5	2.82	2.54	2.54	2.12	1.88
7C7	2.04	1.84	1.84	1.53	1.36
7EY6	2.43	2.19	2.19	1.82	1.62
7F7	4.95	4.46	4.46	3.71	3.30
7F8	4.95	4.46	4.46	3.71	3.30
7HG8/PCF86	1.83	1.65	1.65	1.37	1.22
7KY6	2.82	2.54	2.54	2.12	1.88
7N7	4.68	4.21	4.21	3.51	3.12
7VP1	35.00	....	....	....	....
8AC10	3.33	3.00	3.00	2.50	2.22
8AR11	3.21	2.89	2.89	2.41	2.14
8AU8	2.31	2.08	2.08	1.73	1.54
8AW8A	3.51	3.16	3.16	2.63	2.34
8B8	3.60	3.24	3.24	2.70	2.40
8B10	2.88	2.59	2.59	2.16	1.92
8BA8A	2.07	1.86	1.86	1.55	1.38
8BA11	3.60	3.24	3.24	2.70	2.40
8BH8	1.61	....	....	....	....
8BM11	3.09	2.78	2.78	2.32	2.06
8BN8	2.22	2.00	2.00	1.67	1.48
8BN11	2.61	2.35	2.35	1.96	1.74
8BQ5	2.46	2.21	2.21	1.85	1.64
8BQ11	2.85	2.57	2.57	2.14	1.90
8BU11	3.27	2.94	2.94	2.45	2.18
8CM7	2.61	2.34	2.34	1.95	1.74
8CN7	1.46	....	....	....	....
8CS7	2.61	2.35	2.35	1.96	1.74
8CW5	1.32	....	....	....	....
8CX8	2.64	2.38	2.38	1.98	1.76
8EM5	2.70	2.43	2.43	2.03	1.80
8ET7	2.49	2.24	2.24	1.87	1.66
8FQ7/8CG7	1.95	1.76	1.76	1.46	1.30
8GJ7	1.52	....	....	....	....
8GN8	2.19	....	....	....	....
8GN8/8EB8	2.73	2.46	2.46	2.05	1.82
8GU7	2.10	1.89	1.89	1.58	1.40
8JU8A	2.22	2.00	2.00	1.67	1.48
8JV8	2.82	2.54	2.54	2.12	1.88
8KA8	3.06	2.75	2.75	2.30	2.04
8LC8	3.15	2.84	2.84	2.36	2.10
8LT8	2.64	2.38	2.38	1.98	1.76
8NP4	59.50	56.53	53.55	....	....
8QP4	63.00	59.85	....	....	....
9A8/PCF80	1.74	1.57	1.57	1.31	1.16
9AH9	3.03	2.73	2.73	2.27	2.02
9AQ8/PCC85	4.29	3.86	3.86	3.22	2.86
9AU7	1.95	1.76	1.76	1.46	1.30
9BJ11	3.51	3.16	3.16	2.63	2.34
9GV8	1.80	....	....	....	....
9KC6	2.61	2.35	2.35	1.96	1.74
9KX6	2.73	2.46	2.46	2.05	1.82
9KZ8	1.95	1.76	1.76	1.46	1.30
9KZ8	1.95	1.76	1.76	1.46	1.30
9LA6	2.52	2.27	2.27	1.89	1.68
9U8A	2.04	1.84	1.84	1.53	1.36
10AL11	2.30	....	....	....	....
10BQ5	1.65	1.49	1.49	1.24	1.10
10C8	3.63	3.27	3.27	2.73	2.42
10CW5/LL86	1.65	1.49	1.49	1.24	1.10
10DE7	3.24	2.92	2.92	2.43	2.16
10DR7	2.67	2.40	2.40	2.00	1.78
10DX8/LCL84	1.80	1.62	1.62	1.35	1.20
10EG7	2.88	2.59	2.59	2.16	1.92
10EM7	3.21	2.89	2.89	2.41	2.14
10EW7	3.48	3.13	3.13	2.61	2.32
10GF7A	3.60	3.24	3.24	2.70	2.40
10GK6	2.94	2.65	2.65	2.21	1.96
10GN8	3.21	2.89	2.89	2.41	2.14
10HF8	3.54	3.19	3.19	2.66	2.36
10JA8/10LZ8	2.73	2.46	2.46	2.05	1.82
10JT8	3.12	2.81	2.81	2.34	....
10JY8	2.40	2.16	2.16	1.80	1.60
10KR8	2.82	2.54	2.54	2.12	1.88

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
10KU8	3.21	2.89	2.89	2.41	2.14
10LB8	3.09	2.78	2.78	2.32	2.06
10LE8	3.90	3.51	3.51	2.93	2.60
10LW8	3.48	3.13	3.13	2.61	2.32
10T10	3.51	3.16	3.16	2.63	2.34
10Z10	3.69	3.32	3.32	2.77	2.46
11AF9	2.04	1.84	1.84	1.53	1.36
11AR11	3.51	3.16	3.16	2.63	2.34
11BM8	3.45	3.11	3.11	2.59	2.30
11BQ11	3.51	3.16	3.16	2.63	2.34
11BT11	4.29	3.86	3.86	3.22	2.86
11CA11	4.50	4.05	4.05	3.38	3.00
11CY7	2.88	2.59	2.59	2.16	1.92
11DS5	3.03	2.73	2.73	2.27	2.02
11FY7	2.43	2.19	2.19	1.82	1.62
11HM7	3.87	3.48	3.48	2.90	2.58
11JE8	2.52	2.27	2.27	1.89	1.68
11KV8	4.29	3.86	3.86	3.22	2.86
11LQ8	2.55	2.29	2.29	1.91	1.70
11LT8	2.55	2.30	2.30	1.91	1.70
11Y9/LFL200	2.22	2.00	2.00	1.67	1.48
12A6	....	....	....	....	....
12AB5	2.55	2.30	2.30	1.91	1.70
12AC6	1.01	....	....	....	....
12AC10A	3.03	2.73	2.73	2.27	2.02
12AD6	2.31	2.08	2.08	1.73	1.54
12AE6A	2.04	1.84	1.84	1.53	1.36
12AE10	3.78	3.40	3.40	2.84	2.52
12AF6	1.89	1.70	1.70	1.42	1.26
12AF6A	1.64	....	....	....	....
12AL5	1.80	1.62	1.62	1.35	1.20
12AL8	3.72	3.35	3.35	2.79	2.48
12AL11	3.72	3.35	3.35	2.79	2.48
12AQ5	2.31	2.08	2.08	1.73	1.54
12AT6	1.83	1.65	1.65	1.37	1.22
12AT7/ECC81	2.25	2.03	2.03	1.69	1.50
12AT7/ECC81-10M	3.75	3.56	3.37	3.18	....
12AT7WA	3.14	2.98	2.83	2.67	....
12AT7WB	3.32	3.15	2.99	2.82	....
12AT7WC	3.32	3.15	....	....	....
12AU6	2.31	2.08	2.08	1.73	1.54
12AU7A/ECC82	2.01	1.81	1.81	1.51	....
12AV5GA	3.60	3.24	3.24	2.70	2.40
12AV6	1.53	1.38	1.38	1.15	1.02
12AV7	3.03	2.73	2.73	2.27	2.02
12AW6	2.13	1.92	1.92	1.60	1.42
12AX3	1.98	1.78	1.78	1.49	1.32
12AX4GTB	2.19	1.97	1.97	1.64	1.46
12AX4GTB	2.19	1.97	1.97	1.64	1.46
12AX7A/ECC83	1.83	1.65	1.65	1.37	1.22
12AX7WA	6.20	5.89	....	....	....
12AY3	1.92	1.73	1.73	1.44	1.28
12AY3A	1.92	1.73	1.73	1.44	1.28
12AY7	3.87	3.48	3.48	2.90	2.58
12AZ7A	2.64	2.38	2.38	1.98	1.76
12B4A	2.64	2.38	2.38	1.98	1.76
12BA6	1.86	1.67	1.67	1.40	1.24
12BA7	3.54	3.19	3.19	2.66	2.36
12BD6	1.38	1.24	1.24	1.04	.92
12BE3	2.25	2.03	2.03	1.69	1.50
12BE6	2.01	1.81	1.81	1.51	1.34
12BF6	1.41	1.27	1.27	1.06	.94
12BF11	3.81	3.43	3.43	2.86	2.54
12BH7A	2.55	2.30	2.30	1.91	1.70
12BK5	2.25	2.03	2.03	1.69	1.50
12BL6	2.43	2.19	2.19	1.82	1.62
12BN6	1.76	....	....	....	....
12BQ6A	2.15	....	....	....	....
12BQ6GTA	2.13	....	....	....	....
12BQ6GTB/12CU6	2.52	2.27	2.27	1.89	1.68
12BR7	2.01	1.81	1.81	1.51	1.34
12BS3A/12DW4A	2.43	2.19	2.19	1.82	1.62
12BT3	2.07	1.86	1.86	1.55	1.38
12BV11	3.18	2.86	2.86	2.39	2.12
12BW4	2.19	1.97	1.97	1.64	1.46
12BY7A	2.34	2.11	2.11	1.76	1.56
12BZ7	2.49	2.24	2.24	1.87	1.66
12CA5	2.61	2.35	2.35	1.96	1.74
12CL3	2.31	2.08	2.08	1.73	1.54
12CN5	1.95	1.76	1.76	1.46	1.30
12CR6	1.77	1.59	12.59	1.33	1.18
12CT3	2.16	1.94	1.94	1.62	1.44
12CU5/12C5	2.85	2.57	2.57	2.14	1.90
12CX6	1.65	1.49	1.49	1.24	1.10
12D4	2.01	1.81	1.81	1.51	1.34
12DB5	1.74	1.57	1.57	1.31	1.16
12DK6	1.38	1.24	1.24	1.04	.92

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
12DL8	1.92	....	....	....	....
12DS7	3.54	3.19	3.19	2.66	2.36
12DT5	2.04	1.84	1.84	1.53	1.36
12DT8	2.34	2.11	2.11	1.76	1.56
12DV8	2.35	....	....	....	....
12DW7	2.01	1.81	1.81	1.51	1.34
12DY8	3.83	....	....	....	....
12DZ6	2.40	2.16	2.16	1.80	1.60
12EC8	2.25	....	....	....	....
12ED5	1.62	1.46	1.46	1.22	1.08
12EK6	2.34	2.11	2.11	1.76	1.56
12EQ7	1.65	1.49	1.49	1.24	1.10
12F8	2.16	1.94	1.94	1.62	1.44
12FK6	1.65	1.49	1.49	1.24	1.10
12FM6	1.56	1.40	1.40	1.17	1.04
12FQ7	2.22	2.00	2.00	1.67	1.48
12FQ8	3.42	3.08	3.08	2.57	2.28
12FV7	2.04	1.84	1.84	1.53	1.36
12FX5	2.16	1.94	1.94	1.62	1.44
12FX8A	2.31	2.08	2.08	1.73	1.54
12GA6	1.62	1.46	1.46	1.22	1.08
12GC6	2.85	2.57	2.57	2.14	1.90
12GE5	3.42	3.08	3.08	2.57	2.28
12GH7	2.72	....	....	....	....
12GN7A	3.63	3.27	3.27	2.72	2.42
12GT5	3.51	3.16	3.16	2.63	2.34
12GW6/12DQ6B	3.39	3.05	3.05	2.54	2.26
12GW6/12DQ6B	3.39	3.05	3.05	2.54	2.26
12H6	2.94	2.65	2.65	2.21	1.96
12HE7	4.50	4.05	4.05	3.38	3.00
12HG7/12GN7A	3.63	3.27	3.27	2.72	2.42
12HL7	3.21	2.89	2.89	2.41	2.14
12J5GT	2.88	2.59	2.59	2.16	1.92
12J8	2.61	2.35	2.35	1.96	1.74
12JB6A	4.17	3.75	3.75	3.13	2.78
12JN6	2.55	2.30	2.30	1.91	1.70
12JN8	1.77	....	....	....	....
12JQ6	2.67	2.40	2.40	2.00	1.78
12JT6A	3.27	2.94	2.94	2.45	2.18
12K5	1.65	....	....	....	....
12L6GT	2.34	2.11	2.11	1.76	1.56
12MD8	3.21	2.89	2.89	2.41	2.14
12R5	2.01	1.81	1.81	1.51	1.34
12SA7	3.30	2.97	2.97	2.48	2.20
12SF7	3.72	3.35	3.35	2.79	2.48
12SG7	3.09	2.78	2.78	2.32	2.06
12SH7	3.24	2.92	2.92	2.43	2.16
12SJ7	2.82	2.54	2.54	2.12	1.88
12SK7	3.48	3.13	3.13	2.61	2.32
12SL7GT	3.27	2.94	2.94	2.45	2.18
12SN7GTA	2.82	2.54	2.54	2.12	1.88
12SQ7	3.24	2.92	2.92	2.43	2.16
12SR7	1.50	....	....	....	....
12SW7	2.23	2.12	2.01	1.90	....
12T10	3.90	3.51	3.51	2.93	2.60
12V6GT	2.94	2.65	2.65	2.21	1.96
12W6GT	3.21	2.89	2.89	2.41	2.14
12X4	1.47	1.32	1.32	1.10	.98
13CW4	3.33	3.00	3.00	2.50	2.22
13DE7	3.15	2.84	2.84	2.36	2.10
13DR7	3.78	3.40	3.40	2.84	2.52
13EM7	4.02	3.62	3.62	3.02	2.68
13EM7/15EA7	4.02	3.62	3.62	3.02	2.68
13FD7	3.48	3.13	3.13	2.61	2.32
13GB5/XL500	2.61	2.35	2.35	1.96	1.74
13GF7A	3.42	3.08	3.08	2.57	2.28
13JZ8	3.33	2.99	2.99	2.49	2.22
13V10	3.90	3.51	3.51	2.93	2.60
13Z10/13J10	4.11	3.70	3.70	3.08	2.74
14BL11	4.80	4.32	4.32	3.60	3.20
14BR11	3.81	3.43	3.43	2.86	2.54
14GT8	2.28	2.05	2.05	1.71	1.52
15AF11	3.15	2.84	2.84	2.36	2.10
15BD11A	3.60	3.24	3.24	2.70	2.40
15CW5/PL84	1.62	1.46	1.46	1.22	1.08
15DQ8/PCL84	2.25	2.03	2.03	1.69	1.50
15FM7	2.64	2.38	2.38	1.98	1.76
15FY7	2.43	2.19	2.19	1.82	1.62
15KY8A	4.17	3.75	3.75	3.13	2.78
15LE8	4.59	4.13	4.13	3.44	3.06
15MF8	3.06	2.75	2.75	2.30	2.04
C16J/5665	52.50	49.88	....	....	....
16A8/PCL82	2.28	2.05	2.05	1.71	1.52
16AK9	4.50	4.05	4.05	3.38	3.00
16AQ3/XY88	1.77	1.59	1.59	1.33	....
16BQ11	3.21	2.89	2.89	2.41	2.14
16BX11	3.72	3.35	3.35	2.79	2.48

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
16GK6	2.01	1.81	1.81	1.51	1.34
16GY5	3.18	2.86	2.86	2.39	2.12
17AB10/17X10	3.60	3.24	3.24	2.70	2.40
17AX3	1.71	1.54	1.54	1.28	1.14
17AX3	1.71	1.54	1.54	1.28	1.14
17AX4GTA	2.34	2.11	2.11	1.76	1.46
17AY3A	2.43	2.19	2.19	1.82	1.62
17BB14	5.88	5.29	5.29	4.41	3.92
17BE3/17BZ3	2.43	2.19	2.19	1.82	1.62
17BF11	3.90	3.51	3.51	2.93	2.60
17BH3	1.71	1.54	1.54	1.28	1.14
17BQ6GTB	2.51	....	....	....	....
17BR3/17RK19	2.22	2.00	2.00	1.67	1.48
17BS3A/17DW4A	2.43	2.19	2.19	1.82	1.62
17BW3	1.92	1.73	1.73	1.44	1.28
17C9	4.71	4.24	4.24	3.53	3.14
17CK3	2.34	2.11	2.11	1.76	1.56
17CT3	1.95	1.76	1.76	1.46	1.30
17CU5/17C5	2.04	1.84	1.84	1.53	1.36
17D4	2.67	2.40	2.40	2.00	1.78
17DE4	2.40	2.16	2.16	1.80	1.60
17DM4A	2.67	2.40	2.40	2.00	1.78
17DWP4	60.00	57.00	54.00	....	....
17EW8/HCC85	1.80	1.62	1.62	1.35	1.20
17GE5	2.85	2.57	2.57	2.14	1.90
17GJ5A	3.99	3.59	3.59	2.99	2.66
17GT5A	3.63	3.27	3.27	2.72	2.42
17GV5	2.76	2.48	2.48	2.07	1.84
17GW6/17DQ6B	3.63	3.27	3.27	2.72	2.42
17HB25	4.59	4.13	4.13	3.44	3.06
17JB6A	3.87	3.48	3.48	2.90	2.58
17JG6A	4.32	3.89	3.89	3.24	2.88
17JN6	3.48	3.13	3.13	2.61	2.32
17JQ6	3.12	2.81	2.81	2.34	....
17JT6A	3.69	3.32	3.32	2.77	2.46
17JZ8	2.34	2.11	2.11	1.76	1.56
17KV6A	5.67	5.10	5.10	4.25	3.78
17X10	3.60	3.24	3.24	2.70	2.40
18FW6A	1.62	1.46	1.46	1.22	1.08
18FX6A	1.95	1.76	1.76	1.46	1.30
18FY6A	1.95	1.76	1.76	1.46	1.30
18GB5/LL500	3.39	3.05	3.05	2.54	2.26
18GD6A	1.95	1.76	1.76	1.46	1.30
18GV8/PCL85	3.09	2.78	2.78	2.32	2.06
19AU4GTA	2.85	2.57	2.57	1.90	1.90
19EZ8	2.70	2.43	2.43	2.03	1.80
19HR6	1.47	1.32	1.32	1.10	.98
19HS6	1.14	....	....	....	....
19HV8	3.09	2.78	2.78	2.32	2.06
19J6	2.22	2.00	2.00	1.67	1.48
19JN8/19CL8A	2.10	1.89	1.89	1.58	1.40
19KG8	1.50	....	....	....	....
19T8	3.21	2.89	2.89	2.41	2.14
19X8	2.82	2.54	2.54	2.12	1.88
20AQ3/LY88	2.16	1.94	1.94	1.62	1.44
20LF6	5.61	5.05	5.05	4.21	3.74
KY21A	45.50	....	....	....	....
NL-RX21A	37.80	35.91	....	....	....
21GY5	3.03	2.73	2.73	2.27	2.02
21JZ6	3.21	2.89	2.89	2.41	2.14
21KA6	2.94	2.65	2.65	2.21	1.96
21LR8	3.00	2.70	2.70	2.25	2.00
21LU8	3.00	2.70	2.70	2.25	2.00
22BH3A	2.04	1.84	1.84	1.53	1.36
22DE4	2.76	2.48	2.48	2.07	1.84
22JF6	4.62	4.16	4.16	3.47	3.08
22JG6A	4.47	4.02	4.02	3.35	2.98
22JR6	4.50	4.05	4.05	3.38	3.00
22JU6	4.50	4.05	4.05	3.38	3.00
22KV6A	4.71	4.24	4.24	3.53	3.14
23JS6A	7.47	6.72	6.72	5.60	4.98
23Z9	3.12	2.81	2.81	2.34	2.08
24BF11	3.42	3.08	3.08	2.57	2.28
24LQ6/24JE6C	5.55	5.00	5.00	4.16	3.70
25AV5GA	3.87	3.48	3.48	2.90	2.58
25BK5	2.04	1.84	1.84	1.53	1.36
25BQ6GTB/25CU6	2.64	2.38	2.38	1.98	1.76
25C5	2.43	2.19	2.19	1.82	1.62
25CA5	1.74	....	....	....	....
25CD6GB	4.23	3.81	3.81	3.17	2.82
25CG3	2.22	2.00	2.00	1.67	1.48
25CK3	2.04	1.84	1.84	1.53	1.36
25DN6	4.35	3.92	3.92	3.26	2.90
25E5/PL36	4.38	3.94	3.94	3.29	2.92
25EC6	2.96	....	....	....	....
25EH5	2.43	2.19	2.19	1.82	1.62
25E5A	2.52	2.27	1.89	1.68	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
25JZ8	3.48	3.13	2.61	2.32	....
25L6GT/25W6GT	2.43	2.19	1.82	1.62	....
25Z6GT	2.55	2.30	1.91	1.70	....
26A6	4.23	4.02	3.81	....	....
26A7GT	8.04	7.64	7.24	6.83	....
26C6	3.27	3.11	2.94	....	....
26D6	3.70	3.52	3.33	....	....
26HU5	7.23	6.51	5.42	4.82	....
26LX6	5.94	5.35	4.46	3.96	....
27GB5/PL500	2.43	2.19	1.82	1.62	....
29KQ6/PL521	7.05	6.35	5.29	4.70	....
30AE3/PY88	2.16	1.94	1.62	1.44	....
30JZ6	3.69	3.32	2.77	2.46	....
31JS6C	4.74	4.27	3.56	3.16	....
31LQ6	5.28	4.75	3.96	3.52	....
32ET5A	1.59	1.43	1.43	1.19	1.06
32HQ7	5.10	4.59	3.83	3.40	....
33JV6	2.79	2.51	2.51	2.09	1.86
33GT7	4.44	4.00	3.33	2.96	....
33GY7A	4.20	3.78	3.15	2.80	....
34CE3	2.58	2.32	1.94	1.72	....
35Z4GT	1.22	....	....	....	....
35T	51.00	....	....	....	....
35B5	1.92	1.73	1.44	1.28	....
35C5	2.10	1.89	1.58	1.40	....
35EH5	2.25	2.03	1.69	1.50	....
35L6GT	2.55	2.30	1.91	1.70	....
35LR6	5.31	4.78	3.98	3.54	....
35W4	1.32	1.19	.99	.88	....
35Z5GT	2.22	2.00	1.67	1.48	....
A36M1	1.50	....	....	....	....
36AM3B	1.65	1.49	1.24	1.10	....
36KD6/40KD6	5.82	5.24	4.37	3.88	....
38HE7	4.80	4.32	3.60	3.20	....
38HK7	4.68	4.21	3.51	3.12	....
EZ40	2.58	2.32	2.32	1.94	1.72
40KG6A/PL509	6.03	5.43	4.52	4.02	....
42	2.91	2.62	2.18	1.94	....
EF42	4.83	4.35	4.35	3.62	3.22
42KN6	4.77	4.29	3.58	3.18	....
B46	.15	....	....	....	....
50A1	4.08	3.67	3.67	3.06	2.72
50A5	3.51	3.16	2.63	2.34	....
50B5	1.95	1.76	1.76	1.46	1.30
50BM8/UCL82	2.61	2.35	2.35	1.96	1.74
50C5	2.01	1.81	1.81	1.51	1.34
50DC4	1.56	1.40	1.40	1.17	1.04
50EH5	2.34	2.11	2.11	1.76	1.56
50FK5	1.04	....	....	....	....
50GY7A	6.51	5.86	5.86	4.88	4.34
50HC6	1.71	....	....	....	....
50HK6	1.41	1.27	1.27	1.06	.94
50L6GT	2.94	2.65	2.65	2.21	1.96
NL-C50M	55.50	33.50	....	....	....
50Y6GT	2.97	2.67	2.67	2.23	1.98
53HK7	5.52	4.97	4.97	4.14	3.68
60FX5	1.95	1.76	1.76	1.46	1.30
KT66	13.65	12.29	12.29	10.24	9.10
KT-66-MP	27.30	24.57	24.57	20.48	18.20
80	3.18	2.86	2.86	2.39	2.12
EL-81	4.92	4.43	4.43	3.69	3.28
83	2.56	2.43	2.30	2.18	....
EF85	....	....	....	....	....
EL85	4.92	4.43	4.43	3.69	3.28
HCC85	1.80	1.62	1.62	1.35	1.20
85A1	7.88	....	....	....	....
EC86	3.21	2.89	2.89	2.41	2.14
KT88	17.70	15.93	15.93	13.28	11.80
KT88MP	....	....	....	....	....
PY88	1.95	1.76	1.76	1.46	1.30
90NB4	39.00	37.05	....	....	....
EF91	4.23	3.80	3.80	3.17	2.82
FB91	1.79	....	....	....	....
100TH	35.00	....	....	....	....
NL-M101	31.25	31.25	27.00	27.00	24.20
NL-M103	25.55	25.55	21.30	21.30	18.50
FG-105	....	....	....	....	....
105	59.00	56.05	....	....	....
117L7/M7GT	7.13	....	....	....	....
117N7GT	7.71	6.94	6.94	5.78	5.14
117Z3	2.97	2.67	2.67	2.23	1.98
117Z6GT	2.25	....	....	....	....
150C1P	6.00	....	....	....	....
150CVP	165.00	....	....	....	....
150UVP	340.00	....	....	....	....
175A	93.50	88.83	....	....	....
177WA	57.00	....	....	....	....

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Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
VA203B	192.00	....	....	....	....
VA-204	305.00	....	....	....	....
VA220C	210.00	....	....	....	....
VA-220E	210.00	....	....	....	....
SK221C	271.50	....	....	....	....
VA-221C	215.00	....	....	....	....
250R	46.00	....	....	....	....
250TH	48.00	45.60	43.20	....	....
253	61.50	58.42	55.35	52.27	....
254W	50.00	....	....	....	....
VA259B	285.00	....	....	....	....
VA259E	285.00	....	....	....	....
AX260/PL260	514.00	....	....	....	....
NLM301	57.22	57.22	48.13	48.13	41.66
NL-M303	51.52	51.52	42.43	42.43	35.96
304TL	91.00	86.45	....	....	....
QKK404	85.00	....	....	....	....
407A	6.27	5.96	5.64	5.33	....
408A	5.84	5.55	5.26	4.96	....
B-430	2.13	....	....	....	....
450TH	113.00	107.35	....	....	....
WL481B	14.00	....	....	....	....
501RA	385.00	....	....	....	....
CK512AX	6.00	5.70	5.40	....	....
CK526AX	10.05	9.54	9.05	....	....
CK533AX	6.00	5.70	5.40	....	....
CK534AX	6.00	5.70	5.40	....	....
QKK-549	85.00	....	....	....	....
DR570	3.68	3.68	3.68	3.68	2.76
575A	25.50	24.23	22.95	....	....
WL575A	20.60	19.57	....	....	....
579B	21.90	20.81	19.71	....	....
592/3-200A3	69.00	65.55	....	....	....
DR60C-75/105	.49	.49	.49	.49	.39
DR601	1.03	1.03	1.03	1.03	.82
604/7014	15.00	14.25	....	....	....
NL604/7014	17.90	17.01	....	....	....
NL604/7015	17.90	17.01	....	....	....
NL-604L	19.50	18.53	....	....	....
NL-606	28.60	....	....	....	....
NL-606L	31.10	29.55	....	....	....
NL-6100/7723	14.30	13.59	....	....	....
NL-615	12.65	12.02	11.39	10.75	....
615/7018	11.50	10.93	10.35	9.78	....
NL-616	16.05	15.25	....	....	....
NL-617	18.70	....	....	....	....
619	11.30	....	....	....	....
NL-619	13.05	....	....	....	....
NL-623	18.35	17.43	16.52	15.60	....
627	29.00	....	....	....	....
632B	35.50	33.73	31.95	....	....
WL632C	35.00	33.25	....	....	....
NL-635/7019	17.30	16.44	15.57	....	....
NL-635L/7020	18.15	17.24	16.34	....	....
NL-635P/6930	18.15	17.24	....	....	....
NL-649/5834	15.75	14.96	....	....	....
NL-660	21.20	20.14	....	....	....
NL-660L/7786	22.80	21.66	....	....	....
NL-660P	22.80	....	....	....	....
NL-664L	41.75	39.66	37.58	....	....
672A	43.00	40.85	38.70	....	....
673	24.80	23.56	22.32	21.08	....
676	66.75	....	....	....	....
678	52.00	49.40	46.80	....	....
DR68C	4.41	4.41	4.41	4.41	3.52
710/6011	13.15	12.49	11.84	....	....
NL-710L/7518	15.05	14.30	....	....	....
NL-714	12.70	12.07	11.43	....	....
714/7021	11.00	10.45	9.90	....	....
NL-716	13.90	13.21	12.51	....	....
716/6855	12.50	11.88	11.25	....	....
NL-718	102.00	96.90	91.80	86.70	....
732	235.90	....	....	....	....
NL-734L	36.55	....	....	....	....
NL-740/6856	25.95	24.65	....	....	....
NL-740L/7022	26.75	25.41	....	....	....
NL-740P/6857	26.75	25.41	....	....	....
NL-760	29.80	28.31	26.82	....	....
760/6858	28.10	26.70	25.29	....	....
NL760L	31.50	29.93	28.35	....	....
NL-760P	31.50	29.93	28.35	....	....
NL-761	63.05	....	....	....	....
NL-770L	64.24	61.03	....	....	....
NL-770P	64.24	61.03	....	....	....
NL-803	9.00	9.00	9.00	9.00	6.30
805	31.25	....	....	....	....
807	6.05	5.75	5.45	....	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
810	40.00	38.00	36.00	....	....
811A	9.25	8.79	8.33	....	....
812A	7.60	7.22	6.84	....	....
813	28.45	27.03	25.61	....	....
815	35.75	33.96	....	....	....
816	5.20	4.94	4.68	....	....
828	40.60	38.57	36.54	....	....
829B	22.00	20.90	19.80	....	....
832A	18.90	17.96	17.01	....	....
833A	75.90	72.11	....	....	....
833A	75.00	71.25	....	....	....
836	15.75	14.96	14.18	....	....
NL-840/8754	8.00	8.00	8.00	8.00	5.60
NL841	8.40	8.40	8.40	8.40	5.90
NL843	8.00	8.00	8.00	8.00	5.60
NL-844	8.00	8.00	8.00	8.00	5.60
845	38.70	36.77	34.83	....	....
NL845	35.20	33.44	32.13	29.92	....
857B	239.00	....	....	....	....
866A	5.05	4.80	4.55	4.29	....
866AX	14.75	14.01	....	....	....
868	8.90	....	....	....	....
872A	13.25	12.59	11.93	....	....
872AX	35.00	....	....	....	....
884	3.72	3.53	3.35	3.16	....
NL-900	9.00	9.00	9.00	9.00	6.30
902A	28.00	26.60	25.20	....	....
917	12.70	12.07	11.43	10.80	....
918	8.75	8.31	7.88	....	....
NL918/5560	17.75	17.75	17.75	17.75	15.40
919	14.55	13.82	13.10	....	....
920	17.95	17.05	16.16	....	....
921	7.85	7.46	7.07	....	....
922	5.50	5.23	4.95	....	....
923	7.10	6.75	6.39	....	....
926	7.10	6.75	6.39	....	....
927	10.40	9.88	9.36	....	....
929	6.00	5.70	5.40	....	....
930	7.25	6.89	6.53	....	....
931A	14.90	14.16	13.41	....	....
WL931A	13.50	12.83	12.15	....	....
931VA	15.50	14.73	13.95	....	....
934	9.80	9.31	8.82	....	....
935	17.05	16.20	15.35	....	....
955	7.05	6.70	6.35	....	....
959	13.85	13.16	12.47	....	....
991	2.32	2.20	2.07	....	....
ZM1000	5.00	....	....	....	....
ZM1001	7.35	....	....	....	....
ZM1005	5.50	....	....	....	....
NL1005A	149.80	....	....	....	....
ZM1021	9.50	....	....	....	....
NL1022A	125.00	....	....	....	....
ZM1031	9.95	....	....	....	....
ZM1032	9.95	....	....	....	....
ZM1033	9.95	....	....	....	....
NL-1051A	71.00	....	....	....	....
NL-1052A	107.00	....	....	....	....
CK1101	11.00	9.00	7.50	7.50	....
CK1101P	10.75	8.80	7.35	7.35	....
CK1102	11.00	9.00	7.50	7.50	....
CK1103	11.00	9.00	7.50	7.50	....
CK1103P	10.75	8.80	7.35	7.35	....
CK1104	11.00	9.00	7.50	7.50	....
CK1104P	10.75	8.80	7.35	7.35	....
CK1105	24.50	20.00	16.70	16.70	....
CK1108	24.50	20.00	16.70	16.70	....
CK1112	11.00	9.00	7.50	7.50	....
CK1112P	10.75	8.80	7.35	7.35	....
CK1114	8.75	7.15	6.00	6.00	....
CK1115	8.75	7.15	6.00	6.00	....
CK1116	9.35	7.75	6.60	6.60	....
CK1121	4.00	3.25	2.75	2.75	....
CK1122	4.00	3.25	2.75	2.75	....
CK1123	4.00	3.25	2.75	2.75	....
CK1124	4.00	3.25	2.75	2.75	....
R1130B	22.90	....	....	....	....
R1131C	25.65	....	....	....	....
R1166	26.50	....	....	....	....
R1168	26.95	....	....	....	....
CK1201	1.75	1.75	1.75	1.75	1.50
CK1202	1.75	1.75	1.75	1.75	1.50
CK1203	1.75	1.75	1.75	1.75	1.50
CK1204	1.75	1.75	1.75	1.75	1.50
CK1205	1.75	1.75	1.75	1.75	1.50
CK1206	1.75	1.75	1.75	1.75	1.50
CK1207	1.75	1.75	1.75	1.75	1.50

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
CK2033	5.90	5.50	4.65	4.65	....
CK2034	8.00	6.50	5.50	5.50	....
CK2042	7.90	7.50	6.25	6.25	....
CK2046	9.60	7.75	6.60	6.60	....
2050	2.67	2.54	2.40	2.27	....
WL2050	2.65	2.52	2.38	2.25	....
2050A	2.48	2.36	2.23	2.11	....
CK2050W	10.95	....	....	....	....
2050W	8.15	....	....	....	....
CK2051	4.00	3.25	2.75	2.75	....
CK2052	4.00	3.25	2.75	2.75	....
CK2053	4.00	3.25	2.75	2.75	....
2067	190.00	....	....	....	....
CK22071	8.75	7.15	6.00	6.00	....
CK2072	9.35	7.75	6.60	6.60	....

	1-99	100-999	1000-4999	
DR2100	5.75	4.77	2.77	
DR2110	5.90	4.97	2.92	
DR2115	....	....	....	
DR2120	3.25	2.27	1.77	
DR2200	5.75	4.77	2.77	
DR2210	5.90	4.97	2.92	
DR2220	3.25	2.27	1.77	
DR2230	3.25	2.27	1.77	

	1-5	6-24	25-49	50-99	100-Up
4028A	37.60	35.72	33.84	....	....
4055	45.85	43.56	41.27	38.97	....
4055V1	45.85	43.56	41.27	....	....
4058	14.50	13.78	13.05	12.33	....
4076	14.50	13.77	13.05	12.32	....
4409	6.55	6.22	5.90	5.57	....
4440	130.00	123.50	....	....	....
4463	275.00	....	....	....	....
4471	23.55	22.37	21.20	....	....
4473	42.00	39.90	....	....	....
4491	45.50	43.23	40.95	....	....
4517	96.60	....	....	....	....
4524	135.00	....	....	....	....
4552	15.00	14.25	13.50	....	....
4555	15.00	14.25	13.50	....	....
4604	10.20	9.69	9.18	8.67	....
4634V1	460.00	....	....	....	....
4652	16.05	....	....	....	....
4652/8042	14.03	....	....	....	....
NL-5030	18.92	....	....	....	....
5544	34.55	32.82	31.10	....	....
5545	99.00	....	....	....	....
5550	53.75	....	....	....	....
GL-5550	53.00	....	....	....	....
NL-5550	53.00	....	....	....	....
5551A	71.00	....	....	....	....
GL-5551A	71.00	....	....	....	....
5552A	110.00	....	....	....	....
5556	77.00	....	....	....	....
5557	9.50	9.03	8.55	....	....
5558	17.50	16.63	15.75	....	....
5559	23.00	21.85	20.70	....	....
5560	33.80	32.11	30.42	....	....
5561	71.25	67.69	....	....	....
5563A	61.60	58.52	....	....	....
5581	8.65	8.22	7.79	7.35	....
5582	9.60	9.12	8.64	....	....
5583	11.85	11.26	10.67	....	....
5586	575.00	....	....	....	....
WL5606	297.00	....	....	....	....
NL-5632/C3J	14.25	13.54	12.83	....	....
5636	6.10	5.80	5.49	5.19	....
CK5639	5.70	5.42	5.13	4.85	....
5641	7.55	7.17	6.80	....	....
5642	3.53	3.35	3.18	....	....
CK5643	6.85	6.51	6.17	5.82	....
5647	9.15	8.69	8.24	....	....
5651A	2.13	2.02	1.92	1.81	....
CK-5651WA	4.28	4.07	3.85	3.64	....
5652	11.15	10.59	10.04	9..48	....
5653	6.85	6.51	6.17	5.82	....
5654	2.26	2.15	2.03	1.92	....
GB5654	2.73	2.59	2.46	....	....
5654	1.85	1.76	1.67	....	....
5663	2.65	2.52	2.39	2.25	....
5666	310.00	....	....	....	....
NL-5667	400.00	....	....	....	....
5670	3.12	2.96	2.81	2.65	....
5672	3.01	2.86	2.71	....	....
5675	10.30	9.79	9.27	8.76	....

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
NL-1222	5.25	5.25	4.55	4.55	4.10
CK1222	1.50	1.50	1.50	1.50	1.15
CK1223	1.50	1.50	1.50	1.50	1.15
CK1224	1.50	1.50	1.50	1.50	1.15
CK1225	1.50	1.50	1.50	1.50	1.15
CK1226	1.50	1.50	1.50	1.50	1.15
1229	8.75	8.31	7.88	....	....
1236C	16.50	13.50	11.60	11.60	....
CK1241	2.20	2.20	2.20	2.20	1.60
CK1242	2.20	2.20	2.20	2.20	1.60
CK1243	2.20	2.20	2.20	2.20	1.60
CK1244	2.20	2.20	2.20	2.20	1.60
CK1245	2.20	2.20	2.20	2.20	1.60
CK1246	2.20	2.20	2.20	2.20	1.60
GB-1252/6U8A	2.20	2.09	1.98	....	....
CK1261	2.20	2.20	2.20	2.20	1.60
CK1262	2.20	2.20	2.20	2.20	1.60
CK1263	2.20	2.20	2.20	2.20	1.60
CK1264	2.20	2.20	2.20	2.20	1.60
CK1266	2.20	2.20	2.20	2.20	1.60
1319	67.00	63.65	....	....	....

	1-9	10-19	20-49	50-99	100-499
ME1403	21.50	20.42	19.35	18.27	....

	1-5	6-24	25-49	50-99	100-Up
EM1502	2.20	2.20	2.20	2.20	1.60
1612	8.26	7.85	7.43	....	....
1613	3.87	3.68	3.48	3.29	....
1614	7.03	6.68	6.33	5.98	....
1616	19.60	18.62	17.64	....	....
1619	7.82	7.43	7.04	....	....
1620	9.51	9.03	8.56	8.08	....
1621	4.87	4.63	4.38	....	....
1622	7.03	6.68	6.33	5.98	....
1624	13.80	13.11	12.42	....	....
1625	7.00	6.65	6.30	5.95	....
1629	3.47	3.30	3.12	2.95	....
1635	5.02	4.77	....	....	....
CK1810	.30	.30	.30	.30	.22
CK1816	.30	.30	.30	.30	.22
CK1821	.80	.80	.80	.80	.55
CK1903	15.75	15.75	15.75	15.75	13.40
CK1904	16.25	16.25	16.25	16.25	13.90
CK1905	8.75	8.75	8.75	8.75	6.20
CK1907	8.00	8.00	8.00	8.00	5.60
CK1917	8.75	8.75	8.75	8.75	6.20
CK1920	8.50	8.50	8.50	8.50	5.90
1946	18.20	17.29	16.38	....	....
1947	53.20	50.54	47.88	....	....
1949	26.60	25.27	23.94	22.61	....

	1-99	100-999	1000-4999	
DR2000	5.50	4.52	2.67	

	1-5	6-24	25-49	50-99	100-Up
CK2000	5.00	4.05	3.50	3.50	....
CK2003	4.60	3.85	3.35	3.35	....
CK2006	4.60	3.85	3.35	3.35	....
CK2008	11.60	9.60	8.10	8.10	....
CK2009	9.60	7.75	6.60	6.60	....

	1-99	100-999	1000-4999	
DR2010	5.75	4.77	2.82	

	1-5	6-24	25-49	50-99	100-Up
CK2015	4.60	3.85	3.35	3.35	....
CK2016	4.60	3.85	3.35	3.35	....
CK2018	4.00	3.25	2.75	2.75	....
2020	105.00	99.75	....	....	....

	1-99	100-999	1000-4999	
DR2020	3.25	2.27	1.77	

	1-5	6-24	25-49	50-99	100-Up
CK2020	8.00	6.50	5.50	5.50	....
CK2021	8.00	6.50	5.50	5.50	....
2022	6.50	6.18	5.85	5.53	....
CK2028A	6.00	5.25	4.75	4.75	....
CK2029	18.00	14.00	11.00	11.00	....
CK2030	24.50	20.00	16.70	16.70	....

	1-99	100-999	1000-4999	
DR2030	3.25	2.27	1.77	

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
CK5876	4.35	4.13	3.92	....	....
5678	3.39	3.22	3.05	....	....
CK5678	3.40	3.23	3.06	....	....
NL-5684/C3J/A	14.65	13.92	....	....	....
NL-5684-NE	18.55	17.62	16.69	15.76	....
CK5686	4.34	4.12	3.91	....	....
5686	4.34	4.12	3.91	3.69	....
5687	4.69	4.46	4.22	3.99	....
CK5687	4.70	4.47	4.23	4.00	....
5691	9.30	8.84	8.37	7.91	....
WL5691	8.67	8.24	7.80	7.37	....
5692	8.97	8.52	8.07	7.62	....
5693	7.18	6.82	6.46	6.10	....
CK5693	8.09	7.69	7.28	6.88	....
5696	2.35	2.23	2.12	2.00	....
5696A	2.23	2.12	2.01	1.90	....
CK5702	5.75	5.46	5.18	....	....
CK5702WA	8.75	8.31	7.88	....	....
CK5702WB	12.45	11.83	11.21	10.58	....
CK5703WA	9.75	9.26	8.78	....	....
CK5703WB	12.20	11.59	10.98	....	....
CK5704WA	8.82	....	....	....	....
5713	875.00	....	....	....	....
5718	4.12	3.91	3.71	....	....
5719A	3.74	....	....	....	....
5722	8.35	7.93	7.52	....	....
5725	3.72	3.53	3.35	3.16	....
GB5725	3.72	3.53	3.35	....	....
5725	3.75	3.56	3.38	3.19	....
CK5725	3.50	3.32	3.15	2.98	....
5726	2.38	2.26	2.14	2.02	....
CK5727/2D21W	3.30	3.13	2.97	2.80	....
5727	3.28	3.12	2.95	2.79	....
5734	26.43	25.11	23.79	....	....
5736	208.00	....	....	....	....
CK5744WA	9.75	9.26	8.78	....	....
5749	3.32	3.15	2.99	2.82	....
5749/6BA6W	3.35	....	....	....	....
5750	4.48	....	....	....	....
NL-5750S	6.75	6.75	5.75	5.75	4.95
5751	3.21	3.05	2.89	2.73	....
GB-5751	3.21	3.05	2.89	....	....
5751	3.25	3.09	2.93	2.76	....
CK-5755	12.85	12.21	....	....	....
5762	280.00	....	....	....	....
5763	2.91	2.76	2.62	2.47	....
5763	2.95	2.80	2.66	2.51	....
5771	700.00	....	....	....	....
5783	4.19	3.98	3.77	3.56	....
CK5783WA	9.60	9.12	8.64	8.16	....
CK5784WA	12.05	11.45	10.85	10.24	....
CK5784WB	20.25	19.24	18.23	....	....
CK5787	6.30	5.99	5.67	....	....
CK5787A	7.40	7.03	6.66	....	....
CK5787WA	7.00	6.65	6.30	....	....
5814A	2.97	2.82	2.67	2.52	....
CK5814WA	2.57	....	....	....	....
5819	99.35	....	....	....	....
5823	2.00	1.90	1.80	1.70	....
5824	5.01	4.76	4.51	4.26	....
5825	36.40	34.58	32.76	....	....
5840	4.58	....	....	....	....
5840W	5.78	5.49	5.20	4.91	....
5841	13.50	10.90	....	....	....
CK5842	9.25	8.79	8.33	....	....
5842/417A	8.44	8.02	7.60	7.17	....
5844	2.72	2.58	2.45	2.31	....
5845	9.95	9.45	8.96	....	....
5847/404A	10.91	10.36	9.82	....	....
5847	12.40	11.78	11.16	....	....
5855	135.65	128.86	122.08	115.30	....
5867A	50.00	47.50	....	....	....
5866	35.50	....	....	....	....
5868	79.00	....	....	....	....
5869	38.25	....	....	....	....
5870	146.00	....	....	....	....
CK5875	4.45	4.23	4.01	3.78	....
5876	6.60	....	....	....	....
5876A	10.60	10.07	9.54	....	....
5879	2.97	....	....	....	....
5881	3.10	2.95	2.79	2.64	....
CK-5886	7.30	6.94	6.57	....	....
5886	5.35	5.08	4.82	4.55	....
5893	20.30	19.29	18.27	17.26	....
5894	30.20	28.69	27.18	....	....
5894A	41.00	38.95	36.90	....	....
5894B/8737	45.00	42.75	40.50	....	....

Tube Type	EACH * MAY BE ASSSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
5896	4.59	4.36	4.13	....	....
5899	5.55	5.27	5.00	....	....
5902	4.80	4.56	4.32	4.08	....
5915	2.17	2.06	1.95	1.84	....
5920	6.90	....	....	....	....
5923	330.00	....	....	....	....
GB-5931	6.80	6.46	6.12	....	....
GB-5932	11.30	10.74	10.17	....	....
5933	12.35	11.73	11.12	....	....
5933WA	16.50	15.68	14.85	....	....
5963	1.64	1.56	1.48	1.39	....
5964	2.27	2.16	2.04	1.93	....
5965	2.42	2.30	2.18	2.06	....
CK5965	2.45	2.33	2.21	2.08	....
5965A	2.45	2.33	2.21	2.08	....
5966	46.50	44.18	41.85	....	....
CK5971	10.10	9.60	9.09	....	....
NL-5992	15.75	15.75	15.75	15.75	13.40
5796	17.25	16.39	15.53	....	....
5998	39.98	....	....	....	....
5998A	14.10	13.40	12.69	....	....
6005/6AQ5W	4.00	3.80	3.60	3.40	....
6005	3.98	3.78	3.58	3.38	....
6007	4.80	....	....	....	....
6008	5.10	....	....	....	....
6012	8.69	8.26	7.82	7.39	....
6021	3.82	3.63	3.44	3.25	....
CK-6021WA	9.50	9.03	8.55	....	....
CK6029	10.10	9.60	9.09	....	....
6046	1.85	1.76	1.67	....	....
6072	4.24	4.03	3.82	3.60	....
6072A	4.61	4.38	4.15	3.92	....
6073	3.53	3.35	3.18	....	....
6073/0A2	3.94	3.74	3.55	3.35	....
6074	4.38	4.16	3.94	....	....
6074/0B2	4.56	4.33	4.10	3.88	....
6076	350.00	....	....	....	....
6076A	350.00	....	....	....	....
6080	5.88	5.59	5.29	5.00	....
6080WA	12.12	11.51	10.91	....	....
CK6080WA	11.85	11.25	10.67	....	....
6080WA	9.75	....	....	....	....
6082	5.84	5.55	5.26	....	....
6083	36.50	....	....	....	....
6084	7.55	7.17	6.80	6.42	....
6085	7.80	7.41	7.02	6.63	....
6087	6.50	6.18	5.85	5.57	....
CK6088	4.75	4.51	4.28	....	....
6098	17.25	....	....	....	....
6101	6.54	6.21	5.88	5.55	....
6111	4.02	3.82	3.62	....	....
CK6111	4.00	3.80	3.60	....	....
CK6111WA	9.50	9.03	8.55	....	....
6112	4.15	3.94	3.74	3.53	....
6112A	7.89	....	....	....	....
CK6112WA	6.70	6.37	6.03	....	....
6130/3C45	25.00	....	....	....	....
6134	6.45	6.13	5.81	5.48	....
6135	2.70	2.57	2.43	2.30	....
GB6135	2.70	2.57	2.43	....	....
6136	3.50	3.33	3.15	2.98	....
CK6136/6AU6WA	3.50	3.32	3.15	2.97	....
CK6146	4.40	4.18	3.96	....	....
6146A	4.90	4.66	4.41	4.17	....
6146B	6.90	6.56	6.21	5.87	....
6146B/8298A	6.00	5.70	5.40	5.10	....
6146W	7.20	6.84	6.48	6.12	....
6155	41.75	39.66	37.58	....	....
6156	49.00	46.55	....	....	....
6159	9.10	8.65	8.19	7.74	....
6159A	4.80	4.56	4.32	....	....
6159B	5.75	5.46	5.18	4.89	....
6159W	9.35	8.88	8.42	7.95	....
6161	170.00	....	....	....	....
6166A/7007	1025.00	....	....	....	....
6173	17.05	16.20	15.35	....	....
CK-6174	6.50	6.18	5.85	....	....
RK6177	285.00	....	....	....	....
6186	4.60	4.37	4.14	....	....
6186/6AG5WA	4.60	4.37	4.14	....	....
6189	4.00	3.80	3.60	3.40	....
6189/12AU7WA	4.00	3.80	3.60	3.40	....
6197	3.09	2.94	2.78	....	....
6199	62.30	59.19	....	....	....
6201	3.54	3.36	3.19	3.01	....
6202	2.87	2.73	2.58	2.44	....
CK6202	2.95	2.80	2.66	2.51	....

Receiving, Industrial & Special Purpose Tubes

AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6203	4.65	4.42	4.19	3.95	....
6205	5.90	5.61	5.31	....	....
6206	7.25	6.89	6.53	6.16	....
6211	2.95	2.80	2.66	2.51	....
6211A	3.40	3.23	3.06	2.89	....
6213	9.05	8.60	8.15	....	....
6216	4.00	3.80	3.60	3.40	....
6217	100.00	....	....	....	....
6227	12.25	....	....	....	....
CK6247	14.75	14.01	13.28	....	....
6252	46.50	44.18	41.85	....	....
6263A	15.50	14.73	13.95	13.18	....
6265	4.45	4.23	4.01	3.78	....
CK6265	4.45	4.23	4.01	3.78	....
6267	3.00	2.70	2.70	2.25	2.00
6279/5C22	92.50	....	....	....	....
6293	6.60	6.27	....	....	....
6299	75.35	71.58	....	....	....
6328	17.55	16.67	15.80	14.92	....
6336A	22.79	21.65	20.51	19.37	....
6339	62.50	....	....	....	....
6342A	74.50	70.78	....	....	....
6350	2.63	2.50	2.37	2.24	....
6360	5.40	5.13	4.86	....	....
6360	7.45	7.08	6.71	....	....
6360A	6.25	5.94	5.63	....	....
6365	63.80	....	....	....	....
6386	9.50	9.03	8.55	....	....
CK6397	12.60	11.97	11.34	....	....
6397	8.30	7.89	7.47	....	....
CK6414	3.33	....	....	....	....
6417	3.84	3.65	....	....	....
CK6418	5.67	5.39	5.10	....	....
CK6419	10.10	9.60	9.09	....	....
6442	39.25	....	....	....	....
6463	2.15	2.04	1.94	1.83	....
6472	16.20	15.39	....	....	....
6476A	14.95	14.20	13.46	....	....
6508	165.00	....	....	....	....
CK6519	10.10	9.60	9.09	....	....
6524	32.20	30.59	28.98	....	....
6528	32.78	....	....	....	....
CK6528	26.10	24.80	23.49	....	....
CK6528A	39.20	37.42	35.28	....	....
CK6542	15.60	14.82	14.04	....	....
6550	6.45	6.13	5.81	....	....
6550A	6.30	5.99	5.67	....	....
6569	53.50	....	....	....	....
6570	14.30	13.59	12.87	....	....
6626/0A2WA	3.72	3.53	3.35	3.16	....
CK6626/0A2WA	3.41	3.24	3.07	....	....
CK6627/0B2WA	2.68	2.55	2.41	....	....
6655A	77.25	73.39	69.53	65.66	....
6660/6BA6	1.85	1.76	1.67	1.57	....
6661/6BH6	2.27	2.16	2.04	1.93	....
6662	2.30	2.19	2.07	1.96	....
6662/6BJ6	2.28	2.17	2.05	1.94	....
6663/6AL5	1.68	1.60	1.51	....	....
6664/6AB4	2.04	1.94	1.84	1.73	....
6669/6AQ5A	1.93	1.83	1.74	1.64	....
6676/6CB6A	1.85	1.76	1.67	1.57	....
6677/6CL6	2.69	2.56	2.42	2.29	....
6678	2.25	2.14	2.03	1.91	....
6678/6U8A	2.23	2.12	2.01	1.90	....
6679/12AT7	2.02	1.92	1.82	1.72	....
CK6680	1.75	1.66	1.58	1.49	....
6680/12AU7A	1.74	1.65	1.57	1.48	....
6681	1.60	1.52	1.44	1.36	....
6681/12AX7A	1.57	1.49	1.41	1.33	....
6681/12AX7	1.57	1.49	1.41	....	....
6686	6.00	....	....	....	....
6688	8.20	7.79	7.38	6.97	....
CK6688	8.75	8.31	7.88	7.43	....
6688A	9.54	9.06	8.59	8.11	....
6689	7.60	7.22	6.84	6.46	....
6693	97.00	....	....	....	....
6802	11.43	....	....	....	....
6807	42.70	40.57	38.43	....	....
6808	43.70	....	....	....	....
6809	48.50	....	....	....	....
6810A	260.00	....	....	....	....
6816	60.60	57.57	....	....	....
6829	6.60	6.27	5.94	5.61	....
CK6829	6.60	6.27	5.94	5.61	....
CK6832	22.10	21.00	19.89	....	....
NL-6844A	11.00	11.00	11.00	11.00	9.70

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
6850	30.20	28.69	27.18	25.67	....
WL6857	28.10	....	....	....	....
6883	5.45	5.18	4.91	4.63	....
CK6883	4.85	4.61	4.37	....	....
6883B/8032A/8552	6.35	6.03	5.72	5.40	....
6884	35.15	33.39	31.64	....	....
6887	1.46	1.39	1.31	1.24	....
6897	40.90	38.86	36.81	....	....
6907	46.60	....	....	....	....
6909	16.35	15.53	14.72	....	....
CK6910	19.15	18.19	....	....	....
6910	13.37	....	....	....	....
6922	5.95	5.65	5.36	5.06	....
6922/E88CC	5.35	5.08	4.82	4.55	....
6923	25.65	....	....	....	....
6939	13.65	12.97	12.29	....	....
6953	11.15	10.59	....	....	....
6960A	222.00	....	....	....	....
6973	2.81	....	....	....	....
6977	3.05	2.90	2.75	....	....
6979	45.98	....	....	....	....
NL-6989-NE	37.30	35.44	....	....	....
NL-6989/C6J/KL	31.75	30.16	28.58	....	....
NL-7009	19.00	19.00	19.00	19.00	14.25
WL7016/606	21.40	20.33	19.26	....	....
7025	1.58	....	....	....	....
7027A	4.14	....	....	....	....
7036	1.80	....	....	....	....
7038	175.00	....	....	....	....
7038/V	190.00	....	....	....	....
7044	3.42	3.25	3.08	2.91	....
7054	1.85	1.76	1.67	1.57	....
7055	1.57	1.49	....	....	....
7056	1.12	1.06	1.01	.95	....
7057	2.90	2.76	2.61	2.47	....
7058	1.65	1.57	1.49	1.40	....
7059	1.83	1.74	1.65	1.56	....
7060	2.07	1.97	1.86	1.76	....
7061	1.83	1.74	1.65	1.56	....
7062	5.70	....	....	....	....
7092	157.00	....	....	....	....
7094	49.00	....	....	....	....
NL-7094	45.00	45.00	45.00	45.00	40.00
7102	120.00	114.00	....	....	....
7117	15.30	14.54	13.77	....	....
7119	8.05	....	....	....	....
7136	99.00	....	....	....	....
NL-7153	14.50	14.50	14.50	14.50	12.25
7176	1.83	1.74	1.65	1.56	....
GL-7171	65.00	....	....	....	....
7189	2.79	2.51	2.51	2.09	1.86
7199	3.72	3.35	3.35	2.79	2.48
7226	315.00	299.25	....	....	....
7233	2.80	2.66	2.52	2.38	....
7239	8.65	8.22	7.79	....	....
CK7246	10.10	9.60	9.09	....	....
7247	2.67	2.40	2.40	2.00	1.78
7258	2.53	2.40	2.28	2.15	....
7262A	190.00	....	....	....	....
7266	47.95	45.55	....	....	....
7271	48.35	45.93	43.52	....	....
7289/3CX100A5	20.65	19.62	18.59	17.55	....
WL7307A/710	13.00	12.35	11.70	....	....
7308	6.40	6.08	5.76	5.44	....
7321/C6J/L	31.50	....	....	....	....
7325	170.00	....	....	....	....
7326	405.00	....	....	....	....
7355	2.40	2.16	2.16	1.80	....
7360	5.38	5.11	4.84	4.57	....
7377	36.75	34.91	33.08	31.24	....
7378	7850	7458	70.65	....	....
7408	1.92	1.73	1.73	1.44	1.28
7486	48.30	45.89	....	....	....
7518	15.05	....	....	....	....
7534	41.35	39.28	....	....	....
7543	1.95	1.76	1.76	1.46	1.30
7551	4.38	4.16	3.94	3.72	....
7553	57.20	54.34	51.48	48.62	....
7554	42.65	40.52	....	....	....
NL-7556A-NE	21.65	20.57	....	....	....
7558	3.95	3.75	3.56	3.36	....
7581A	4.05	3.65	3.65	3.04	2.70
7581A	4.02	3.62	3.62	3.02	2.68
7586	4.13	3.92	3.72	3.51	....
7587	5.99	5.69	5.39	5.09	....
7591A	1.83	1.65	1.65	1.37	1.22
7609	29.75	28.26	26.78	....	....

Receiving, Industrial & Special Purpose Tubes

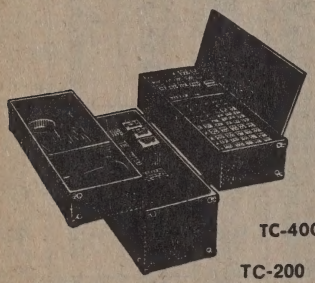
AS NEW TUBE TYPES ARE RELEASED, NEWARK WILL STOCK THEM.

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
7643	8.26	7.85	7.43	7.02	....
7645	19.50	....	....	....	....
7693	6.65	....	....	....	....
7695	2.91	2.62	2.62	2.18	1.94
ML-7698	45.00	42.75	....	....	....
7699	24.75	....	....	....	....
7714	5.75	5.46	5.18	4.89	....
7716	2.00	1.90	1.80	....	....
7717/6CY5	2.80	2.66	2.52	2.38	....
NL-7723-NE	15.90	....	....	....	....
7724/14GT8	1.48	1.41	1.33	1.26	....
7735	36.00	....	....	....	....
7735A	110.00	104.50	....	....	....
7735B	175.00	166.25	....	....	....
7737/E186F	8.80	8.36	7.92	....	....
7764	155.00	....	....	....	....
7768	137.30	130.44	....	....	....
NL-7786-NE3	24.95	23.70	....	....	....
7788	15.55	14.77	14.00	13.22	....
7801	280.00	....	....	....	....
7805	725.00	....	....	....	....
7815	25.60	....	....	....	....
ML-7815R/AL	27.00	25.65	24.30	22.95	....
7850	290.00	275.50	....	....	....
7854	51.80	49.21	46.62	....	....
7868	3.72	3.35	2.79	2.48	....
7895	4.20	3.99	3.78	3.57	....
7898	2.14	2.03	1.93	1.82	....
7900	320.00	....	....	....	....
7905	4.62	4.39	4.16	3.93	....
7911	142.90	....	....	....	....
NL-7977/4032	19.00	19.00	19.00	19.00	14.25

Tube Type	EACH * MAY BE ASSORTED 1-5	6-24	25-49	50-99	NOT ASST. 100-Up
7984	5.85	5.56	5.27	....	....
7986/5866A	....	....	....	....	....
8005	22.65	21.52	20.39	20.23	....
8008	13.95	13.25	12.56	....	....
8008A	13.20	....	....	....	....
8013A	23.80	22.61	21.42	20.23	....
8020	23.50	....	....	....	....
8032	5.60	5.32	5.04	4.76	....
8035	11.10	....	....	....	....
8042	19.00	18.05	17.10	....	....
8053	120.00	114.00	....	....	....
8055	160.00	152.00	....	....	....
8056	5.59	5.31	5.03	4.75	....
8058	17.19	16.33	15.47	....	....
8068	4.30	4.09	3.87	3.66	....
8070	9.50	....	....	....	....
8072	22.65	....	....	....	....
8077/7054	1.86	1.77	1.67	1.58	....
NL-8091	22.50	22.50	22.50	22.50	16.90
8102	1.75	1.66	1.58	....	....
8106	1.95	1.85	1.76	....	....
8108/EC157	292.50	....	....	....	....
8117A	78.10	74.20	....	....	....
8121	36.50	34.68	32.85	....	....
8122	38.05	....	....	....	....
8134	215.00	....	....	....	....
8134/4811	405.00	384.75	364.50	344.25	....
8136	1.65	1.57	1.49	1.40	....
8150	32.78	....	....	....	....
8156	4.30	4.09	3.87	3.66	....
8163/3-400Z	40.00	....	....	....	....

5

ARGOS TUBE CADDIES

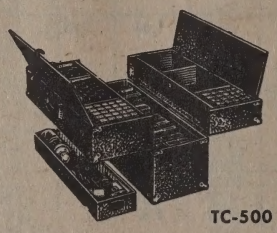


TC-400

TC-400

Carry-all Tube Caddy. A must item for all electronic service men, this case is a complete tube and tool kit. Holds up to 260 tubes with space for accessories. Grey vinyl covering. 21" x 15" x 8". Shpg. wt., 11 lbs.

86F747. NET. 19.95



TC-500

TC-600

Most rugged, strongest tube caddy in the line. Steel runners protect the caddy. Offers more than 3300 cubic inches for more than 300 tubes with space for tools, meters and accessories. Grey vinyl covering. 24" W x 16½" H x 8½" D. Shipping weight 20 lbs., 8 oz.

86F748. NET ..35.95

TC-200

Junior Tube Caddy. Small, easy-to-carry size. Holds up to 143 tubes, less with space or tools, meters, etc. Grey vinyl covering. 16 x 12½ x 8". Shipping weight, 7¼ lbs.

86F774. NET.....14.50

TC-500

Super Tube Caddy has 3300 cubic inches for tubes, meters, tools and accessories. Removable tray. Grey vinyl covering. Size: 24" W x 16½" H x 8½" D. Shipping weight, 17 pounds.

86F746. NET.....29.95

TUBE LIBRARY

RCA PHOTOMULTIPLIER MANUAL PT-61. Written for designers and other users of photomultiplier tubes. 192 pages of information on construction, theory of operation, measurement methods, and characteristics including discussion of typical applications. Also provides basic data on light and radiant energy measurement, noise statistics, spectral matching factors, voltage-divider considerations, and source-detector matching, data section on RCA photomultipliers.

52F901.....2.50

RCA RECEIVING TUBE MANUAL. Prepared to assist those who work with home-entertainment or industrial receiving types of electron tubes and circuits. Easy-to-read chapters explain basic operating principles, significant electrical characteristics, circuit applications, and testing procedures. Detailed data given on all current RCA tubes. Also features terminal diagrams for receiving tubes, replacement guide, and an illustrated circuits section. 752 pages.

52F799.....2.50

GE ESSENTIAL CHARACTERISTICS MANUAL. Convenient reference source for the service technician. Contains principle ratings, and electrical/physical characteristics of receiving, special-purpose, five-star, and compactron tubes, reed switches, picture tubes, entertainment semiconductors and accessories, integrated circuits, thyratrons, ignitrons, vidicons, and Radio-TV pilot lamps. Has basing diagrams for all tubes, including picture tubes. Index by tube type. 473 pages.

53F055.....2.00

RCA TRANSMITTING TUBE MANUAL. Handy reference manual for designers or hobbyists. Contains data on 180 types of power tubes and associated rectifiers. 320 pages.

52F878.....2.00

RADIOTRON DESIGNER'S HANDBOOK. Latest edition. 1500 pages. 1000 illustrations. Covers theory and operation of radio tubes and associated components. Cloth bound.

52F817.....7.00

NEWARK

QUALITY PRODUCTS

QUALITY SERVICE

Camera Tubes, Readouts

RCA Electro Optics

VISTACONS (LEAD-OXIDE VIDICONS)

Mfr's Type	Dimensions: Approx. Bulb Dia. in.	Dimensions: Over-all Length in.	Heater Current/ Power (Amps/ Watts)	Focusing Method	Deflection Method	Typical Operation Sensitivity: At Dark Current (nA)	Typical Operation Sensitivity: Output Signal (nA at fc)	Detail Response: At Mesh Volts	Detail Response: Limiting Resolution (TV-Lines)	Sep. Field Mesh Connection	Remarks
4591/B	1.2	8.66	0.1/0.6	M	M	.....	80 at 1*	600	700	No	For blue channel in color broadcasting cameras
4591/G	1.2	8.66	0.1/0.6	M	M	.....	320 at 1*	600	700	No	For green channel in color broadcasting cameras
4591/L	1.2	8.66	0.1/0.6	M	M	.....	800 at 1	600	700	No	For luminance channel in color broadcasting cameras
4591/R	1.2	8.66	0.1/0.6	M	M	.....	196 at 1*	600	700	No	For red channel in color broadcasting cameras
4592/B	1.2	8.66	0.1/0.6	M	M	.....	80 at 1*	700	700	Yes	For blue channel in color broadcasting cameras
4592/G	1.2	8.66	0.1/0.6	M	M	.....	320 at 1*	700	700	Yes	For green channel in color broadcasting cameras
4592/L	1.2	8.66	0.1/0.6	M	M	.....	800 at 1	700	700	Yes	For luminance channel in color broadcasting cameras
4592/R	1.2	8.66	0.1/0.6	M	M	.....	196 at 1*	700	700	Yes	For red channel in color broadcasting cameras
4816	1.2	8.66	0.1/0.6	M	M	.....	800 at 1	600	700	No	TV viewing of X-ray excited image screens (X-ray linkage)
4817	1.2	8.66	0.1/0.6	M	M	.....	800 at 1	700	700	Yes	TV viewing of X-ray excited image screens (X-ray linkage)

5

LOW LIGHT LEVEL CAMERA TUBES

SILICON-INTENSIFIER TARGET (SIT) TUBES

Mfr's Type	Dimensions: Bulb Dia. in.	Dimensions: Over-all Length in.	Heater Current/ Power (Amps/ Watts)	Focus & Deflection Method: Image Section Focus	Focus & Deflection Method: Scan. Sec. Focus	Focus & Deflection Method: Scan. Sec. Deflection	Low Light Level Capability (With fast lens)	Typical Operation: Sensitivity (A/lm at Image Section kV)	Typical Operation: Detail Response: At Mesh Volts	Typical Operation: Detail Response: Limiting Resolution (TV-Lines)	Remarks
§4804 Family	1	7.5	0.1/0.6	E	M	M	Moonlight	0.27 at 9	340	700	"16/16SIT", Four grade levels,/PRE(1st),/PRO(2nd), /SUR(3rd),/SCI(4th). Three potted versions designated by suffix /P1,/P2, and /P3.
§4826 Family	1	9.0	0.1/0.6	E	M	M	Moonlight	0.41 at 12	340	750	"25/18 SIT", Four grade levels as described above for 4804. Two potted versions designated by suffix/ P1 and /P2. /P2 version has gating lead.

INTENSIFIER SIT TUBES (ISIT)

4849, 4849A Family	1 (25)	9.66 (237)	0.1/0.6	E→E	M	M	Starlight	10 at 12→9	340	550	4804 SIT tube coupled to a 18 mm image intensifier.

RCA NUMITRON DIGITAL DISPLAY DEVICES

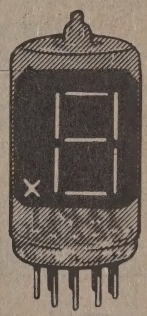
- **Rugged Construction, High Reliability— 100,000 Hours Mean-life Expectancy**
- **Single-plane, Up-front, Uncluttered, Wide Viewing Angle (120° to 140°)**
- **Fully Compatible with Low-cost IC Decoder/Drivers**
- **DR2200 Series has the Lowest Average Power Requirement of any Digital Readout Device of Comparable Size and Brightness**

RCA low voltage digital readout devices feature sharp, high brightness numeric displays, reliable at all light levels, indoors and out. Fully compatible with IC decoder/drivers and may be operated in either a direct or multiplex mode. Wide spectrum light emission permits use of unlimited color filters. Simple voltage controls make brightness fully adjustable. High contrast segmented digits viewed against dark background. Display free of "clutter" and residual images. Incandescent readout devices are free from induced or radiated interference. Solderable base pins permit direct PC board mounting. In addition to numerals, plus or minus, and decimals, individual segments may be addressed to provide symbol or alphabetic output such as letters, A, C, E, F, H, J, L, P, U and Y.

DR2000 Series: Fits low cost 9-pin miniature sockets: 0.8" mounting centers. Character size: 0.6"h x 0.35" w.

DR2100 and DR2200 Series: Fit TO-5 style, 10-pin sockets: 0.5" mounting centers. Character size, 0.4" h, x 0.234" w. Recommended dc segment voltage for DR2000, DR2100 Series, 3.5 to 5.0 V.; DR2200 Series, 1.5 to 3.0 V. Segment current @ rated voltage, DR2000, DR2100 Series, 24 mA; DR2200 Series, 14 mA. Complete specifications and application information available on request.

DR2000 Series

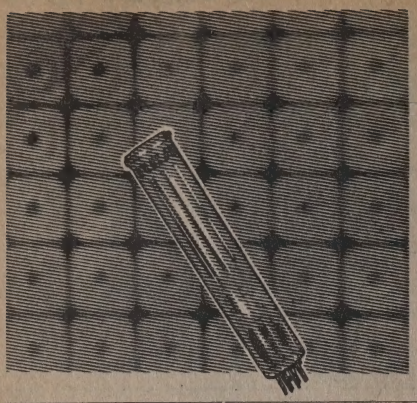


DR2100 DR2200 Series

Mfr's Type	Description
DR2000	Numerals 0-9
DR2010	Numerals 0-9; decimal
DR2020	Plus or minus and numeral 1
DR2030	Plus or minus
DR2100*	Numerals 0-9
DR2110*	Numerals 0-9; L.H. decimal
DR2115*	Numerals 0-9; R.H. decimal
DR2120*	Plus or minus and numeral 1
DR2130*	Plus or minus
DR2200*	Low power version of DR2100
DR2210*	Low power version of DR2110
DR2215*	Low power version of DR2115
DR2220*	Low power version of DR2120
DR2230*	Low power version of DR2130

*Available with leads bent to form a 0.38" pin circle for ease of direct PC board mounting. To order, add suffix V1 (DR2100V1, DR2200V1).

Camera Tubes



TYPICAL APPLICATIONS

- **Broadcast Studio Color and Black-and-White Film Pickup**
- **Educational, Industrial and Military Closed-Circuit TV**
- **Space Exploration**
- **Oceanographic Surveys**
- **Data Transmission**
- **Remote Monitor Systems**

RCA camera tubes range from the inexpensive domestic 7735 through lead oxide tubes for broadcast use to ISIT tubes which can operate at starlight levels. Focusing Methods: M—magnetic; E—electrostatic. For more information, refer to the product line catalog: RCA Camera Tube Product Guide, CAM-703A.

Notes: *These characteristics are measured using the following optical filters, or equivalent: For types 4591/R (red)—Schott, 0G570 (formerly 0G2), 3 mm thick. For types 4591/G and 4592/G (green)—Schott, VG9, 1 mm thick. For types 4591/B and 4592/B (blue)—Schott, RG12, 3 mm thick.

†2854° K tungsten illumination on (1) Wratten 25 (red) for 4493, (2) Wratten 58 (green) for 4494, and (3) Wratten 47 (blue) for 4495.

§These types are potted with a protective high-voltage isolation window and internal voltage dividers. Other potted variants and unpotted types can be supplied.

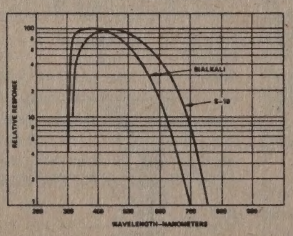
VIDICONS

Mfr's Type	Dimensions: Approx. Bulb Dia. in.	Dimensions: Overall Length in.	Heater Current/Power (Amps/Watts)	Focusing Method	Deflection Method	Typical Operation: Sensitivity: At Dark Current (nA)	Typical Operation: Sensitivity: Output Signal (nA at fc)	Typical Operation: Detail Response: At Mesh Volts	Typical Operation: Detail Response: Limiting Resolution (TV-Lines)	Sep. Field Mesh Connection	Remarks
8844	⅔	4.05	0.1/0.6	M	M	10	120 at 1	400	700	YES	
4493	1	6.25	0.1/0.6	E	M	10	60 at 1.5†	750	500	YES	Red channel, cameras such as RCA TK-42 & TK-43
4494	1	6.25	0.1/0.6	E	M	10	60 at 4.5†	750	500	YES	Green channel, cameras such as RCA TK-42 & TK-43
4495	1	6.25	0.1/0.6	E	M	5	20 at 4†	750	500	YES	Blue channel, cameras such as RCA TK-42 & TK-43
4503A	1	5.12	0.3/1.9	M	M	20	200 at 1	500 900	900 1100	YES	Ruggedized, see environmental specs. in 4503A Bulletin
4589	1	6.25	0.6/3.8	M	M	20	160 at 1	500 900	850 1100	YES	Fiber-optic faceplate variant of 8507A
4809, 4809/B	1	6.25	0.1/0.6	M	M	20	200 at 1	900	900	YES	For color-film cameras, 4809/B for blue channel.
7038 & JAN-7038	1	6.25	0.6/3.8	M	M	20	350 at 15	300	600	NO	(TK-21, TK-26, PE-24, PE-240)
7735	1	6.25	0.6/3.8	M	M	20	150 at 1	300	700	NO	Industrial (3rd) level specs. in 7735B family
7735A & JAN-7735A	1	6.25	0.6/3.8	M	M	20	180 at 1	300	700	NO	Commercial (2nd) level specs. in 7735B family
7735B	1	6.25	0.6/3.8	M	M	20	250 at 1	300 750	750 900	NO	Premium (1st) level specs.
8134	1	6.25	0.1/0.6	E	M	20	200 at 1	300 750	600 800	YES	Meets low total power requirements
8134/4811, 8134/4811B	1	6.25	0.1/0.6	E	M	20	200 at 1	300 750	600 800	YES	8134 processed specifically for RCA TK-27 color camera, 8134/4811/B for blue channel.
8507A	1	6.25	0.6/3.8	M	M	20	200 at 1	500 900	900 1100	YES	Premium (1st) level specs.
8541	1	6.25	0.1/0.6	M	M	20	200 at 1	500 900	750 900	YES	Commerical (2nd) level specs. in 8541A family
8541A	1	6.25	0.1/0.6	M	M	20	200 at 1	500 900	900 1100	YES	Premium (1st) level specs.
8541A/X	1	6.25	0.1/0.6	M	M	20	200 at 1	500 900	900 1100	YES	TV viewing of X-ray excited image screens (X-ray linkage)
8480	1½	10.25	0.1/0.6	E	M	20	500 at 10	1400	1400	YES	
8480/4810	1½	10.25	0.1/0.6	E	M	20	500 at 10	1400	1400	YES	Similar to 8480, but processed specifically to assure performance in RCA TK-27 color camera
8521	1½	7.75	0.6/3.8	M	M	20	200 at 1	1400	1500	YES	

SILICON-TARGET (S-T) VIDICONS

4833	⅔	4.23	0.1/0.6	M	M	—	290 at 0.1	350	450	YES	
4532B	1	6.25	0.1/0.6	M	M	—	565 at 0.1	340	700	YES	Broadcast level performance (color).
4532A	1	6.25	0.1/0.6	M	M	—	565 at 0.1	340	700	YES	Premium (1st) level specs.
4532	1	6.25	0.1/0.6	M	M	—	565 at 0.1	340	700	YES	Commercial (2nd) level specs. of 4532A family
4825A, 4825	1	6.125	0.1/0.6	M	M	—	360 at 0.05	340	700	YES	Enhanced infrared response. 4825A Premium (1st) level specs., 4825 commercial (2nd) level

IMAGE ORTHICONS



Typical Spectral Response Curves

Bialkali-Photocathode Spectral Response, when used with typical TV lighting, closely approximates the response of the human eye. Eliminates response to infrared, preventing color masking, allowing true gray-scale rendition. **S-10 Spectral Response** panchromatic response covers the entire visible range.

The table shown below classifies the various RCA Image Orthicon types by target material, spectral response, field or non-field mesh design, and tube diameter. All of the types shown are electronically conducting Glass Target types. Mesh Design: FM—Field Mesh; NFM—Non-Field Mesh.

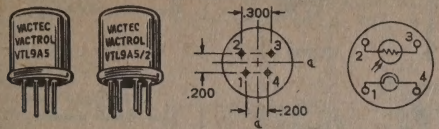
Approx. Dia.	S-10 Response Type	Bialkali Response Type	Mesh Type
3″	.....	8673	FM
3″	.....	8673/S‡	FM
3″	.....	8674	FM
3″	.....	8674/S‡	FM
3″	.....	8675	NFM
4½″	4536#	.....	FM
4½″	7295C	8748	FM
4½″	7389C	8749	FM

‡Matched Trios available for color cameras.

#For luminance channel of RCA color cameras, TK-42, 43. For more information, refer to the product line catalog: RCA Image Orthicons, CAM-800B.

VTL9 VACTROL—LAMP-PHOTOCONDUCTIVE MODULE

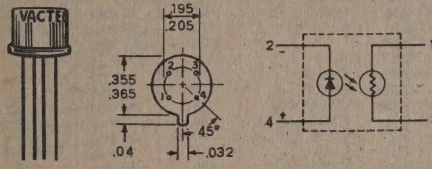
Has .63 dia. x .70″ h. with .040 pin base mtg. for PC boards. Min. off-resistance 10 meg except VTL9B6, 1 meg. VTL9A2 equiv. to Clairex CLM4006. VTL9A4 to Clairex CLM5012.



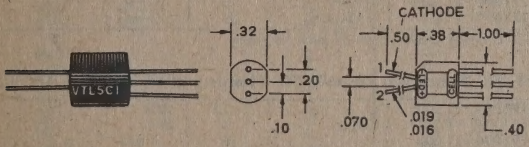
Stock No.	Type	Max. Lamp V.	Lamp mA	Max. On-Ohms	1-49	50-99	100-499
43F870	VTL9A1	1.5	50	400	1.93	1.55	1.35
43F871	VTL9A2	6.0	40	60	2.33	1.87	1.63
43F872	VTL9A3	10.0	14	250	2.42	1.93	1.70
43F873	VTL9A4	10.0	22	300	1.80	1.44	1.26
43F874	VTL9A5	10.0	22	1500	1.80	1.44	1.26
43F875	VTL9A9	6.0	40	200	2.33	1.87	1.63
43F876	VTL9A10	10.0	14	800	2.42	1.93	1.70
43F877	VTL9A11	12.0	25	600	1.80	1.44	1.26
			NEON TYPES				
43F878	VTL9B6	125	1.5	300	2.08	1.66	1.45
43F879	VTL9B7	125	1.5	800	2.08	1.66	1.45
43F880	VTL9B8	80	.3	2000	2.51	2.00	1.76

VTL2 VACTROLS—LED-PHOTOCONDUCTIVE MODULE

TO-5 hermetic case .325 d. x .265 h. Light emitting diode coupled to efficient photoconductive cell. Operates as low as 1 mW input power to LED. Rated LED current 40 ma. No filaments to burn out. Shock resistant. V_f is 1.65 typ.

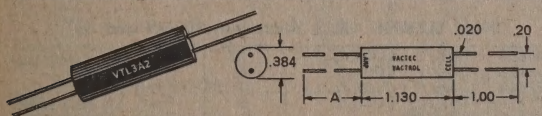


Stock No.	Type	Max. on-Ohms @ 40 mA, LED Curr.	Min. Off-Ohms	Max. Decay to	1-49	50-99	100-499
43F881	VTL2C1	10k	10^8	1 meg-3.5 ms	4.30	3.47	3.00
43F882	VTL2C2	500	10^6	100k-500 ms	4.30	3.47	3.00
43F883	VTL2C3	2k	107	100k-35 ms	4.30	3.47	3.00
43F884	VTL2C4	100	4 x 10^5	100k-1.5 sec.	4.30	3.47	3.00



VTL5 VACTROLS—LED-PC MODULE—PLASTIC

Stock No.	Type	Max. Ohms @ 40 mA LED I.	Max. Decay to 100k	1-49	50-99	100-999
43F885	VTL5C1	500	35 ms	2.00	1.63	1.42
43F886	VTL5C2	500	500 ms	2.00	1.63	1.42
43F887	VTL5C3	2000	35 ms	2.00	1.63	1.42
43F888	VTL5C4	200 (@ 10 mA)	1500 ms	2.00	1.63	1.42
43F889	VTL5C6	3500	50 ms (to 1 meg)	2.00	1.63	1.42
43F890	VTL5C7	1500	1000 ms	2.00	1.63	1.42

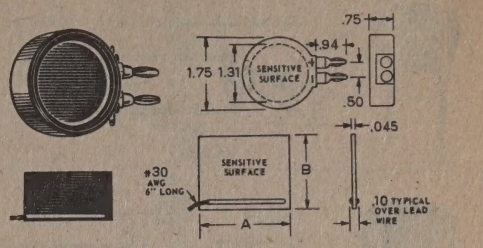


VTL3 VACTROLS—LAMP-PC MODULE

Stock No.	Type	Clairex Equiv.	Lamp Max. V.	Lamp mA	Max. On-Ohms	Max. Cell V.	1-49	50-99	100-499
43F891	VTL3A14	CLM3006A	6	40	160	100	1.43	1.17	1.01
43F892	VTL3A17	CLM3012A	12	40	160	100	1.43	1.17	1.01
43F893	VTL3A35	CLM5H10A	10	14	3000	250	1.59	1.33	1.11
43F894	VTL3A44	CLM4006A	6	40	55	100	1.43	1.17	1.01
43F895	VTL3A47	CLM4012A	12	40	40	100	1.43	1.17	1.01
			NEON TYPES						
43F896	VTL3B19	CLM3120A	125	2.0	900	100	1.27	1.06	.90
43F897	VTL3B49	CLM4120	125	2.0	135	100	1.27	1.06	.90

SILICON SOLAR CELLS

P on N cells with high output and specified leakage current. 6″ leads. Spectral response, 400-1200 nm; Typical junction capacitance .15 μF/in². Response time, 20 μsec. Temp. range, −55°C to +125°C. Temp. coefficient (short circuit) +0.2%/°C. Open circuit voltage, −0.2 mV/°C. Leakage doubles each 10-15°C increase in temperature.



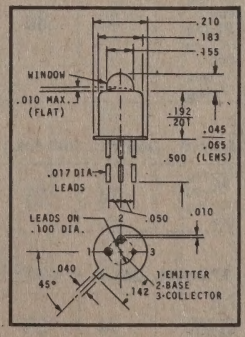
Stock No.	Type	Typ. 100 mW/cm² Min. Output mA @ Test V.	2850° K Output 100 fc	Dark Curr. @ .5V (μA)	1-49	50-99	100-499
43F898	VTS3011	1.7 @ .40	.055	1	1.30	1.06	.92
43F899	VTS3012	2.0 @ .40	.065	2	1.30	1.06	.92
43F900	VTS3013	4.2 @ .40	.14	5	1.62	1.32	1.14
43F901	VTS3014	8.4 @ .40	.27	10	2.33	1.90	1.64
43F902	VTS3018	17.0 @ .40	.55	40	3.82	3.15	2.72
43F903	VTS3020	18.0 @ .40	.60	50	3.82	3.15	2.72
43F904	VTS3022	21.0 @ .43(2)	.58	50	3.82	3.15	2.72
43F905	TVS3024	38.0 @ .40	1.2	100	5.89	4.79	4.13
43F906	VTS3026	44.0 @ .43(2)	1.14	100	5.89	4.79	4.13
43F907	VTS3028	79.0 @ .40	2.5	200	12.66	10.29	8.87
43F908	VTS3050	110.0 @ .40	3.5	250	14.83	12.06	10.40

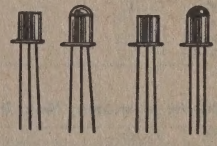
SIZE CHART

Type	Size (cm)	Active Area (cm²)	Type	Size (cm)	Active Area (cm²)
VTS3011	.22 x .51	.084	VTS3022	1.02 x 1.02	.90
VTS3012	.25 x .51	.10	VTS3024	2.03 x 1.02	1.87
VTS3013	.51 x .51	.21	VTS3026	2.03 x 1.02	1.87
VTS3014	1.02 x .51	.42	VTS3028	2.03 x 2.03	3.94
VTS3018	2.03 x .51	.84	VTS3050	2.86 ○	5.48
VTS3020	1.02 x 1.02	.90			

PHOTOTRANSISTORS

Large area, high sensitivity, low leakage passivated NPN epitaxial transistors in hermetically sealed TO-18 cases. VTT10XX designates flat window. VTT11XX designates lens. Lens gives narrow viewing angle for reduction of extraneous light. In Table: V_{CE} (Sat) at I_c-1 mA, I_b-50 μA and dark is .25 V Typ.; peak sens. is at 850 nm. 5 mW/cm² source is calibrated @ 2850° K.





Oper. Temp.....150°C
Storage Temp.....−65° to +200°C

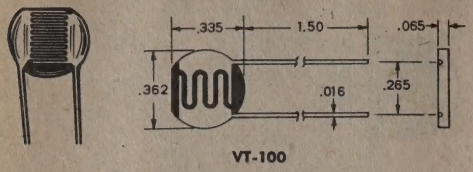
MAXIMUM RATINGS

Power Dissipation (derate 2 mW/°C above 25°C).....250 mW
Collector Current.....200 mA
Emitter Coll. Volt.....5 V

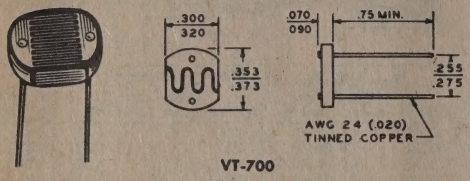
Stock No.	Type	Typ. I_{CEO} (mA) @ 5 mW/cm², V_{CE}-5 V	Breakdown V (BR) CEO @ I_{CEO}-100 μA	Dark Curr. V CE-20 V 25°C	Dark Curr. V CE-20 V 100°C	1-99	100-999
43F909	VTT1012	.5	50	25 nA	25 uA	1.25	.85
43F910	VTT1011	1.0	40	25	25	1.45	1.00
43F911	VTT1010	2.0	30	25	25	1.50	1.05
43F912	VTT1013	4.0	20	100	100	1.65	1.15
43F913	VTT1110	2.0	50	25	25	1.75	1.20
43F914	VTT1111	3.5	40	25	25	1.65	1.15
43F915	VTT1112	6.0	30	25	25	1.50	1.05
43F916	VTT1113	12.0	20	100	100	1.80	1.25

VACTEC, INC. Photoconductive Cells

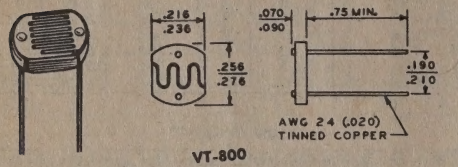
Cells ideal for circuit board mounting. Second digit indicates spectral peak. 0 = CdS 5650A, 1 = CdSe 7350A, 2 = CdS 5150A, 3 = CdS 5500A (for high speed switching), 4 = CdSe 6750A. Example: VT-312 is Type 1 CdSe 7350A. All have a maximum voltage of 300 except (*) 200, (†) 100, (‡) 250 and (§) indicates the maximum dark resistance (in ohms) 5 seconds after 2 fc.



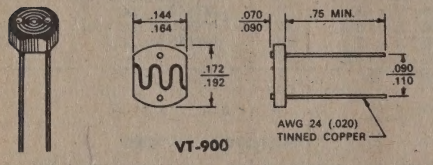
VT-100



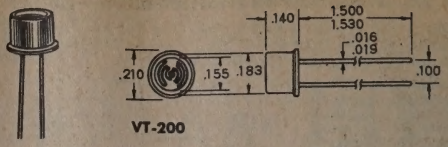
VT-700



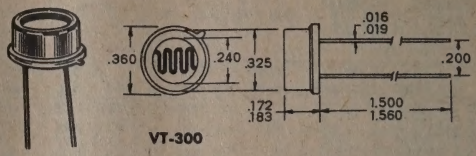
VT-800



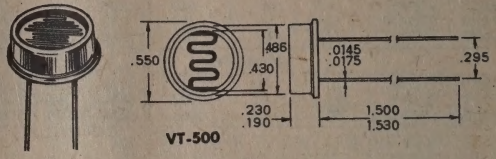
VT-900



VT-200



VT-300



VT-500

VT-100 (Non-hermetic, Max. Pwr. 200 mW, .365″ d. x .065 thk.)

Stock No.	Type	2 fc. Res. in K Ohms	Min. Dark Res. §2 fc	1-99	100-999
61F1016	VT-10L	1.6	100K		
61F1019	VT-102L	9	5 meg		
61F1020	VT-102	16	5 meg		
61F1023	VT-104	136	50 meg		
61F1024	VT-111*	2.3	500K	1.00	.80
61F1027	VT-112	22	50 meg		
61F1029	VT-113	60	100 meg		
61F1040	VT-14L*	.6	100K		
61F1043	VT-142L	4.8	1 meg		
61F1044	VT-142	7	5 meg		

VT-700 (Non-hermetic, Max. Pwr. 250 mW, .365 d. x .080 thk.)

43F850	VT-701*	3.0	5 meg		
43F851	VT-721H	4.8	2 meg	.74	.53
43F852	VT-732	10	10 meg		
43F853	VT-741†	.9	500K		

VT-800 (Non-hermetic, Max. Pwr. 175 mW, .266 d. x .080)

43F854	VT-801*	3	250K		
43F855	VT-804	140	50 meg	.74	.53
43F856	VT-833	33	15 meg		
43F857	VT-841L†	.9	500K		

VT-900 (Non-hermetic, Max. Pwr. 80 mW, .182 d. x .080)

43F858	VT-902†	8	750K		
43F859	VT-904L	88	10 meg		
43F860	VT-912†	15	20 meg		
43F861	VT-914‡	140	100 meg	.74	.53
43F862	VT-931†	22	1 meg		
43F863	VT-932†	100	50 meg		
43F864	VT-941†	2	500K		

VT-200 (50 mW Max. Pwr., TO-18 Herm. sealed, .183 d. x .150 h.)

Stock No.	Type	Clairex Equiv.	2 fc Res. in K ohms	Min. Dark Res. §	1-99	100-999
61F1065	VT-201†	.....	4.3	500K		
61F1066	VT-202†	CL905L	8	750K		
61F1068	VT-204L	CL905N, 907N	88	10 meg		
61F1069	VT-204	CL905, 605, 607	110	20 meg		
61F1070	VT-205	.....	1000	200 meg		
61F1071	VT-211†	.....	2.3	500K		
61F1072	VT-211H†	CL603AL	3.5	1 meg		
61F1073	VT-212L†	CL903L	6	5 meg		
61F1076	VT-213H	CL903AN	32	50 meg		
61F1077	VT-214L	CL903N, 603A	64	100 meg		
61F1078	VT-214	CL903, 603	140	200 meg	1.58	1.20
61F1079	VT-223H	CL902L	65	5 meg		
61F1080	VT-224	CL902N	500	50 meg		
61F1081	VT-225	CL902	1000	200 meg		
61F1082	VT-232†	CL905HL	100	60 meg		
61F1083	VT-233L†	.....	150	50 meg		
61F1085	VT-234†	CL905HN	700	200 meg		
43F849	VT-235	CL905H	1400	200 meg		
61F1087	VT-241†	CL904L, 604L	2	500K		
61F1089	VT-242L†	CL604M	8	1 meg		
61F1090	VT-242†	CL904N	15	10 meg		
61F1091	VT-242H†	CL904, 604	30	10 meg		

NOTE: Series CL600's have all glass packages.

VT-300 (Max. Pwr. 125 mW, TO-5 Herm. sealed, .325 d. x .177 h.)

61F1092	VT-30L*	.....	1.8	100K		
61F1093	VT-301*	CL705L	3	200K		
61F1096	VT-302	.....	16	5 meg		
61F1099	VT-304	CL705, 707HM	144	50 meg		
61F1101	VT-311L*	CL703L	2.1	500K		
61F1103	VT-313L	CL703A	60	100 meg		
61F1104	VT-314	CL703	140	200 meg	1.58	1.20
61F1106	VT-322L	CL702L	15.6	5 meg		
61F1107	VT-325	CL702	1000	200 meg		
61F1108	VT-333L*	.....	14	5 meg		
61F1109	VT-333*	CL705HL	28	10 meg		
61F1110	VT-34L*	CL704L	.6	100K		
61F1114	VT-342	CL704M	7	5 meg		
61F1116	VT-343	CL704	28	10 meg		

DUAL ELEMENT CELLS (Max. Pwr. 50 mW each ½)

43F865	VT-301/2	CL705L/2	7.5	1 meg		
61F1117	VT-302/2	CL702L/2	16	5 meg		
43F866	VT-303L/2	CL702L/2	32	5 meg		
61F1119	VT-312/2	CL703L/2	5	1 meg	2.30	1.80
43F867	VT-313L/2	.....	10	1 meg		
43F868	VT-333/2	.....	60	25 meg		
61F1121	VT-34L/2	CL704L/2	1.5	100K		
43F869	VT-341/2	.....	3	200K		

VT-500 (500 mW Max. Pwr., TO-8 Herm. sealed, .486 d. x .220 h.)

61F1123	VT-50L*	CL505L	1.3	100K		
61F1124	VT-501*	.....	2.6	200K		
61F1125	VT-502L	CL505	8	1 meg		
61F1128	VT-512L	CL503, 5M3	9.2	10 meg	1.58	1.20
61F1131	VT-523L	CL502, 5M2	36	5 meg		
61F1132	VT-54L*	CL5M4L	.25	100K		
61F1134	VT-542L	CL504	1.5	1 meg		

NOTE: CL504 and 502 have ½″ all glass package.

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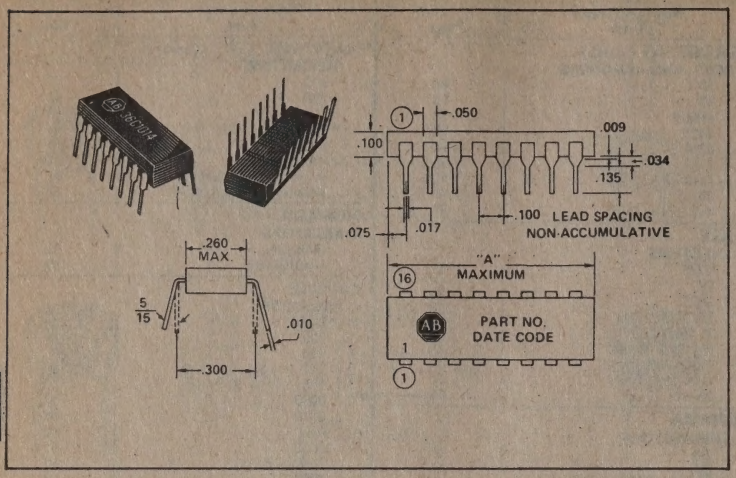
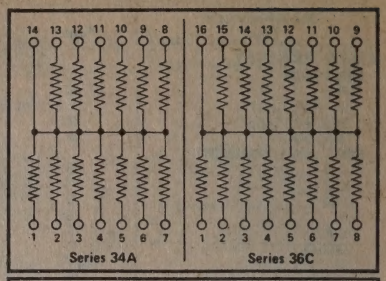
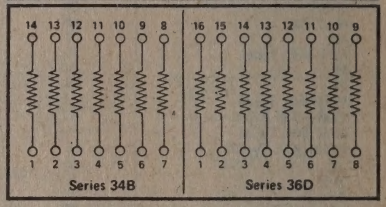
Precision Resistor Networks

SERIES 34 STANDARD CERMET RESISTOR NETWORKS







6

For digital IC logic circuits. Dual-in-line packages compatible with automatic insertion equipment. TC: ±100 ppm° C max. Dissipation at 40°C.: 125 mW/res. max.; 1.50 W/pkg. max. Power derates linearly from full rated power at 40°C to 0 watts at 130°C. Oper. Temp.: −55°C to +125°C.

Series 34A. Series 34A has 13 resistors, all resistors of identical value with one common connection. For use as pull-up resistor arrays for unused TTL gates, parallel high speed circuits, and wired OR configurations; or full pull-down applications and TTL-MOS interfacing. 14-pin package.

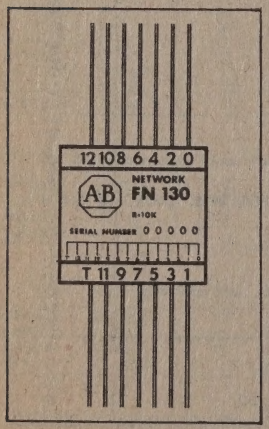
Series 34B. Series 34B has 7 resistors, all resistors of identical value, but with no common connection. For use as single resistor termination of transmission lines. 16-pin package.

PRICES

Type	1-24	25-99	100-249	250-499	500-999
Series 34A	1.40	1.35	1.10	1.00	.95
Series 34B	1.23	1.18	.97	.89	.84

Resistance Ohms ±2%	Logic Level Pull-Up or Pull-Down Res. Series 34A Stk. No.	Series 34A Type	Single Resistor Termination Network Series 34B Stk. No.	Series 34B Type
62	.....	.....	10F2401	34B6204
68	10F2400	34A6804	10F2217	34B6804
100	10F2200	34A1014	10F2218	34B1014
110	.....	.....	10F2219	34B1114
150	10F2201	34A1514	10F2220	34B1514
220	10F2202	34A2214	10F2221	34B2214
330	10F2203	34A3314	10F2222	34B3314
470	10F2204	34A4714	10F2223	34B4714
680	10F2205	34A6814	10F2224	34B6814
1000	10F2206	34A1024	10F2225	34B1024
1500	10F2207	34A1524	10F2226	34B1524
2000	10F2208	34A2024	.....	.....
2200	10F2209	34A2224	10F2227	34B2224
3300	10F2210	34A3324	10F2228	34B3324
4700	10F2211	34A4724	10F2229	34B4724
6000	10F2212	34A6024	10F2402	34B6024
6800	10F2213	34A6824	10F2230	34B6824
10,000	10F2214	34A1034	10F2231	34B1034
15,000	10F2215	34A1534	10F2232	34B1534
22,000	10F2216	34A2234	10F2233	34B2234

TYPE FN PRECISION THIN FILM RESISTOR NETWORKS



Networks consist of integrated films of chromium cobalt vacuum-deposited on specially selected substrates resulting in networks having precision tolerance and stability. Interconnections within network are a part of the deposited film, insuring circuit integrity and reliability. Excellent tracking characteristics are enchanced by depositing all resistors at one time on the selected glass substrate. Multi-layer packaging techniques assure environomental protection. Networks are used in precision attenuators, voltage dividers, filter networks, measurement bridges, digital-to-analog converters, voice coding circuits and many other electronic circuits requiring resistors with close tolerances and low temperature coefficients.

Type FN111—10-bit binary array for use with Fairchild μA722 integrated circuit.

Type FN114 (12-bit), FN123 (10-bit), FN125 (10-bit), FN131 (10-bit), FN132 (13-bit) and BN160 (10-bit)—R/2R Voltage ladders. Operate from −55°C to +125°C. Full scale accuracy, ± ½ LSB.

Type FN112—3-place BCD array for use with Fairchild μA722 integrated circuit.

Types FN129 (12-bit) and FN130 (12-bit)—1-2-4-8-BCD code ladder networks. Operate from −55°C to +125°C. Full scale accuracy, ± ½LSB.

Stock No.	Type	EACH 1-9	10-24	25-49	50-99
10F1315	FN111	36.10	23.80	19.00	17.10
10F1316	FN112	34.60	22.80	18.30	16.40
10F2253	FN114	53.80	35.50	28.40	25.50
10F2254	FN123	35.10	23.10	18.50	16.60
10F2250	FN125	35.10	23.10	18.50	16.60

Stock No.	Type	EACH 1-9	10-24	25-49	50-99
10F2251	FN129	64.70	42.60	34.20	30.60
10F1317	FN130	36.80	24.20	19.40	17.40
10F1318	FN131	30.60	20.20	16.20	14.50
10F1319	FN132	47.20	31.10	24.90	22.30
10F2252	FN160	30.60	20.20	16.20	14.50

Allen-Bradley Resistors

INDUSTRIAL GRADE AND MIL-R-11 STYLE RC

5% TOLERANCE SOLD IN STANDARD PKG. ONLY

Stock No.	Watt	Mil-R-11 Style	Size	Volt	Ohms	Std. Pkg.	25-99	100-249	250-499	500-999	1000-4999	5000-UP
10F300	⅛	RC05	.145" x .062"	150	2.7-9.1†	50	.31	.154	.143	.132	.105	.102
					10-22M	50	.28	.140	.130	.120	.095	.093
10F305	¼	RC07	.250" x .090"	250	2.7-9.1	50	.11	.080	.069	.058	.041	.035
					10-22M	50	.10	.073	.063	.053	.037	.032
10F310	½	RC20	.375" x .140"	350	1.0-2.4†	50	.13	.065	.057	.048	.042	.042
					2.7-22M	50	.12	.059	.052	.044	.038	.037
10F315	1	RC32	.562" x .225"	500	2.7-22M	25	.18	.084	.077	.069	.062	.059
10F320	2	RC42	.688" x .312"	750‡	10-22M	25	.30	.150	.143	.135	.100	.094

10% TOLERANCE SOLD IN STANDARD PKG. ONLY

10F325	⅛	RC05	.145" x .062"	150	2.7-8.2†	50	.22	.108	.097	.086	.075	.073
					10-22M	50	.20	.098	.088	.078	.068	.066
10F330	¼	RC07	.250" x .090"	250	2.7-8.2	50	.07	.055	.044	.033	.022	.020
					10-22M	50	.06	.050	.040	.030	.020	.019
10F335	½	RC20	.375" x .140"	350	1.0-2.2†	50	.07	.044	.036	.028	.021	.020
					2.7-22M	50	.06	.040	.033	.025	.019	.018
10F340	1	RC32	.562" x .225"	500	2.7-22M	25	.09	.053	.046	.038	.031	.029
10F345	2	RC42	.688" x .312"	750‡	10-22M	25	.19	.096	.089	.081	.052	.049

ESTABLISHED RELIABILITY MIL-R 39008 STYLE RCR

5% TOLERANCE SOLD IN STANDARD PKG. ONLY

10F350	⅛	RCR05	.145" x .062"	150	2.7-9.1	50	.31	.154	.143	.132	.106	.102
					10-22M	50	.28	.140	.130	.120	.095	.093
10F355	¼	RCR07	.250" x .090"	250	2.7-9.1	50	.11	.080	.069	.058	.041	.035
					10-22M	50	.10	.073	.063	.033	.037	.032
10F360	½	RCR20	.375" x .140"	350	2.7-22M	50	.12	.059	.052	.044	.038	.037
10F365	1	RCR32	.562" x .225"	500	2.7-22M	25	.18	.084	.077	.069	.062	.059
10F390	2	RCR42	.688" x .312"	750‡	10-22M	25	.30	.15	.143	.135	.100	.094

10% TOLERANCE SOLD IN STANDARD PKG. ONLY

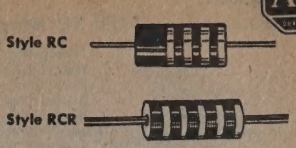
10F370	⅛	RCR05	.145" x .062"	150	2.7-8.2	50	.22	.108	.097	.086	.075	.073
					10-22M	50	.20	.098	.088	.078	.068	.066
10F375	¼	RCR07	.250" x .090"	250	2.7-8.2	50	.07	.055	.044	.033	.022	.020
					10-22M	50	.06	.050	.040	.030	.020	.019
10F380	½	RCR20	.375" x .140"	350	2.7-22M	50	.06	.040	.033	.025	.019	.018
10F385	1	RCR32	.562" x .225"	500	2.7-22M	25	.09	.053	.046	.038	.031	.029
10F395	2	RCR42	.688" x .312"	750‡	10-22M	25	.19	.096	.089	.081	.052	.049

(†) Resistance range for Industrial Grade only. (‡) 500 V for style RC and RCR

STANDARD NOMINAL RESISTANCE VALUES (OHMS)

Figures in large bold type are ±10% values. All values available in ±5% tolerance.

Ohms									Megohms				
1.0	3.6	**12**	43	**150**	510	**1800**	6200	**22000**	75000	0.24	0.62	1.6	4.3	11.0
1.1	**3.9**	13	**47**	160	**560**	2000	**6800**	24000	**82000**	**0.27**	**0.68**	**1.8**	**4.7**	**12.0**
1.2	4.3	**15**	51	**180**	620	**2200**	7500	**27000**	91000	0.30	0.75	2.0	5.1	13.0
1.3	**4.7**	16	**56**	200	**680**	2400	**8200**	30000	**100000**	**0.33**	**0.82**	**2.2**	**5.6**	**15.0**
1.5	5.1	**18**	62	**220**	750	**2700**	9100	**33000**	110000	0.36	0.91	2.4	6.2	16.0
1.6	**5.6**	20	**68**	240	**820**	3000	**10000**	36000	**120000**	**0.38**	**1.0**	**2.7**	**6.8**	**18.0**
1.8	6.2	**22**	75	**270**	910	**3300**	11000	**39000**	130000	0.43	1.1	3.0	7.5	20.0
2.0	**6.8**	24	**82**	300	**1000**	3600	**12000**	43000	**150000**	**0.47**	**1.2**	**3.3**	**8.2**	**22.0**
2.2	7.5	**27**	91	**330**	1100	**3900**	13000	**47000**	160000	0.51	1.3	3.6	9.1	
2.4	**8.2**	30	**100**	360	**1200**	4300	**15000**	51000	**180000**	**0.56**	**1.5**	**3.9**	**10.0**	
2.7	9.1	**33**	110	**390**	1300	**4700**	16000	**56000**	200000					
3.0	**10**	36	**120**	430	**1500**	5100	**18000**	62000	**220000**					
3.3	11	**39**	130	**470**	1600	**5600**	20000	**68000**						



Hot-molded fixed composition resistors are designed for general purpose use in electronic equipment, and are unequalled for uniformity, predictable performance, appearance, and freedom from catastrophic failure when used according to published ratings and recommendations. The tightly compressed resistance material has a large cross-section resulting in low current density and high overload capacity. Uniformity of the material reduces hot spots and noise. Style RCR resistors not only meet the requirements of MIL-R-39008, but also far exceed the "S" level of established reliability 0.001% failure rate per 1000 hours. Resistors are available in "S" level reliability in all five wattage sizes over the entire resistance range. The "S" reliability level is indicated by a yellow 5th color band on the resistor body.

6

REELS

Hot molded fixed composition resistors may be packaged on a reel to facilitate automatic assembly operations. Resistor quantities available only in multiples of 100 pieces above minimum. Charge for reel is same exclusive of number of resistors. Minimum of 36" of free tape is provided at each end of reel for splicing purposes. Holes in flanges permits easy spot checking of resistance values in incoming inspection. Long term storage of reel packaged resistors is not recommended due to normal adhesive aging.

BODY TAPED

Stk. No.	A-B Type	MIL-R-11 Style	MIL-R-39008 Style	MIN/MAX per REEL	Added Charge per Reel
10F2000	BB	RC05	RCR05	500/1,000	None
				1,100/4,000	None
10F2001	CB	RC07	RCR07	1,000/2,500	1.25
10F2002	EB	RC20	RCR20	1,000/2,500	1.25
10F2003	GB	RC32	RCR32	500/2,000	1.60
10F2004	HB	RC42	RCR42	500/1,000	1.50

DOUBLE-LEAD TAPED

10F2005	BB	RC05	RCR05	500/500	None
				600/2,000	None
10F2006	CB	RC07	RCR07	1,000/2,500	2.00
10F2007	EB	RC20	RCR20	1,000/2,500	2.00
10F2008	GB	RC32	RCR32	500/2,000	2.20
10F2009	HB	RC42	RCR42	500/1,000	2.50

HOW TO ORDER

INDUSTRIAL GRADE

EB — 514 — S

(A) (C) (D)

MIL-R-11 STYLE RC

RC20 — GF — 514 — J

(A) (B) (C) (D)

MIL-R-3900R STYLE RCR

RCR05 — G — 514 — J — S

(A) (B) (C) (D) (E)

(A) A-B Type No. or MIL-Style No.

A-B Type	MIL-R-11 Style	MIL-R-39008 Style	Rating, Watts
BB	RC05	RCR05	⅛
CB	RC07	RCR07	¼
EB	RC20	RCR20	½
GB	RC32	RCR32	1
HB	RC42	RCR42	2

(B) For MIL types only; maximum ambient temperature and resistance-temperature characteristic per MIL-R-11 or MIL-R-39008. See Allen-Bradley **Publication EC21** for actual performance limits.

(C) Three-digit number represents resistance. First two digits are significant figures, third is number of zeros that follow. **For values less than 10 ohms:** Industrial Grade; substitute **G** for third digit, making desired resistance value the first two digits multiplied by 0.1—e.g., **27G**=2.7 ohms; for MIL-R-11 and MIL-R-39008 substitute **R** for decimal point—e.g., **2R7**=2.7 ohms.

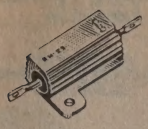
(D) Tolerance: Code for ±5% is **5** for Industrial Grade, **J** for MIL types; ±10% is **1** for **Industrial Grade, K** for MIL types.

(E) MIL-R-39008 resistors only; expresses Failure Rate Level at 50% rated wattage in % per 1,000 hours: M=1.0%, P=0.1%, R=0.01%, S=0.001%. Available only in "S" level.

DALE

Precision Resistors

TYPE RH MIL-R-18546



Designed to meet MIL-R-18546 specifications. Provides a flat surface and recommended for chassis mounting to assure proper heat dissipation. Molded construction and gold anodized finned-aluminum radiator housing. 100% impervious to moisture and salt spray. Heavy duty leads.

RH-5 ±1% - 7.5 WATT MIL. NO. RE60
RH-10 ±1%—12.5 WATT MIL. NO. RE65

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249	250-499	500-999
RH-5 13F1878	1.0-1K	2.00	1.60	1.50	1.40	1.30	1.22
	1.1 K-5K	2.10	1.68	1.58	1.47	1.36	1.32
	5.1K-10K	2.29	1.83	1.72	1.60	1.49	1.41
RH-10 13F139	10.1K-12K	2.51	2.00	1.88	1.75	1.62	1.55
	12.1K-15K	2.73	2.18	2.05	1.92	1.77	1.68
	15.1K-25K	2.93	2.68	2.44	2.18	1.92	1.84
	25.1K-40K	3.25	2.97	2.70	2.43	2.16	2.02
	40.1K-50K	3.57	3.26	2.96	2.71	2.36	2.22

RH-25±1%—25 WATT MIL. NO. RE70

13F140	1.0-1K	2.00	1.60	1.50	1.40	1.30	1.22
	1.1K-5K	2.10	1.68	1.58	1.47	1.36	1.32
	5.1K-10K	2.29	1.83	1.72	1.60	1.49	1.44
	10.1K-12K	2.51	2.00	1.88	1.75	1.62	1.55
	12.1K-15K	2.73	2.18	2.05	1.92	1.77	1.68
	15.1K-25K	2.93	2.68	2.44	2.18	1.92	1.84
	25.1K-40K	3.25	2.97	2.70	2.43	2.16	2.02
	40.1K-50K	3.57	3.26	2.96	2.71	2.36	2.22
	50.1K-60K	3.90	2.55	3.21	2.84	2.53	2.45
	60.1K-75K	4.24	3.86	3.47	3.09	2.78	2.70
	75.1K-95.2K	4.67	4.24	3.82	3.44	3.06	2.97

RH-50 ±1%—50 WATT MIL. NO. RE75

13F141	1.0-5.9	2.73	2.48	2.20	2.02	1.89	1.80
	6.0-1K	2.45	1.96	1.84	1.72	1.60	1.52
	1.1K-5K	2.56	2.06	1.94	1.80	1.67	1.58
	5.1K-10K	2.78	2.22	2.08	1.95	1.80	1.71
	10.1K-20K	3.08	2.46	2.31	2.16	1.99	1.88
	20.1K-55K	3.36	2.68	2.51	2.35	2.18	2.07
	55.1K-75K	3.65	2.92	2.73	2.55	2.36	2.29
	75.1K-100K	3.92	3.12	2.95	2.74	2.55	2.46
	100.1K-125K	4.26	3.40	3.19	2.98	2.75	2.70
	125.1K-150K	4.58	3.67	3.44	3.20	2.98	2.88
	150.1K-175K	4.91	3.92	3.68	3.44	3.19	3.09
	175.1K-225K	5.21	4.11	3.94	3.62	3.41	3.32
	225.1K-267K	5.62	4.41	4.25	3.86	3.67	3.57

TYPE RS—MIL 1% R-26 (MIL-R-23379)

Type RS. These should be specified when space is at a premium and when precision and power are needed. They are of the conventional type with pigtail mounting leads. They are completely protected and silicone sealed. Surpasses Mil-R-26.

RS-1B ±1%—1 WATT

Stock No.	Resistance in Ohms	1-24	25-49	50-99	100-249	250-499	500-999
13F137	1-1K	1.08	.85	.80	.75	.69	.65
	1.1K-4K	1.19	.95	.89	.83	.76	.72
	4.1K-15K	1.36	1.06	1.01	.93	.86	.81

RS-2B ±1%— 3 WATT

13F142	1-1K	.83	.65	.62	.57	.53	.50
	1.1K-5K	.91	.73	.68	.63	.58	.55
	5.1K-10K	.95	.75	.70	.65	.62	.58
	10.1K-15K	.99	.78	.74	.69	.64	.60
	15.1K-20K	1.03	.83	.77	.73	.66	.63
	20.1K-24.5K	1.10	.87	.83	.76	.72	.67

RS-5 ±1%—5 WATT—MIL. NO. RW-67 & RWP-21

13F143	1-1K	.83	.65	.62	.57	.53	.50
	1.1K-5K	.91	.73	.68	.63	.58	.55
	5.1K-10K	.95	.75	.70	.65	.62	.58
	10.1K-15K	.99	.78	.74	.69	.64	.60
	15.1K-20K	1.03	.83	.77	.73	.66	.63
	20.1K-40K	1.10	.87	.83	.76	.72	.67
	40.1K-55K	1.18	.95	.88	.83	.76	.72
	55.1K-75K	1.30	1.03	.97	.91	.84	.82
	75.1K-95.2K	1.43	1.14	1.08	1.00	.93	.90

RS-10 ±1%—10 WATT—MIL. NO. RW-68 & RWP-23

13F136	1-1K	.83	.65	.62	.57	.53	.50
	1.1K-5K	.91	.73	.68	.63	.58	.55
	5.1K-10K	.95	.75	.70	.65	.62	.58
	10.1K-15K	.99	.78	.74	.69	.64	.60
	15.1K-20K	1.03	.83	.77	.73	.66	.63
	20.1K 40K	1.10	.87	.83	.76	.72	.67
	40.1K-55K	1.18	.95	.88	.83	.76	.72
	55.1K-75K	1.30	1.03	.97	.91	.84	.82
	75.1K-100K	1.43	1.14	1.08	1.00	.93	.90
	100.1K-125K	1.57	1.29	1.18	1.10	1.02	.99
	125.1K-150K	1.71	1.36	1.28	1.20	1.11	1.08
	150.1K-175K	1.87	1.49	1.40	1.31	1.22	1.18
	175.1K-225K	2.04	1.64	1.53	1.44	1.34	1.30
	225.1K-273K	2.24	1.80	1.69	1.59	1.49	1.42

STANDARD RESISTANCE VALUES—RH & RS ONLY

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1	6	13	27.5	47	90	200	390	620	950	1.75K	4K	6.3K	12K	25K	50K	100K	182K
1.5	7	14	30	50	100	220	400	650	1K	1.8K	4.2K	6.8K	12.5K	27.5K	55K	110K	191K
2	7.5	15	31	55	110	225	425	700	1.1K	2K	4.3K	7K	13K	30K	60K	120K	200K
2.5	8	16	33	60	125	250	450	725	1.2K	2.2K	4.5K	7.5K	14K	35K	65K	130K	221K
3	9	17.5	35	65	130	270	470	750	1.25K	2.5K	4.7K	8K	15K	40K	68K	140K	232K
4	10	20	37	70	150	300	500	760	1.3K	3K	5K	8.2K	15.5K	42K	70K	150K	243K
4.5	11	21	40	75	160	330	510	800	1.4K	3.1K	5.3K	9K	17.5K	45K	75K	160K	267K
5	12	22.5	42	80	175	350	560	850	1.5K	3.5K	6K	10K	20K	46K	80K	170K	
5.5	12.5	25	45	85	180	375	600	900	1.6K	3.75K	6.2K	11K	22.5K	47K	90K	175K	

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Resistors

DALE

CONFORMAL COATED METAL FILM RESISTORS

Stock No.	Dale Type	Mil Type	Watt	TC Code	1-24	25-99	100-249	250-499	500-999	1M-9M
58F001	CMF-55	RN-55D	1/10	T-1 0 ± 100 ppm/°C 30.1Ω-301K	.95	.44	.22	.16	.14	.11
58F002	CMF-60	RN-60D	⅛	T-1 0 ± 100 ppm/°C 24.9Ω- 1 Meg.	.95	.44	.22	.16	.14	.11
58F003	CMF-65	RM-65D	¼	T-1 0 ± 100 ppm/°C 24.9Ω-2 Meg.	.95	.44	.22	.16	.14	.11
58F005	CMF-55	RN-55C	1/10	T-2 0 ± 50 ppm/°C 30.1Ω-301K	1.31	.60	.29	.18	.17	.14
58F006	CMF-60	RN-60C	⅛	T-2 0 ± 50 ppm/°C 30.1Ω-499K	1.31	.60	.29	.18	.17	.14
58F007	CMF-65	RN-65C	¼	T-2 0 ± 50 ppm/°C 30.1Ω-1 Meg.	1.31	.60	.29	.18	.17	.14

Meet a variety of industrial and military applications. Vacuum deposited metal film resistors have inherently good RF characteristics and low noise level. Epoxy-coated construction protects against severe environmental factors. 1% tolerance. Meets MIL-R-10509.

EXPLANATION OF MIL-NUMBERS

(A)	(B)	(C)	(D)	(E)
RN60	D	249	4	F

(A) Identifies size and wattage.

(B) Identifies characteristic.

(C) Identifies ohms. First 3 digits are significant.

(D) An additional figure indicates number of zeroes that follow. If an R follows, it represents decimal point for values under 100 ohms or fractional values. Digits following R become significant, as 24.9=24R9.

(E) Identifies resistance tolerance. In this case, +1%.

CHARACTERISTICS

Code	Max. Ambient at Rated Watts	Max. Change Due to Moisture Resistance
B, D	70° C	±3% wet, ±1.5% dry
C	125° C	±0.5%, wet or dry
X	40° C	±4% wet

MIL-R-10509 REFERENCE CHART

MIL Specified Characteristic	C	D
Maximum resistance-temperature characteristic	±0.005% or ±50 PPM/°C	+0.02% −0.05% or +200 PPM/°C −500 PPM/°C
Temp. limits for linear wattage derating from 100% loading	175° C	165° C

6

CARBON-FILM PRECISION RESISTORS

TABLE A. DECADE TABLE DETERMINING MIL-BELL STANDARD RESISTANCE VALUES

Standard Resistance Values are obtained from the Decade Table by multiplying by multiples of 10.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1.00	1.33	1.78	2.37	3.16	4.22	5.62	7.50
1.02	1.37	1.82	2.43	3.24	4.32	5.76	7.68
1.05	1.40	1.87	2.49	3.32	4.42	5.90	7.87
1.07	1.43	1.91	2.55	3.40	4.53	6.04	8.06
1.10	1.47	1.96	2.61	3.48	4.64	6.19	8.25
1.13	1.50	2.00	2.67	3.57	4.75	6.34	8.45
1.15	1.54	2.05	2.74	3.65	4.87	6.49	8.66
1.18	1.58	2.10	2.80	3.74	4.99	6.65	8.87
1.21	1.62	2.15	2.87	3.83	5.11	6.81	9.09
1.24	1.65	2.21	2.94	3.92	5.23	6.98	9.31
1.27	1.69	2.26	3.01	4.02	5.36	7.15	9.53
1.30	1.74	2.32	3.09	4.12	5.49	7.32	9.76

Type DC and DCS. Low cost miniature resistors designed for excellent protection from moisture, salt spray and other environmental conditions. Ideal for applications requiring high stability and accuracy combined with long reliable load life. Pure crystalline carbon film (no binder or filler). Excellent high frequency characteristics. Tolerance 1%. Full power to 70°C, derating at 0 at 165° C. Sizes: **DC-¼**—Dia. .109 x Lt. 468 **DCS½** Dia. .171 x Lt. .562.

Stock No.	Range Resistor	Type	Watt	1-24	25-99	100-499	500-999	1M-9M
13F148	10 ohm—2 meg.	DC-¼	¼	1.07	.41	.16	.13	.12
	2.01 meg.-5 meg.	(RN-10X)		1.60	.69	.46	.28	.24
13F152	10-2.49 meg	DCS-½	½	1.07	.41	.16	.13	.12
	2.5-5 meg.	(RN-20X)		1.60	.69	.46	.25	.20

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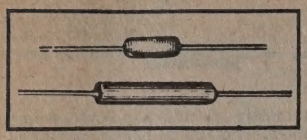
Resistors



SPRAGUE AXIAL-LEAD "BLUE JACKET" POWER WIRE WOUND RESISTORS

Designed for industrial applications demanding utmost stability under extreme operating conditions. Well suited for printed circuits, terminal boards, and point-to-point wiring applications. Unique all-welded end-cap construction. Power rating is based on a max. temperature rise of 300°C above a 40° ambient at full rated wattage. Will meet performance characteristics of MIL-R-26C. Available only in values shown.

TYPE 242E—3 WATT ±5% TOLERANCE

Size: 13/64" dia. x 17/32" L.

Stk. No.	Range (ohms)	1-24	25-99	100-249	250-499
13F121	1 thru 1000 except 35,350, 450,750	.48	.35	.31	.25
13F122	1200 thru 5000 except 3.5K, 4.5K	.52	.37	.32	.26
13F123	5600 thru 10K except 7K	.54	.41	.37	.28

TYPE 243E—5 WATT ±5% TOLERANCE

Size: 13/64" dia. x 15/16" L.

13F124	1 thru 1000 except 18, 22, 27, 33, 39, 47, 56, 68, 82, 180, 270, 330, 390, 470, 560, 680, 820	.51	.41	.33	.29
13F126	1100 thru 5000 except 2700, 3300 3900, 4700	.53	.44	.34	.30
13F127	6000 thru 10K except 6800, 8200	.57	.46	.36	.32
13F128	12K thru 20K except 16K, 17K,	.63	.53	.40	.35
13F129	22K thru 30K	.70	.57	.45	.41

TYPE 247E—10 WATT ±5% TOLERANCE

Size: 5/16" dia. x 1¾"L.

Stk. No.	Range (ohms)	1-24	25-99	100-299	250-499
13F132	1 thru 1000 except 18, 22, 27, 33, 39, 47, 56, 68, 82, 180, 270, 330, 390, 450, 470, 560, 680, 820	.51	.41	.33	.29
13F133	1100 thru 5000 except 2700, 4700	.53	.44	.34	.30
13F134	6000 thru 10K except 6800, 8200	.57	.46	.36	.32
13F330	11K thru 20K except 17K	.63	.53	.40	.35
13F331	22K thru 30K	.70	.57	.45	.41
13F332	35K thru 40K	.74	.61	.48	.44
13F333	45K thru 50K	.78	.65	.53	.47

TABLE A—"BLUE JACKET" VALUES—OHMS

1	12	33	75	250	470	820	2000	4000	7500	15K	35K
1.5	15	35	82	270	500	900	2200	4500	8000	16K	40K
2	18	39	100	300	560	1000	2500	4700	8200	17K	45K
3	20	40	120	330	600	1100	2700	5000	9000	18K	50K
4	22	47	150	350	680	1200	3000	5600	10K	20K	
5	25	50	180	390	700	1400	3300	6000	11K	22K	
7.5	27	56	200	400	750	1500	3500	6800	12K	25K	
10	30	68	220	450	800	1800	3900	7000	14K	30K	

SPRAGUE KOOLOHM® AXIAL-LEAD WIREWOUND RESISTORS

Unexcelled insulation and mechanical protection. Nonporous tubular ceramic shells are sealed with high temperature silicone cement. Can be mounted in direct contact with chassis. Ceramic-insulated wire is space wound and cemented, to prevent turn-to-turn shorting. Permits higher resistance values in a given size than in conventional resistors. Windings and leads welded to end-cap for superior mechanical strength. Tolerance, ±5%. Av. snpg. wt. per 25, 8 oz.

TYPE 450E-3 WATTS (½" x 9/16")

Stk. No.	Range (ohms)	1-24	25-49	50-99	100-249
13F334	1 to 1000	.35	.25	.23	.21
13F335	1500 to 5000	.43	.30	.28	.26
13F336	6000 and 10K	.47	.33	.30	.28

TYPE 452E-5 WATTS (¼" x 1")

13F337	1 to 1000	.37	.26	.24	.22
13F338	1500 to 5000	.41	.29	.27	.25
13F339	6000 and 10K	.44	.31	.29	.27

TYPE 456 E-10 WATTS (15/32" x 1 29/32")

Stk. No.	Range (ohms)	1-24	25-99	100-299	250-499
13F340	1 to 1000	.44	.31	.29	.26
13F341	1500 to 5000	.47	.33	.31	.28
13F342	6000 and 10K	.53	.37	.35	.32

TABLE B-KOOLOHM VALUES-OHMS

1	10	25	100	250	600	2000	6000
2	12	40	150	300	900	2500	10K
3	15	50	200	400	1000	3000	....
5	20	75	220	500	1500	5000	....

TEXAS INSTRUMENTS SENSISTOR SILICON RESISTORS

Solid state temp. sensing resistors. Temp. compensating. Positive temp. coefficient thermistors. TM¼, TM-⅛ feature large positive temp. coefficient of resistance (approx. 0.7°/C). TM-¼ & TM-⅛. Molded case. Tolerance of ±10%. Axial leads, full lead at 100°C. Derated linearly to 150°C. Size: ¼" dia. x ½" length. TG⅛. Round welded case. Glass-to-metal hermetic seal between case and leads. ±10% tolerance. Full load at 125°C. Derated Linearly to 200°C. Size: ⅜" dia. x ¼" Ht. TG-⅛. Hermetically sealed. Meet all electrical requirements on MIL-T-23648A for pos.—TC thermistors ±10% tolerance. Ambient and Storage Temp. Range: —65°C to 150°C. Power dis. (at 25°C) —250 mW; at 100°C—125mW. Wt. 1 oz.

Stock No	Type	Watts	Resistance Range	1-49	50-249	250-499	500-999
12F055	TM-¼	¼	10 ohms to 10 K	4.00	3.50	3.00	2.50
12F052	TM-⅛	⅛	10 ohms to 10 K	4.00	3.50	3.00	2.50
12F075	TG-⅛	⅛	10 ohms to 8.2 K	2.00	1.65	1.35	1.15

RESISTANCE TABLE FOR SENSISTORS

10	27	68	180	470	1000	2700	5600
12	33	82	220	500	1200	3300	6800
15	39	100	270	560	1500	3900	8200
18	47	120	330	680	1800	4700	10000
22	56	150	390	820	2200	5000	.....

TYPE 200 "BROWN DEVIL" RESISTORS

High quality, compact wire-wound resistors for voltage-dropping, bias units, bleeders, etc. Extra-sturdy all-ceramic vitreous enameled. Protected against shock, vibration, heat and humidity. Have standard resistance tolerance of ±5%. 8-watt units have 1x5/16" cores: 12 watt units, 1¾x5/16" cores: 20-watt units, 2x7/16" cores. All have 1½" leads. Average shipping weight, 3 ounces.

13F150 8 WATT "BROWN DEVIL" RESISTORS STYLE 200-8

Type	Ohms	1-9	10-49	50 99	100-249	250-499	500-Up
1500	1	.71	.60	.50	.39	.32	.30
1500B	1.5						
1501	2						
1502	3						
1503	4						
1504	5						
1505	7.5						
1506	10						
1507	12						
1508	15						
1509	20						
1510	25						
1511	30						
1512	35						
1513	40						
1514	50						
1515	75						
1516	100						
1517	125						
1518	150						
1519	200	.71	.60	.50	.39	.32	.30
1520	225						
1521	250						
1522	300						
1523	350						
1524	400						
1525	450						
1526	500						
1527	600						
1528	700						
1529	750						
1530	800						
1531	900						
1532	1,000						
1533	1,100	.76	.65	.53	.42	.34	.32
1534	1,200						
1535	1,250						
1536	1,500						
1537	1,750						
1538	2,000						
1539	2,250	.76	.65	.53	.42	.34	.32
1540	2,500						
1541	3,000						
1542	3,500						
1543	4,000						
1544	4,500						
1545	5,000						
1546	6,000	.87	.74	.61	.48	.39	.37
1547	7,000						
1548	7,500						
1549	8,000						
1550	9,000						
1551	10,000						
1552	12,500	1.05	.89	.74	.58	.47	.44
1553	15,000						
1554	17,500						
1555	20,000						
1556	22,500	1.10	.94	.77	.61	.50	.46
1557	25,000						

13F155 12 WATT "BROWN DEVIL" RESISTORS STYLE 200-12

Type	Ohms	1-9	10-49	50 99	100-249	250-499	500-Up
1701	1	.74	.63	.52	.41	.33	.32
1704	1.5						
1705	2						
1706	3						
1707	4						
1708	5						
1709	7.5						
1710	10						
1711	12						
1712	15						
1713	20						
1714	25						
1715	30						
1716	35						
1717	40						
1718	50						
1719	75						
1720	100						
1721	125						
1722	150						
1723	200						
1724	225						
1725	250						
1726	300	.74	.63	.52	.41	.33	.32
1727	350						
1728	400						
1729	450						
1730	500						
1731	600						
1732	700						
1733	750						
1734	800						
1735	900						
1736	1,000						
1737	1,100	.79	.67	.55	.43	.36	.33
1738	1,200						
1739	1,250						
1740	1,500						
1741	1,750						
1742	2,000						
1743	2,250						
1744	2,500						
1745	3,000						
1746	3,500						
1747	4,000						
1748	4,500						
1749	5,000	.79	.67	.55	.43	.36	.33
1750	6,000						
1751	7,000						
1752	7,500						
1753	8,000	.89	.76	.62	.49	.40	.37
1754	8,500						
1754A	9,000						
1755	10,000						
1756	11,000	1.05	.89	.74	.58	.47	.44
1757	12,000						
1758	12,500						
1759	13,500						
1761	15,000						
1762	16,000						
1763	17,500						
1764	18,000						
1765	20,000						
1766	22,500	1.10	.94	.77	.61	.50	.46
1767	25,000						
1768	30,000						
1769	35,000						
1770	40,000						
1771	45,000	1.20	1.02	.84	.66	.54	.50
1772	50,000						

13F160 20 WATT "BROWN DEVIL" RESISTORS STYLE 200-20

Type	Ohms	1-9	10-49	50 99	100-249	250-499	500-Up
1802A	1	.87	.74	.61	.48	.39	.37
1802B	2						
1802C	3						
1802D	4						
1803	5						
1804	10						
1805	25						
1806	50						
1807	75						
1808	100						
1809	150						
1810	200						
1811	250						
1812	300						
1813	350						
1814	400						
1815	500						
1816	650						
1817	700						
1818	750						
1819	800	.87	.74	.61	.48	.39	.37
1820A	900						
1821	1,000						
1822	1,200	.89	.76	.62	.49	.40	.37
1823	1,250						
1824	1,500						
1825	1,750						
1827	2,000						
1828	2,250						
1830	2,500						
1831	2,750						
1832	3,000						
1833	3,500						
1834	4,000						
1835	4,500						
1836	5,000						
1837	6,000	1.10	.94	.77	.61	.50	.46
1838	7,000						
1839	7,500						
1840	8,000						
1840A	9,000	1.10	.94	.77	.61	.50	.46
1841	10,000						
1842	12,500	1.15	.98	.81	.63	.52	.48
1843	15,000						
1844	20,000						
1845	25,000	1.25	1.06	.88	.69	.56	.54
1846	30,000						
1847	35,000						
1848	40,000						
1849	45,000	1.45	1.23	1.02	.80	.65	.61
1850	50,000						
1851	55,000						
1852	60,000						
1853	65,000	1.70	1.45	1.19	.94	.77	.71
1854	70,000						
1855	75,000						
1856	80,000						
1857	85,000	2.00	1.70	1.40	1.10	.90	.84
1858	90,000						
1859	95,000						
1860	100,000						

ATTENTION INDUSTRIAL BUYERS

NEWARK carries complete lines of top quality electronic components.

NEWARK can supply all your needs.

OHMITE

Fixed Resistors

Lug type, wire-wound with vitreous enamel. Wire of the finest alloy and largest possible size is used for each resistance. The original uniform close spacing of the turns is maintained by the anchoring effect of the vitreous enamel. The wire is securely welded to the terminal lugs. Tolerance: 5%. Shpg. wt: 10-50 watts, 4.0 oz.; 100-225 watts, 1 lb.

STYLE 270-12—12
12 WATT—SIZE 1 3/4" x 5/16"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249	250-499	500-999
13F1200	3723	.51	4.86	1.05	.89	.74	.58	.47	.44
13F1201	3730	1.0	3.46						
13F1202	3734	1.5	2.83						
13F1204	3742	3.3	1.91						
13F1205	3746	4.7	1.60						
13F1206	3750	6.8	1.33						
13F1207	3754	10	1.10						
13F1208	3756	12	1.00						
13F1209	3758	15	.89						
13F1211	3762	22	.74						
13F1212	3764	27	.67						
13F1214	3768	39	.55						
13F1215	3770	47	.53						
13F1216	3772	56	.46	.74	.63	.52	.41	.33	.31
13F1217	3774	68	.42						
13F1218	3776	82	.38						
13F1219	3778	100	.35						
13F1221	3782	150	.28						
13F1222	3784	180	.26						
13F1224	3788	270	.21						
13F1225	3790	330	.19						
13F1226	3792	390	.18						
13F1227	3794	470	.16						
13F1228	3796	560	.15						
13F1229	3798	680	.13						
13F1230	3800	820	.12						
13F1231	3802	1,000	.11						
13F1232	3804	1,200	.10						
13F1233	3806	1,500	.089						
13F1235	3810	2,200	.074						
13F1236	3812	2,700	.067						
13F1237	3814	3,300	.060	.79	.67	.55	.43	.36	.33
13F1238	3816	3,900	.055						
13F1239	3818	4,700	.053						
13F1240	3820	5,600	.046						
13F1241	3822	6,800	.042						
13F1242	3824	8,200	.038	.89	.76	.62	.49	.40	.37
13F1243	3826	10,000	0.35						
13F1244	3828	12,000	.032	1.05	.89	.74	.58	.47	.44
13F1245	3830	15,000	.028	1.05	.89	.74	.58	.47	.44
13F1247	3834	22,000	.023	1.10	.94	.77	.61	.50	.46
13F1252	3843	51,000	.015	1.20	1.02	.84	.66	.54	.50

STYLE 270-25—25
25 WATT—SIZE 2"x9/16"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249	250-499	500-999
13F720	0200J	1	5.00						
13F721	0200K	2	3.54						
13F722	0200L	3	2.88						
13F723	0200A	5	2.24						
13F724	0200B	10	1.58						
13F725	0200R	15	1.29						
13F726	0200C	25	1.00						
13F727	0200D	50	.71	.92	.78	.64	.51	.41	.39
13F728	0200E	75	.58						
13F729	0200F	100	.50						
13F730	0200G	150	.41						
13F731	0200H	200	.35						
13F732	0201	250	.32						
13F733	0202	500	.22						
13F734	0203	750	.18						
13F735	0204	800	.17						
13F736	0205	1,000	.16						
13F737	0206	1,500	.13						
13F738	0207	2,000	.12						
13F739	0208	2,500	.10						
13F740	0209	3,000	.091	.95	.81	.67	.52	.43	.40
13F741	0210	3,500	.084						
13F742	0211	4,000	.079						
13F743	0212	5,000	.070						
13F744	0213	6,000	.064						
13F745	0214	7,500	.057	1.15	.98	.81	.63	.52	.48
13F746	0215	10,000	.050						
13F747	0216	12,000	.042						
13F748	0217	15,000	.036	1.20	1.02	.84	.66	.54	.50
13F749	0218	20,000	.031						
13F750	0219	25,000	.028						
13F754	0220	30,000	.026	1.30	1.11	.91	.72	.59	.55
13F751	0222	40,000	.022						
13F752	0224	50,000	.020	1.55	1.32	1.09	.85	.70	.65
13F756	0226	70,000	.014	1.80	1.53	1.26	.99	.81	.76
13F753	0229	100,000	.010	2.05	1.74	1.44	1.13	.92	.86

STYLE 270-50—50
50 WATT—SIZE 4"x9/16"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F760	0400A	5	3.16				
13F761	0400B	10	2.23				
13F762	0400C	25	1.41				
13F763	0400D	50	1.00				
13F764	0400E	75	.82				
13F765	0400F	100	.71				
13F766	0400G	150	.58	1.45	1.23	1.02	.80
13F767	0400H	200	.50				
13F768	0401	250	.45				
13F769	0402	500	.32				
13F789	0404	800	.25				
13F771	0405	1,000	.22				
13F772	0406	1,500	.18				
13F773	0407	2,000	.16				
13F774	0408	2,500	.14				
13F775	0409	3,000	.13				
13F776	0410	4,000	.11				
13F777	0411	5,000	.10				
13F779	0413	8,000	.079	1.55	1.32	1.09	.85
13F780	0414	10,000	.071	1.55	1.32	1.09	.85
13F782	0416	15,000	.057	1.70	1.45	1.19	.94
13F783	0417	20,000	.050	1.70	1.45	1.19	.94
13F784	0418	25,000	.045	1.95	1.66	1.37	1.07
13F785	0419	35,000	.032	1.95	1.66	1.37	1.07
13F786	0420	50,000	.026	2.20	1.87	1.54	1.21
13F787	0421	75,000	.021	2.50	2.13	1.75	1.38
13F788	0422	100,000	.018	2.70	2.30	1.89	1.49

STYLE 270-100—100
100 WATT—SIZE 6½"x¾"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F800	0600A	5	4.47				
13F801	0600B	10	3.16				
13F802	0601	25	2.00				
13F803	0602	50	1.41				
13F804	0603	75	1.15				
13F805	0604	100	1.00	2.00	1.70	1.40	1.10
13F806	0605	150	.82				
13F807	0606	250	.63				
13F808	0607	500	.45				
13F810	0609	1,000	.32				
13F812	0611	2,000	.22				
13F813	0612	2,500	.20				
13F814	0613	3,000	.18	2.05	1.74	1.44	1.13
13F815	0614	5,000	.14				
13F817	0616	10,000	.10	2.20	1.87	1.54	1.21
13F819	0618	20,000	.071	2.35	2.00	1.65	1.29
13F820	0619	25,000	.063	2.70	2.30	1.89	1.49
13F823	0622	50,000	.045	2.80	2.38	1.96	1.54
13F825	0624	75,000	.032	3.05	2.59	2.14	1.68
13F826	0625	100,000	.028	3.45	2.93	2.42	1.90

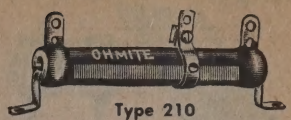
STYLE 270-225—225
225 WATT—SIZE 10½"x1⅛"

Stock No.	Type	Resis. Ohms.	Max. Amps.	1-9	10-49	50-99	100-249
13F830	0900A	5	6.72	4.70	4.00	3.29	2.59
13F831	0900B	10	4.74				
13F832	0901	25	3.00				
13F833	0902	50	2.12				
13F834	0903	75	1.73				
13F835	0904	100	1.50	3.30	2.81	2.31	1.82
13F836	0905	150	1.25				
13F837	0906	250	.95				
13F838	0907	500	.67				
13F839	0908	750	.55				
13F840	0909	1,000	.47				
13F841	0910	1,500	.39				
13F842	0911	2,000	.34				
13F843	0912	2,500	.30	3.35	2.85	2.35	1.84
13F844	0913	3,000	.27				
13F845	0914	5,000	.21				
13F847	0916	10,000	.15	3.75	3.19	2.63	2.06
13F848	0917	15,000	.13	3.80	3.23	2.66	2.09
13F849	0918	20,000	.11	3.80	3.23	2.66	2.09
13F850	0919	25,000	.095	4.05	3.44	2.84	2.23
13F851	0920	30,000	.087	4.05	3.44	2.84	2.23
13F852	0921	40,000	.075	4.05	3.44	2.84	2.23
13F853	0922	50,000	.067	4.20	3.57	2.94	2.31
13F854	0923	60,000	.061	4.20	3.57	2.94	2.31
13F855	0924	75,000	.055	4.55	3.87	3.19	2.50
13F856	0925	100,000	.047	4.70	4.00	3.29	2.59

Adjustable Dividohm®

OHMITE

"Dividohm" Vitreous Enameled Resistors make ideal voltage dividers for original equipment and replacement in transmitters, rectifiers and other apparatus. Handy for obtaining odd resistance values, for adjusting circuits and for use on equipment which must be set to meet various line voltages. Resistance is changed by moving the adjustable lug. Contact can be made to any wire along the length of the resistor making voltages lower than rated voltage available. Stated wattage rating applies only when the entire resistance is in the circuit. Tolerance: 10%. Avg. Shipping wt. 12-50 Watts, 4.0 oz.; 100-225 Watts, 1 lb.



Type 210

STYLE 210-12— SIZE 12 WATT—1¾"x⅜"

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-49	50-99	100-249	250-499	500-999
13F500	1001	1	3.46						
13F501	1002	2	2.45						
13F502	1003	3	2.00						
13F503	1004	5	1.54						
13F504	1005	7.5	1.26						
13F505	1006	10	1.09						
13F506	1007	15	.89						
13F507	1008	20	.77	1.50	1.28	1.05	.83	.68	.63
13F508	1009	25	.69						
13F509	1010	50	.49						
13F510	1011	75	.40						
13F511	1012	100	.34						
13F512	1013	150	.28						
13F513	1014	200	.24						
13F514	1015	250	.22						
13F515	1016	300	.20						

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249	250-499	500-999
13F517	1018	400	.17						
13F518	1019	500	.15						
13F520	1021	750	.13	1.50	1.28	1.05	.83	.68	.63
13F522	1023	1,000	.11						
13F523	1024	1,250	.098						
13F524	1025	1,500	.089						
13F525	1026	2,000	.077						
13F527	1028	2,500	.069						
13F528	1029	3,000	.063	1.55	1.32	1.09	.85	.70	.65
13F530	1031	4,000	.055						
13F532	1033	5,000	.049						
13F533	1034	6,000	.045						
13F534	1035	7,000	.042						
13F535	1036	7,500	.040	1.70	1.45	1.19	.94	.77	.71
13F539	1040	10,000	.035						

6

STYLE 210-25—SIZE 25 WATT—2"x9/16"

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-49	50-99	100-249	250-499	500-999
13F550	0360	1	5.00						
13F551	0360B	2	3.54						
13F552	0361	3	2.88						
13F553	0362	5	2.24						
13F554	0362B	7.5	1.82						
13F555	0363	10	1.58						
13F556	0364	15	1.29						
13F557	0364B	20	1.12						
13F558	0365	25	1.00	1.65	1.40	1.16	.91	.74	.69
13F559	0366	50	71						
13F560	0367	75	.58						
13F561	0368	100	.50						
13F562	0369	150	.41						
13F563	0370	200	.35						
13F564	0371	250	.32						
13F565	0371B	300	.29						
13F566	0371C	400	.25						

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-49	50-99	100-249	250-499	500-999
13F567	0372	500	.22						
13F568	0373	750	.18	1.65	1.40	1.16	.91	.74	.69
13F570	0375	1,000	.16						
13F571	0375B	1,250	.14						
13F572	0376	1,500	.13						
13F573	0377	2,000	.12						
13F574	0377B	2,250	.11						
13F575	0378	2,500	.10	1.70	1.45	1.19	.94	.77	.71
13F576	0379	3,000	.091						
13F578	0381	4,000	.079						
13F580	0382	5,000	.070						
13F581	0383	6,000	.064						
13F582	0383B	7,000	.060	1.80	1.53	1.26	.99	.81	.76
13F584	0384	7,500	.057						
13F587	0385	10,000	.050						
13F590	0388	20,000	.031	1.90	1.62	1.33	1.05	.86	.80
13F591	0389	25,000	.028	2.05	1.74	1.44	1.13	.92	.86

STYLE 210-50—50 WATT— SIZE 4" x 9/16"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F600	0560	5	3.16				
13F601	0561	10	2.23				
13F602	0562	25	1.41				
13F603	0563	50	1.00				
13F604	0564	75	.82				
13F605	0565	100	.71				
13F606	0566	150	58				
13F607	0567	200	50	2.20	1.87	1.54	1.21
13F608	0568	250	.45				
13F609	0568B	300	.41				
13F610	0568C	400	.35				
13F611	0569	500	.32				
13F612	0570	750	.26				
13F639	0571	800	.25				

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-249
13F613	0572	1,000	.22	2.20	1.87	1.54	1.21
13F615	0573	1,500	.18				
13F616	0574	2,000	.16	2.25	1.91	1.58	1.24
13F617	0575	2,500	.14				
13F620	0577	4,000	.11				
13F622	0578	5,000	.10				
13F623	0578B	6,000	.091	2.30	1.96	1.61	1.27
13F628	0581	10,000	.071	2.30	1.96	1.61	1.27
13F630	0583	15,000	.057	2.40	2.04	1.68	1.32
13F631	0584	20,000	.050	2.40	2.04	1.68	1.32
13F632	0585	25,000	.045	2.70	2.30	1.89	1.49
13F633	0586	30,000	.036	2.70	2.30	1.89	1.49
13F635	0588	50,000	.026	2.90	2.47	2.03	1.60
13F638	0591	100,000	.018	3.45	2.93	2.42	1.90

STYLE 210-100—100 WATT—SIZE 6½"x¾"

Stock No.	Type	Resis. Ohms	Max. Amps.	1-9	10-49	50-99	100-240
13F670	0956A	1	10.0				
13F671	0956B	2	7.07	3.60	3.06	2.52	1.98
13F672	0956C	3	5.77				
13F673	0956D	4	5.00				
13F650	0956	5	4.47				
13F651	0957	10	3.16				
13F652	0958	25	2.00	2.80	2.38	1.96	1.54
13F653	0959	50	1.41				
13F654	0960	100	1.00				
13F655	0969B	250	.63				
13F656	0961	500	.45				

Stock No.	Type	Resis. Ohms	Max Amps.	1-9	10-49	50 99	100-249
13F657	0962	1,000	.32	2.80	2.38	1.96	1.54
13F658	0962B	1,500	.26				
13F659	0963	2,500	.20	2.85	2.42	2.00	1.57
13F660	0964	5,000	.14				
13F661	0965	10,000	.10	3.05	2.59	2.14	1.68
13F663	0967	20,000	.071	3.20	2.72	2.24	1.76
13F664	0968	25,000	.063	3.55	3.02	2.49	1.95
13F667	0971	50,000	.045	3.65	3.10	2.56	2.01
13F669	0973	100,000	.028	4.35	3.70	3.05	2.39

ADJUSTABLE LUGS

For Dividohms—Bakelite knob type

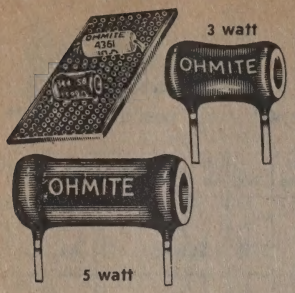
Stock No.	Type	Description	1-9	10-49	50-99
13F710	2122	For 25, 50 Watt	.45	.38	.32
13F711	2126	For 100 Watt	.45	.38	.32
13F712	2134	For 225 Watt	.53	.45	.37

For Dividohms—Screw driver type

Stock No.	Type	Description	1-9	10-49	50-99
13F713	2115	For 12 Watt	.21	.18	.15
13F714	2121	For 25, 50 Watt	.21	.18	.15
13F715	2125	For 100 Watt	.21	.18	.15
13F716	2133	For 225 Watt	.32	.27	.22

OHMITE Resistors

CLASS PC-58 RADIAL LEAD WIREWOUND RESISTORS



Radial leads eliminate cutting, bending and forming of leads reduce total length compared to axial leads. Built-in standoffs provide correct spacing between resistor and PC board. Fit standard 0.1" matrix boards with .046" dia. holes. T.C.: under 260 ppm/°C. 3-watt resistors under 3300 ohms and 5-watt resistors under 6800 ohms are coated with vitreous enamel; all others coated with Ohmicone Type 470 silicone ceramic. Size (LxD): 3-watt types, .300x.335"; 5-watt types, .500x.375".

3 WATTS — ±5% TOL.

Stk. No.	Stock res. in ohms	NET EACH 1-9	10-49	50-99	100-249	250-499	500-Up
13F1700	1 to 1K	.63	.54	.44	.35	.28	.26
	1.2K to 5K	.71	.60	.50	.39	.32	.30
	5.6K to 10K	.74	.63	.52	.41	.33	.31
5¼ WATTS — ±5% TOL.							
13F1701	1 to 1K	.66	.56	.46	.36	.30	.28
	1.2K to 5K	.74	.63	.52	.41	.33	.31
	5.6K to 10K	.76	.65	.53	.42	.34	.32

STOCK RESISTANCE—OHMS

1.0	5.0	50	120	300	600	1800	5000
1.5	10.0	56	150	330	750	2000	5600
2.0	15.0	68	200	400	800	2500	7500
3.0	20.0	82	250	500	1000	3000	9000
4.0	30.0	100	270	560	1200	4000	10000

TYPE 995 "MOLDED VITREOUS" AXIAL-LEAD RESISTORS

All welded vitreous enamel resistor with 1000VAC insulation. Resists chipping, breaking, and protects against moisture, salt spray, and salt immersion. Vitrified markings resist high temperatures, solvents, and abrasions. Standard resistance tolerance: ±5%. Leads tinned, 1½"L. All sizes 20 gauge except 1½ w.: 24 gauge. Leads can be bent sharply at the body. Uniform dimensions permit use in automated assembly insertion equipment.

STOCK RESISTANCE—OHMS

1.0	15	40	150	...	820	2700	6800	18000	47000
1.5	...	47	180	470	...	3000	7000	20000	50000
2.0	20	50	200	500	1000	3300	7500	22000	...
3.0	22	56	220	560	1200	3900	8000	25000	...
4.0	...	68	250	600	1500	4000	8200	27000	...
5.0	...	...	270	...	1800	4700	9000	30000	...
7.5	30	82	300	700	2000	5000	10000	...	...
10	33	...	330	750	2200	5600	12000	39000	...
12	39	120	...	800	2500	6000	15000	40000	...

1½ WATT UNITS—STYLE 995-1A—.422 x .125D

Stk. No.	Value in Ohms	1-9	10-24	25-99	100-249	250-499	500-999
13F168	1 to 1,000	.79	.67	.55	.43	.36	.33
	1,100 to 3,000	.82	.70	.57	.45	.37	.34

2¼ WATT UNITS—STYLE 995-2A—.375 x .188D

Stock No.	Value in Ohms	1-9	10-49	50-99	100-249	250-499	500-Up
13F169	1 to 1,000	.74	.63	.52	.41	.33	.31
	1,100 to 3,000	.79	.67	.55	.43	.36	.33

3¼ WATT UNITS—STYLE 995-3A—.547 x .203D

13F145	1 to 1,000	.68	.58	.48	.37	.31	.29
	1,200 to 5,000	.74	.63	.52	.41	.33	.31
	5,600 to 10,000	.76	.65	.53	.42	.34	.32

5 WATT UNITS—STYLE 995-5B—.938 x .203D

13F146	1 to 1,000	.74	.63	.52	.41	.33	.31
	1,200 to 5,000	.76	.65	.53	.42	.34	.32
	5,600 to 10,000	.84	.71	.59	.46	.38	.35
	12,000 to 20,000	.92	.78	.64	.51	.41	.39
	22,000 and 25,000	1.05	.89	.74	.58	.47	.44

11 WATT UNITS—STYLE 995-10A—1.781 x .313D

13F1471	1 to 1,000	.79	.67	.55	.43	.36	.33
	1,200 to 5,000	.89	.76	.62	.49	.40	.37
	5,600 to 10,000	1.00	.85	.70	.55	.45	.42
	12,000 to 20,000	1.10	.94	.77	.61	.50	.46
	22,000 to 40,000	1.15	.98	.81	.63	.52	.48
	47,000 and 50,000	1.30	1.11	.91	.72	.59	.55

SELECTED RESISTOR ASSORTMENTS

Seven engineering prototype lab assortments of composition resistors in handy cabinets. Resistance values from 2.7 ohms to 22 megohms. Each drawer has 8 sections individually marked with ohmic values. Quantities per ohmic value vary between 5 each and 30 each, depending on the popularity of the value. The ±5% assortments have 160 different ohmic values while the ±10% assortments have 80 values. Cabinet mounts on wall or stands on bench.

5% TOLERANCE

Stk. No.	Type	Wattage Size	No. Resistors	NET
99F1203	CAB-45	⅛	1000	225.00
99F1204	CAB-46	¼	1500	210.00
99F1205	CAB-47	½	1500	180.00
99F1206	CAB-48	1	900	160.00
10% TOLERANCE				
99F1207	CAB-25	¼	1000	70.00
99F1201	CAB-26	½	1000	60.00
99F1202	CAB-27	1	600	54.00

SELECTED RESISTOR KITS

Most commonly used resistors with a plastic cabinet included at no extra cost. Cabinet has 5 drawers and 40 compartments. 9x4¾x5¼". Wt., 7 lbs.

CAB-4 ¼ watt ±10% assortment with 150 resistors.
13F164. NET 19.50

CAB-10 ½-watt ±10% assortment with 150 resistors.
13F165. NET 18.00

CAB-2 1-watt ±10% assortment with 125 resistors.
13F166. NET 22.50

CAB-3 2-watt ±10% assortment with 125 resistors.
13F167. NET 30.00

Quantities CAB-4	CAB-10	CAB-2 CAB-3	Ohms	Quantities CAB4	CAB-10	CAB 2 CAB 3	Ohms
...	1	1	10	3	3	1	33,000
...	1	1	15	3	5	5	39,000
...	1	1	27	5	10	10	47,000
5	1	1	47	3	3	1	68,000
5	5	1	100	2	1	1	82,000
1	1	1	150	10	10	10	.1 meg
3	3	1	270	3	5	5	.15 meg
1	1	1	330	3	3	1	.22 meg
3	3	1	470	3	10	10	.27 meg
1	1	1	680	3	3	1	.33 meg
10	5	3	1,000	5	10	10	.47 meg
5	1	1	1,500	1	1	1	.68 meg
10	1	1	2,200	10	10	10	1.0 meg
5	3	3	2,700	1	1	1	1.5 meg
10	10	5	4,700	1	1	1	2.2 meg
5	1	1	6,800	1	3	1	2.7 meg
10	10	10	10,000	1	1	1	3.9 meg
5	3	3	15,000	1	1	1	4.7 meg
5	5	5	22,000	1	1	1	6.8 meg
5	10	10	27,000	1	1	1	10.0 meg

OHM'S LAW CALCULATOR

Easy-to-use rapid calculator. Solve electrical problems involving various applications of Ohm's Law—has a parallel-resistance calculator. Made of vinyl. Slide-rule scales. Size: 9x3". Shpg. wt., 3 oz.
51F992. NET 1.65

As above, but on cardborad. Shpg. wt., 2 oz.
51F993. NET ..... .30

POCKET SIZE COLOR CODER

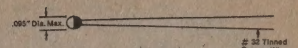
Handy pocket size color code guide reads EIA color code. Easy to use, lets you read resistance directly from guide setting. Also gives Military Specifications (MIL) equivalents, and includes a convenient chart showing availability of various resistance values. Shipping weight, 2 oz.
51F989. NET ..... .15

Yellow Springs Instruments Thermistors

YSI 1% PRECISION THERMISTORS

Thermistors which match a published resistance-temperature curve and thus each other to ± 1% not only at 25° C but over most of their useable range of —80° C to +150° C. Each thermistor is provided with resistance-temperature data for each degree C and with tolerance curves both in resistance variation and temperature sensing interchangeability. Base resistance from 100 ohms to 1 Megohm at 25° C available to ease circuit design impedance matching problems. Useful as transducers for measurement and control circuits where precision of YSI thermistors allow interchanging of transducers and multiple monitoring from single circuits. In control circuitry direct dialing of set points is possible as is trigger action at a specific temperature since resistance at any usable temperature is known to close tolerances. Also useful as temperature compensating devices for transistors, meters, circuits, etc. Physical size: .095" maximum dimension #32 solid tinned copper leads, 3" long. Thermistors are epoxy encapsulated for ruggedness and long life. Each thermistor supplied with data and with dissipation information, time constant and instructions. Rated at 25°C.

- Low Cost Precision The mistors
- Matches Standard Curves—80°C to 150°C

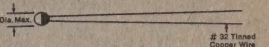


Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F200	44001	100	1.0%	.3°C			
29F201	44002	300	1.0%	.3°C			
29F202	44003	1K	1.0%	.3°C			
29F229	44004	2.252K	1.0%	.2°C			
29F203	44005	3K	.8%	.2°C	4.90	4.15	3.50
29F256	44007	5K	.8%	.2°C			
29F204	44006	10K	.8%	.2°C			
29F205	44008	30K	.8%	.2°C			
29F206	44011	100K	.8%	.2°C			
29F214	44014	300K	1.0%	.2°C			
29F215	44015	1 Meg	1.0%	.2°C			

YSI ½% PRECISION THEMISTORS

Specifically designed to match published and provided curves to within ±½% over exceptionally wide range! Units can be interchanged in measuring circuitry with a maximum 0.1°C error. Resistance tolerance data provided with each thermistor for each degree centigrade and its corresponding resistance shown from —40° to +100°C. Physical size: .095" diameter. #32 solid tinned copper leads, 3" long. Thermistors are epoxy encapsulated for ruggedness and extremely long life. Individually packaged with dissipation information, time constant data, and instructions. Rated at 25°C.

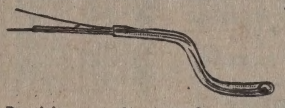
- Twice the Precision over Previous YSI Devices
- Interchangeability—0.1°C
- -40° to +100°C



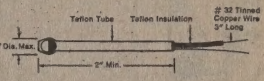
Stock No.	Type	Ohms	Res. Tol.	1-9	10-29	30-99
29F223	44030	3K	.4%			
29F224	44031	10K	.4%			
29F225	44032	30K	.4%	9.90	8.90	7.75
29F228	44033	2.252K	.4%			
29F257	44034	5K	.4%			

YSI 1% TEFLON PRECISION THERMISTOR PROBES

YSI interchangeable thermistors in chemically impervious form for sensing or control use. The interchangeable precision thermistors listed above, but additionally encased in a 2" length of chemically impervious Teflon. 3" leads extend 1" beyond the probe for convenience in attaching leads. Leads are insulated from each other by a smaller Teflon tube around one lead. Probes can be used straight or can be bent by finger pressure to exact configuration required for placing the thermistor where you want it. 0.11" max. in diameter.
Can be assorted for quantity prices.



- Precision—±1% at 25°C.
- Easily bent to required shape



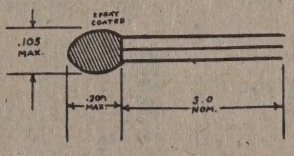
- Chemically impervious Teflon casing

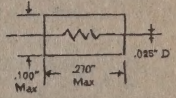
Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F207	44101	100	1.0%	.3°C			
29F208	44102	300	1.0%	.3°C			
29F209	44103	1K	1.0%	.3°C	9.90	8.90	7.75
29F264	44104	2.252 K	1.0%	.2°C			
29F210	44105	3K	.8%	.2°C			
29F258	44107	5K	.8%	.2°C			

Stock No.	Type	Ohms	Res. Tol.	Temp. Tol.	1-9	10-29	30-99
29F211	44106	10K	.8%	.2°C			
29F212	44108	30K	.8%	.2°C	9.90	8.90	7.75
29F213	44111	100K	.8%	.2°C			
29F216	44114	300K	1.0%	.2°C			
29F217	44115	1 Meg	1.0%	.2°C			

THERMILINEAR THERMISTOR DEVICES
Linear Output Thermistor Networks

A composite precision thermistor device which, in conjunction with the precision resistors supplied, provides linear voltage output or linear resistance, change with change of temperature. Sensitivities of 20 mv/°C. and more are common, 400 times the sensitivity of an IC thermocouple. Linearity deviation is as little as 2 parts in 1000 from 0 to 100°C. Combined absolute accuracy, linearity and interchangeability specifications of as little as 3 parts in 1000 from 0 to 100°C. Greater accuracies, interchangeabilities, and linearities available for shorter standard ranges. Parts guaranteed to stay within tolerances for three years. Useful for direct digital temperature indication with DVM or linear recorder. Provides linear temperature compensation with thermistor sensitivity. Time constant: 1 second, in well-stirred oil bath. Parts consit of composite thermistor and resistor assembly. For complete information and technical data, write Newark. Type 44018 and type 44019; additional thermistor composites for replacement or multiple input work.



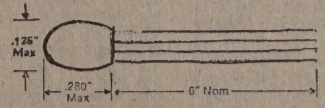


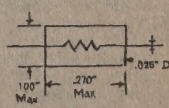
Thermistor Composite

Stk. No.	Type	Range	Linearity	1-9	10-29	30-99
29F218	44201	0° to 100°C	±0.2°C			
29F219	44202	—5 to +45°C	±0.1°C			
29F220	44203	—30 to +50°C	±0.2°C	10.50	9.80	9.10
29F221	44204	+30 to 100°F	±0.075°F			
29F226	44211	—55 to 85°C	1.1°C			
29F222	44018	Extra Thermistor	.....	7.50	6.90	6.30
29F227	44019	—55 to 85°C	1.1°C	7.50	6.90	6.30

YSI HIGH ACCURACY LINEAR OUTPUT THERMILINEAR THERMISTOR NETWORKS

Type 44212. Linear thermistor temperature trnasducer for use over a range of -50° to +50°C. Uses a 3-thermistor composite and three resistors. Absolute accuracy and interchangeability is ±0.1°C. Linearity deviation is ±0.15°C with ±0.08°C possible with extra resistor selection.
Type 44020 is extra thermistor composite for replacement or multiple input work.



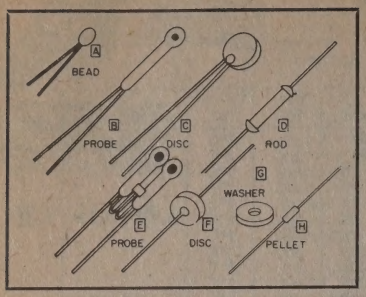


Stock No.	Type	Range	Linearity	1-9	10-29	30-99
29F265	44212	—50 to +50°C	±0.15°C	19.80	18.75	17.40
29F266	44020	Extra Thermistor		16.80	15.40	14.30

See Test Equipment Section for a complete listing of YSI Thermovolt Thermometers

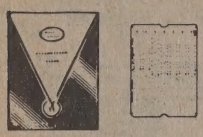
Fenwal Electronics

Thermistors



High-reliability precision thermal resistors with high negative coefficient of resistance. As temperature increases, resistance goes down. Use glass coated beads for compact size, fast response, and where temperatures do not exceed 600°. Medium-small glass probes similar to beads, but are more rugged, mount more easily and are useful in liquid media. *Iso-Curve interchangeable glass probe thermistors are curved-matched to close resistance tolerances over large temperature spans. Discs are useful for medium power and time response applications. Rods and washers are used where high power dissipation is required. Discs, washers and rods operate at temperatures to +150°C. See Thermistor Engineering Package, below. Av. Shpg. wt. 2 oz.

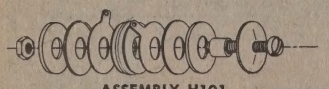
THERMISTOR ENGINEERING PACKAGE



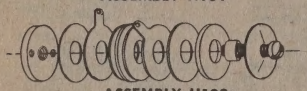
Includes a 5 x 8" resistance-temperature calculator and a thermistor manual that gives the specifications of over 500 thermistors. Serves as a step-by-step primer and handy guide. Shpg. wt. 4 oz.

30F1783..... **1.00**

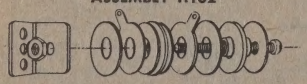
WASHER MOUNTING HARDWARE KITS



ASSEMBLY H101



ASSEMBLY H102



ASSEMBLY H103

Include bakelite, steel and lead washers plus terminals, sleeves, screws and nuts for thermistor mounting. H101 uses 10-32 screw and hex nut. H102 uses 10-32 screw and tapped aluminum mounting base with two 8-32 mtg. holes. H103 uses 10-32 screw and steel mounting bracket with 10-32 hex nut.

30F1717. Kit H101. Wt. 3 oz. 1-9. Ea. **1.25** 10-24.....Each **1.00** 25-99.....Ea. **.82**

30F1718. Kit H102. Wt. 3 oz. 1-9. Ea. **1.25** 10-24.....Each **1.00** 25-99.....Ea. **.82**

30F1719. Kit H103. Wt. 3 oz. 1-9. Ea. **1.25** 10-24.....Each **1.00** 25-99.....Ea. **.82**

30F1720. Kit H100 (One each of H101, 2 and 3 above.) 1-9. Ea. **2.50** 10-24. Ea. **2.00** 25-99. Ea. **1.63**

GLASS COATED BEADS

Stock No.	Mfrs. Type	Fig.	Ohms @ 25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1721	GD25J1	A	500	20	5.1:1	.7	2	.043	3.24	2.60	2.11
30F1722	GB31J1	A	1000	20	7.3:1	.7	2	.043	2.70	2.16	1.76
30F1723	GB32J2	A	2000	20	7.3:1	.7	2	.043	1.96	1.57	1.28
30F1724	GB35J1	A	5000	20	7.3:1	.7	2	.043	3.24	2.60	2.11
30F1725	GB41J1	A	10 K	20	7.5:1	.7	2	.043	3.24	2.60	2.11
30F1726	GA42J16	A	15 K	20	9.1:1	.7	2	.043	3.24	2.60	2.11
30F1728	GA45J1	A	50 K	20	9.1:1	.7	2	.043	2.67	2.14	1.74
30F1729	GA51J1	A	100 K	15	10.3:1	.7	2	.043	1.96	1.57	1.28
30F1730	GA52J16	A	150 K	20	10.3:1	.7	2	.043	2.70	2.16	1.76
30F1731	GA52J2	A	200 K	20	10.9:1	.7	2	.043	2.70	2.16	1.76
30F1732	GA55J1	A	500 K	20	11.8:1	.7	2	.043	3.24	2.60	2.11
30F1733	GA61J1	A	1000 K	20	14.0:1	.7	2	.043	3.78	3.03	2.46

GLASS PROBES

Stock No.	Mfr's Type	Fig.	Ohms @ 25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec.)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1765	GB31P2	B	1000	20	7.3:1	1	25	.1	2.00	1.60	1.30
30F1766	GB32P2	B	2000	20	7.3:1	1	25	.1	2.00	1.60	1.30
30F1767	GB32P8	B	2000	20	7.3:1	1	25	.1	2.35	1.88	1.53
30F1768	GB34P2	B	4000	20	7.3:1	1	25	.1	2.00	1.60	1.30
30F1769	GB34P92	E*	4000	2	7.04:1	1.9	25	.180	40.00	32.00	26.00
30F1770	GB41P2	B	10 K	20	7.5:1	1	25	.1	2.40	1.92	1.56
30F1771	GB42P2	B	20 K	20	7.5:1	1	25	.1	2.40	1.92	1.56
30F1772	GA41P8	B	10 K	20	9.1:1	1	25	.1	3.24	2.60	2.11
30F1773	GA42P18	B	15 K	20	9.1:1	1	25	.1	3.29	2.64	2.14
30F1774	GA45P2	B	50 K	20	9.1:1	1	25	.1	2.20	1.76	1.43
30F1775	GA45P48	B	50 K	20	9.1:1	1	25	.1	2.59	2.08	1.69
30F1776	GA51P8	B	100 K	15	10.3:1	1	25	.1	2.35	1.88	1.53
30F1778	GA52P2	B	200 K	20	10.9:1	1	25	.1	2.00	1.60	1.30
30F1779	GA55P2	B	500 K	20	11.8:1	1	25	.1	2.40	1.92	1.56
30F1781	GA61P2	B	1000 K	20	14.0:1	1	25	.1	2.80	2.24	1.82

GLASS DIODE CLOSURES (Pellets)

Stock No.	Mfr's Type	Fig.	Ohms @ 25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec.)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1744	PB32D1	H	2 K	10	6.9:1	2	8	.07	1.80	1.44	1.17
30F1745	PB35D1	H	5 K	10	6.9:1	2	8	.07	1.80	1.44	1.17
30F1746	PB41D1	H	10 K	10	6.9:1	2	8	.07	1.80	1.44	1.17
30F1747	PA45D1	H	50 K	10	9.1:1	2	8	.07	1.80	1.44	1.17
30F1748	PA51D1	H	100 K	10	9.1:1	2	8	.07	1.80	1.44	1.17
30F1749	PP55D1	H	500 K	10	11.6:1	2	8	.07	1.80	1.44	1.17
30F1750	PP61D1	H	1 meg	10	11.6:1	2	8	.07	1.80	1.44	1.17

DISCS

Stock No.	Mfr's Type	Fig.	Ohms @ 25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec.)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1751	FB31J1	C	1 K	10	6.9:1	2	3	.05			
30F1752	FB32J1	C	2 K	10	6.9:1	2	4	.05			
30F1753	FA41J1	C	10 K	10	9.1:1	2	3.5	.05	1.45	1.16	.95
30F1754	FA42J1	C	20 K	10	9.1:1	2	4.5	.05			
30F1755	FP52J1	C	200 K	10	11.6:1	2	4.5	.05			
30F1756	JD12J4	C	15	10	4.8:1	3	10	.1			
30F1757	JD21J1	C	100	10	4.8:1	4	10	.1			
30F1758	JB25J1	C	500	10	6.9:1	3	10	.1	1.00	.80	.65
30F1759	JB31J1	C	1000	10	6.9:1	4	10	.1			
30F1760	JA33J1	C	3000	10	9.1:1	3	10	.1			
30F1761	JA35J1	C	5000	10	9.1:1	4	10	.1			
30F1762	JA38J1	C	8000	10	9.1:1	4	10	.1			
30F1763	JA41J1	C	10 K	10	9.1:1	4	10	.1	1.00	.80	.65
30F1764	JP43J2	C	25 K	10	11.6:1	3	10	.1			
30F1700	JP45J2	C	50 K	10	11.6:1	4	8	.1			
30F1701	JP51J1	C	100 K	10	11.6:1	4	15	.1	1.00	.80	.65
30F1702	KD05J1	C	5	10	4.8:1	4	16	.2	.85	.68	.56
30F1704	KD13J3	C	30	10	4.8:1	8	28	.2	.85	.68	.56
30F1705	KD14J1	C	40	10	4.8:1	6	50	.2	.85	.68	.56
30F1706	KB21J1	C	100	10	6.9:1	4	16	.2	.85	.68	.56
30F1707	KB22J1	C	200	10	6.9:1	5	18	.2			
30F1708	KB23J1	C	300	10	6.9:1	6	20	.2	.85	.68	.56
30F1709	KB25J1	C	500	10	6.9:1	6	25	.2			
30F1710	KA31L1	F	1000	10	9.1:1	6	20	.2			
30F1711	KA33J1	C	3000	10	9.1:1	6	22	.2			
30F1712	KA35J3	C	5000	10	9.1:1	7	35	.2	.85	.68	.56
30F1713	KP41J2	C	10 K	10	11.6:1	4	20	.2			
30F1714	KP45J1	C	50 K	10	11.6:1	6	50	.2			
30F1735	CA31J1	C	1000	10	9.1:1	8	48	.3			
30F1741	LB15J1	C	50	10	6.9:1	7	40	.4	.85	.68	.56
30F1784	LB21J1	C	100	10	6.9:1	8	65	.4			
30F1743	LA23J2	C	250	10	9.1:1	6	40	.4			

Thermistors

DISCS (Continued)

Stock No.	Mfrs. Type	Fig.	Ohms @25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1828	LA25I2	C	500	10	9.1:1	8	60	.4	.85	.68	.56
30F1829	LA31J1	C	1000	10	9.1:1	10	70	.4			
30F1830	LP32J2	C	2000	10	11.6:1	8	40	.4			
30F1831	LP33J1	C	2500	10	11.6:1	14	35	.4			
30F1832	LP42J2	C	15K	10	11.6:1	10	150	.4	.85	.68	.56
30F1833	DD05J1	C	5	10	4.8:1	15.5	70	.5			
30F1834	DB11J1	C	10	10	6.9:1	17.5	120	.5			
30F1835	DB15J1	C	50	10	6.9:1	15.5	70	.5			
30F1836	DB21J1	C	100	10	6.9:1	17.5	120	.5	.85	.68	.56
30F1837	DA25J3	C	500	10	9.1:1	16.5	90	.5			
30F1838	DP35J1	C	5K	10	11.6:1	16.5	90	.5			
30F1839	MB13J1	C	25	10	6.9:1	25	85	.6			
30F1840	ND01J1	C	1	10	4.8:1	15	180	.77	.85	.68	.56
30F1841	NB11J1	C	10	10	6.9:1	20	90	.77			
30F1842	NA21J1	C	100	10	9.1:1	16	100	.77			
30F1843	NA22J1	C	250	10	9.1:1	30	140	.77			
30F1844	NP31J2	C	1000	10	11.6:1	15	180	.77	.85	.68	.56
30F1845	NP34J1	C	4000	10	11.6:1	20	300	.77	.85	.68	.56
30F1846	ZB11J1	C	10	10	6.9:1	30	140	1.0	1.25	1.00	.82
30F1847	ZA22J1	C	250	10	9.1:1	37	260	1.0	1.25	1.00	.82

RODS

Stock No.	Mfrs. Type	Fig.	Ohms @25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1808	QB41J1	D	10K	10	7.1:1	2.5	20	.053	1.25	1.00	.82
30F1809	QA51J1	D	100K	10	9.1:1	2.5	20	.053	1.25	1.00	.82
30F1810	RB34J1	D	4300	10	6.9:1	6	50	.11	1.20	.96	.78
30F1813	RA43L1	D	31.5K	10	9.1:1	4	70	.11	1.20	.96	.78
30F1815	TB35J1	D	5K	10	6.9:1	15	120	.173	1.35	1.08	.88
30F1817	TA45J1	D	50K	10	9.1:1	18	120	.173	1.60	1.28	1.04

WASHER

Stock No.	Mfrs. Type	Fig.	Ohms @25°C	Tol. %	Resis. Ratio 0°C to 50°C	Diss. Const. mW/°C	Time Const. (Sec)	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1818	WB11W1	G	10	10	6.9:1	860	12	.77	1.25	1.00	.82
30F1821	WA21W1	G	100	10	9.1:1	800	13	.77			
30F1822	WA23W1	G	315	10	6.9:1	350	18	.77			
30F1823	WA24W1	G	415	10	9.1:1	300	18	.77			

ISO-CURVE GLASS COATED INTERCHANGEABLE THERMISTORS

Iso-Curve interchangeable glass coated thermistors are curved-matched to close resistance tolerance over large temperature spans. Resistance tolerance over temperature range, ±2 percent. See table, below, for specific temperature ranges. Bead style, .1 inch diameter with ⅜ inch leads. Miniprobe style, .12" x ½ inch with 1⅜ inch leads. Standard Probe style, .18" x ½ inch with 2-inch leads. Average shpg. wt., 3 oz.

Stock No.	Mfrs. Type	Style	Ohms @25°C	Temp. Range °F	Diss. Const. mW/°C	Time Const. (Secs)	EACH 1-9	EACH 10-24	EACH 25-99
30F1824	GD24JM1	Bead	370	−50 to +150	0.8	2	30.00	24.00	19.50
30F1825	GB32JM1	Bead	2000	0 to +250	0.8	2			
30F1826	GB42JM1	Bead	15K	+50 to +450	0.8	2			
30F1827	GA51JM1	Bead	100K	+150 to +600	0.8	2			
30F1788	GD24MM2	Miniprobe	370	−50 to +150	1.4	16			
30F1790	GB42MM2	Miniprobe	15 K	+50 to +450	1.4	16	30.00	24.00	19.50
30F1791	GA51MM2	Miniprobe	100 K	+150 to +600	1.4	16			
30F1792	GD24PM2	Std. probe	370	−50 to +150	1.9	25			
30F1794	GB42PM2	Std. probe	15 K	+50 to +450	1.9	25			
30F1795	GA51PM2	Std. probe	100 K	+150 to +600	1.9	25			

UNI-CURVE RT CURVE-MATCHED INTERCHANGEABLE THERMISTORS

Uni-curve thermistors completely interchangeable electrically. For temperature control and compensation. Resistance tolerance over temperature range, ±2%. 2 oz.

Stock No.	Mfrs. Type	Ohms @25°C	Temp. Range °C	Diss. Const. mW/°C	Time Const. (Secs)	Lead Lgth. in.	Dia. in.	EACH 1-9	EACH 10-24	EACH 25-99
30F1796	UUA32J3	2252	0°C to 70°C	2	10	3	.095	4.50	3.80	3.09
30F1797	UUA33J1	3 K	0°C to 70°C	2	10	3	.095			
30F1798	UUA35J1	5 K	0°C to 70°C	2	10	3	.095			
30F1799	UUA41J1	10 K	0°C to 70°C	2	10	3	.095			
30F1800	UUT43J1	30 K	0°C to 70°C	2	10	3	.095			
30F1801	UUT45J1	50 K	0°C to 70°C	2	10	3	.095	4.50	3.80	3.09
30F1802	UUT51J1	100 K	0°C to 70°C	2	10	3	.095	4.50	3.80	3.09
30F1849	UUA33J4	3 K	0°C to 100°C	2	10	3	.095	7.50	6.34	5.16
30F1850	UUA35J3	5 K	0°C to 100°C	2	10	3	.095	7.50	6.34	5.16

EXPERIMENTER'S THERMISTOR KITS

Model G-200 Contains 2 glass probes, 3 beads, 2 discs, 3 rods, 2 washers. Packed with specification sheets. Shpg. wt., 1 lb.
30F1804. NET..... **19.95**

Model G-700 Includes four glass beads and probes, manual, and computer for a variety of applications. Shpg. wt. 1 lb.
30F1805. NET..... **4.95**

Model G-701 Includes 10 glass beads and probes, manual, and computer for a wider range of applications than G-700.
30F1806. NET..... **9.95**

Model G-500 Uni-Curve Kit. Contains 6 standard RT curve-matched interchangeable thermistors (3K, 5K, 10K, 30K, 50K, 100K). Includes complete data sheets with full specifications and DC, TC listings. Shpg. wt. 1 lb.
30F1807. NET..... **19.95**

EXPERIMENTER'S THERMISTOR PROBE

Thermistor mounted on card, with instructions and schematic for use as a remote temperature indicator, liquid level-control, or time-delay relay. Rated 135K at 25°C; 1 mW/°C diss. constant, 25 s; still-air time constant 0.3s in rapidly stirred water. Shpg. wt., 2 oz.
30F1848. NET..... **1.00**

THERMISTOR ASSEMBLIES

Matched assemblies for use in thermal conductivity gas analysis instruments. Each bead is mounted in a special hermetically-sealed stem. For maximum sensitivity, the higher resistance units should be used at higher ambient temperatures. 8 oz.

Type G126. Ro at 25°C, 2000 ohms ±25%; Ro at 0°C (approx.), 4900 ohms Ro at 50°C (approx.), 890 ohms; ratio of Ro 0°/50°C, 4.95-6.95; Ro at max. op. temp., 88 ohms; pair matched Ro at 25°C, 5%. Beta nom. at 25°C, 3000°K. Temp. coef. at 25° C, −3.4%/°C. TC, still air, 1s. DC, still air, 0.16 mW/°C; DC helium, 0.5 mW/°C. Pwr. rating, air, 15 mW; pwr. rating, helium, 60 mW.

Type G112. Ro at 25°C, 8000 ohms ±20%. Ro at 0°C (approx.), 23,200 ohms; Ro at 50°C (approx.), 3,200 ohms; ratio of Ro 0°/50°C, 6.56-7.99; Ro at max. op. temp., 25 ohms; pair matched Ro at 25°C, 2%. Beta nom. at 25°C, 3495°K. Temp. coef. at 25°C, −3.4%/°C. TC still air, 1 s. DC, still air, 0.16 mW/°C; DC helium, 0.5 mW/°C. Pwr. rating, air, 45 mW; pwr. rating, helium 140 mW.

Type G128. Ro at 25°C, 100,000 ohms ±20%; Ro at 0°C (approx.), 355,000 ohms; Ro at 50°C (approx.), 34,000 ohms; ratio of Ro 0°/50°C, 9.45-11.20; Ro at max. op. temp., 110 ohms; pair matched Ro at 25°C, 5%. Beta nom. at 25°C, 4115°K, Temp. coef. at 26°C, −4.6%/°C. TC, still air, 1 s. DC, still air, 0.16 mW/°C; DC, helium, 0.5 mW/°C. Pwr. rating, air, 45 mW; pwr. rating, helium, 140 mW.

Stock No.	Mfr's Type	Description	EACH 1-9	EACH 10-Up
30F1785	G126	2-GC32L3	14.42	11.54
30F1786	G112	2-GC38L1	28.60	22.88
30F1787	G128	2-GA51L2	33.00	26.40

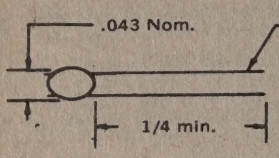
Thermistors

NL PRICE CHART

Key	1-9	10-24	25-49	50-99	100-499	500-999
A	3.20	1.80	1.40	1.35	1.28	1.17
B	7.64	2.38	1.91	1.77	1.71	1.64
C	6.00	5.00	4.40	3.90	3.32	2.77
D	2.24	1.79	1.43	1.14	.68	.57
E	3.00	2.40	1.92	1.54	.92	.81
F	1.60	1.28	1.02	.82	.49	.41
G	1.92	1.54	1.23	.98	.59	.49
H	2.88	2.30	1.84	1.47	.88	.74
J	2.56	2.05	1.64	1.31	.79	.66
K	2.30	1.60	1.30	.85	.68	.65
L	6.30	3.94	3.15	2.36	1.97	1.82

6

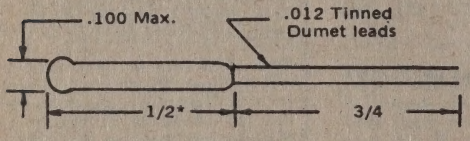
BEAD



Glass coated bead thermistors feature small size, fast response, improved high temperature stability to 400°C. Leads, fired-in platinum-iridium. ±20% Tol. Tolerances down to ±1% available.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Diss. Const. (MW/°C)	Time Const.	Price Key
30F1100	81B105	1000K	51.5	.7	2(Sec)	A
30F1101	81B504	500K	46.5	.7	2(Sec)	A
30F1102	81B154	150K	39.7	.7	2(Sec)	A
30F1103	81B503	50K	35.0	.7	2(Sec)	A
30F1104	81B153	15K	29.85	.7	2(Sec)	A
30F1105	81B103	10K	29.85	.7	2(Sec)	A
30F1106	81B202	2K	19.8	.7	2(Sec)	A

BEAD PROBES



Glass coated bead in the tip of a glass probe. Rugged construction. Tinned Dumet leads. Can be used in a liquid medium. Maximum temperature: 400°C. ±20% tolerance. Tolerances to ±5% available. ⅛" body, ¾" leads.

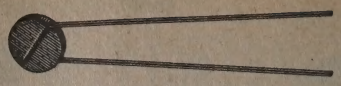
Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Diss. Const. (MW/°C)	Time Const.	Price Key
47F2400	81G10505	1000K	51.5	1	25(Sec)	B
47F2401	81G50450	500K	46.5	1	25(Sec)	B
47F2402	81G15450	150K	39.7	1	25(Sec)	B
47F2403	81G50350	50K	35.0	1	25(Sec)	B
47F2404	81G15350	15K	29.85	1	25(Sec)	B
47F2405	81G10350	10K	29.85	1	25(Sec)	B
47F2406	81G20250	2K	19.8	1	25(Sec)	B

H SERIES

Small, rugged hermetically sealed thermistors. Their small size makes them ideal for automatic insertion in printed circuit boards. Gold plated Dumet leads. Use up to 250°C.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Diss. Const. (MW/°C)	Time Const.	Price Key
47F2407	1H104	100K	29.85	2	8(Sec)	C
47F2408	1H503	50K	29.85	2	8(Sec)	C
47F2409	1H203	20K	29.85	2	8(Sec)	C
47F2410	2H103	10K	19.80	2	8(Sec)	C
47F2411	2H502	5K	19.80	2	8(Sec)	C
47F2412	2H202	2K	19.80	2	8(Sec)	C

DISKS



Larger size thermistors with close electrical tolerances. For temperature detection, control, and compensation circuits. Larger size reduces self-heating effect. These units are especially suited for circuit inrush suppression and time delay applications.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Diss. Const. (MW/°C)	Time Const.	Dia. In.	Price Key
47F2413	4D051	200K	48.78	2	4.5	.05	E
30F1115	4D101	100K	48.78	4	12	.1	D
30F1116	4D103	50K	48.78	4	8	.1	D
30F1118	1D051	20K	29.85	2	4.5	.05	E
30F1120	1D101	10K	29.85	4	12	.1	F
30F1121	1D103	5K	29.85	4	8	.1	F
30F1123	1D201	3K	29.85	8	34	.2	F
30F1124	1D301	3K	29.85	11.5	85	.3	G
30F1126	2D052	2K	19.80	2	4	.05	E
30F1127	1D203	1K	29.85	7.5	19	.2	F
44F347	1D501	1K	29.85	19	140	.5	H
30F1130	2D054	1K	19.80	2	3	.05	E
30F1131	2D102	1K	19.80	4	10	.1	F
30F1134	2D104	500	19.80	4	6	.1	F
30F1135	2D202	300	19.80	8	24	.2	F
30F1136	2D302	300	19.80	10.5	75	.3	G
30F1139	2D204	100	19.80	7.5	16	.2	F
30F1142	3D102	100	12.95	4	10	.1	D
44F345	2D402	.....	19.80	15.5	70	.4	G
30F1143	2D504	50	19.80	15.5	70	.5	H
44F342	3D104	50	12.95	45	6	.1	D
30F1144	3D202	30	12.95	8	28	.2	D
30F1148	3D204	10	12.95	7.5	16	.2	D
30F1149	3D402	10	12.95	15.5	70	.4	J
44F343	2D404	25	19.80	14	25	.4	G
30F1151	3D504	5	12.95	15.5	70	.5	H

WASHERS

Washer types to meet special mounting needs of chassis or heat sink mounting. Maximum temperature 150°C. Tolerance: ±10%. Dia. 75 in.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Price Key
30F1174	1W753	315	29.85	K
30F1175	1W755	100	29.85	K
30F1176	2W752	41.5	19.80	K

WASHER ASSEMBLIES

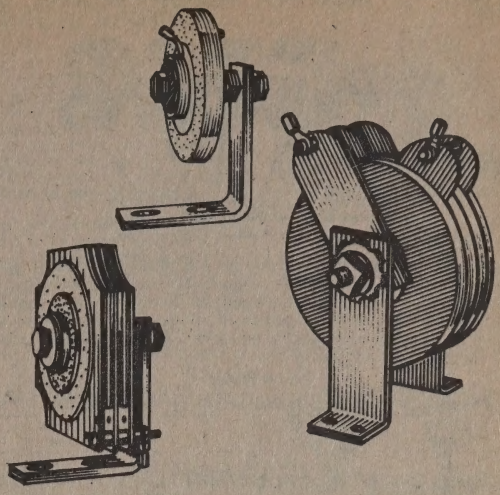
Assemblies meet requirements for chassis type mntg. Offer greater power dissipation. Max. temp.: 150°C. ±10% tol. Terminals tinned for solder connections.

Stock No.	Type	Ohms@ 25°C	Res. Ratio 25°C/125°C	Price Key
30F1179	9RT1A1	415	29.85	L
30F1180	9RT1A3	315	29.85	L
30F1181	9RT1A5	100	29.85	L
30F1182	9RT1A2	41.5	19.80	L
30F1183	9RT1A4	31.5	19.80	L
30F1184	9RT1A6	10	19.80	L

VARISTOR ASSEMBLIES

Protect circuits and components from inductive voltage surges. Assemblies have one or more Thyrite® washers, bracket mounted with spring lock washer for contact pressure. Washer insulated from central bolt and mounting brackets (see illustrations). To order bracket mounted assemblies for stud mounting substitute "C" for "A" in type number. Varistors moisture protected with silicone impregnation. AC voltage Rating: 90% of DC voltage rating. Cont. Temp. Rating: 110°C.

Stock No.	Type	Disks	Cont. DC Volts	Power Loss Watts	1-9	10-24	25-49	50-99
30F1252	9RV3A10	4	50	12	29.56	23.10	18.97	16.75
30F1254	9RV5A12	1	150	3	15.14	11.88	9.81	8.59
30F1255	9RV3A14	1	300	3	15.14	11.88	9.81	8.59
30F1256	9RV3A15	2	600	6	15.14	11.88	9.81	8.59
30F1258	9RV3A52	2	3000	7	20.86	17.07	14.01	12.35
30F1259	9RV3A53	3	4500	10.5	28.73	23.43	19.24	16.94
30F1268	9RV6A1	1	150	10	25.30	20.63	17.17	15.59
30F1269	9RV6A2	2	150	20	42.69	34.84	30.00	26.43
30F1273	9RV6A6	1	275	10	25.30	20.63	17.17	15.59
30F1274	9RV6A7	2	275	20	42.69	34.84	30.00	26.43
30F1275	9RV6A8	3	275	30	59.64	48.58	41.91	36.87
30F1276	9RV6A9	4	275	40	74.04	60.24	51.95	45.72
47F2414	9RV1A82	1	250	1.5	23.18	17.71	14.30	11.22
47F2415	9RV6A4	4	150	40	74.04	60.24	51.95	45.72

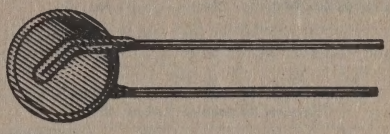


VARISTOR WASHERS

Varistors protect circuits and components from inductive voltage surges by limiting peak discharge voltage, when AC or DC magnetic or inductive current is suddenly interrupted. Silicone Impregnation provided to insure protection against moisture. ±20% Tolerance, short-time body temp. 150°C, continuous body temp. 110°C. 3" Dia. except (*) 6" AC Voltage: 90% of DC Voltage.

Stock No.	Type	Cont. DC Volts	Cont. Power Watts	1-9	10-24	25-49	50-99	100-499
30F1233	71W-30100	1500	3.5	11.55	8.72	6.93	5.25	4.58
30F1234	69W-30100	300	3.0	8.82	6.30	5.30	3.97	3.49
30F1235	68W-30100	150	3.0	8.82	6.30	5.30	3.97	3.49
30F1236	67W-30100	60	3.0					
30F1237	66W-30100	30	3.0	6.30	4.73	3.78	2.84	2.50
30F1238	63W-30100	15	3.0					
30F1239	62W-30100	7	3.0					
30F1240	69W-60100*	275	10.0					
30F1241	68W-60200*	200	10.0	13.13	11.14	9.48	8.21	7.16
30F1242	68W-60100*	150	10.0					

VARISTOR DISKS



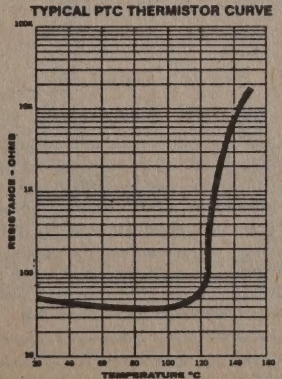
Varistors protect circuits and components from inductive voltage surges by limiting peak discharge voltage, when AC or DC magnetic or inductive current is suddenly interrupted. Black dielectric coated after moisture protection with Silicone Impregnation. Cont. Temp. 110°C.

Stock No.	Type	Cont. DC Volts	Cont. Power Watts	1-9	10-24	25-49	50-99	100-499
30F1221	70D-5010	150	0.25					
30F1222	68D-5010	60	0.25	2.00	1.60	1.28	.77	.63
30F1223	67D-5010	30	0.25					
30F1224	65D-5010	15	0.25					
30F1225	71D-7000	150	0.75					
30F1226	68D-7000	60	0.75	3.40	2.72	2.18	1.31	1.05
30F1227	66D-7000	30	0.75					
30F1228	63D-7000	15	0.75					
30F1229	71D-10000	300	1.50					
30F1230	68D-10000	150	1.50	4.00	3.20	2.56	1.54	1.25
30F1231	66D-10000	60	1.50					
30F1232	63D-10000	30	1.50					

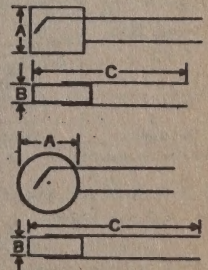
PTC THERMISTORS

The Positive Way to SENSE MEASURE CONTROL REGULATE PROTECT

Typical PTC Thermistor Curve



Positive Temperature Coefficient Thermistors (PTC) are doped Barium Titanate solid state semiconductor devices. Available in various configurations, with or without leads, with or without protective coating.



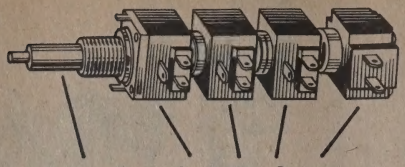
CHIPS. Sizes as low as 40 mil square. Ideally utilized as temperature sensors in motor windings or similar equipment. When used with appropriate circuitry, their fast resistance increase opens relays or shutdown triacs at first sign of overheating. Prevents costly equipment damage.

DISCS. Available in 0.2-0.5" dia. Suitable for switching or time delay applications. Switching temp. variable over −20°C to +125°C range. Slope after switching and base resistance can be chosen within limits.

HEATER. PTC thermistors can operate as component oven heaters and as solid state thermostat to sense and regulate oven temperature. Available in tolerances up to ±1°C.

Allen-Bradley Mod Pot®

MOD POT POTENTIOMETERS, SWITCHES, VERNIER DRIVE CONTROLS



Solid Shaft or Concentric Combination

Can Be Either Resistance or Switch Modules. Vernier Modules 1 thru 3 Only.

Now you can obtain rapid delivery on A-B MOD POT potentiometers, switches and vernier drive controls. The units are available in single, dual, triple or four section controls. Just specify your needs. The controls can be put together in almost any order. We can quickly supply you with special quantities or just an initial quote from our A-B pricing specialist.

Power Rating

Composition	Single Section	Multi-Section
Carbon	1 Watt	½ Watt/Section
Cermet	2 Watts	1 Watt/Section

7

To Order a Custom MOD POT Control, Submit the Following Information:

- Number and type of sections required (resistance modules listed in **Chart No. 1,** switch modules in **Chart No. 2,** vernier drive sections in **Chart No. 3.**)
- Bushing types (selections listed in **Chart No. 4).**
- Shaft combinations (selection of types in **Chart No. 5).**
- Locating lug options (selection of types in **Chart No. 6).**

CHART NO. 1, RESISTANCE MODULES

Nominal Resistance Values, Ohms

50*	1K	25K	750K
75*	2K	50K	1.0 megs
100	2.5K	75K	2.5 megs
200	5K	100K	5.0 megs
250	7.5K	200K	10.0 megs*
500	10K	250K	
750	20K	500K	

*Carbon composition only.

To Order Resistance Modules, Specify The Following For Each Module:

- Nominal resistance value in ohms, from **Chart No. 1.**
- Cermet or carbon composition.
- Tolerance: Carbon composition, 10% or 20%; Cermet, 5% or 10%.
- Solder lug or square terminals.
- Type of taper: Linear taper. Other tapers available in values of 250 ohms thru 10.0 megohms, carbon composition only, as follows:

Clockwise and counterclockwise modified logarithmic taper.....±10% or ±20% tolerance
Clockwise exact logarithmic taper.....±10% or ±20% tolerance
Modified linear taper.....±10% or ±20% tolerance
Attenuators, L-pad or T-pad.....±15% or ±20% tolerance

CHART NO. 2, SWITCHES

Current Rating: 2 amps rms for 125 V, 60 Hz, non-inductive load.

Switch Type	Contact Arrangement
Rotary	Two sets of contacts per switch*— One set normally open, one set normally closed. Two sets normally open.
Push-Pull or Momentary	Four sets of contacts per switch— Two sets normally open, two sets normally closed.

*Switches are described in the detent position.

To Order Switches, Specify The Following For Each:

- Type of Switch
- Contact Arrangement
- Location of detent required if rotary switch is ordered— either clockwise or counterclockwise end of rotation.

CHART NO. 3, VERNIER DRIVES

Drive	Type of Shaft and Shaft Combination
16-Turn Vernier	Fine adjust shaft only. Fine and coarse adjust shaft.

- To Order Vernier Drive Control, Specify Type of Shaft Or Shaft Combination Required. See Chart No. 5.

CHART NO. 4, MOUNTING BUSHINGS

BUSHING TYPE	DIAMETER	LENGTH ¼"	LENGTH ⅜"	LENGTH ½"
PLAIN	¼"	PA	PC	..
LOCKING	¼"	..	LC	LH
PLAIN	⅜"	PG	PK	..
LOCKING	⅜"	..	BK	BN

To Order Mounting Bushings, Specify Type, Diameter and Length by Choosing Two Letters Listed Under Length Columns, e.g., PA = Plain Mounting Bushing, ¼" dia. x ¼" lg.

CHART NO. 5, SHAFT COMBINATIONS AND LENGTHS

Shaft Operating Combinations	Lengths*
⅛" Dia. Solid	5/16", ⅜", 7/16", ½", 5/8", ¾", ⅞"
¼" Dia. Solid	⅜", ½", ⅝", ¾", ⅞", 1", 1⅛", 1½", 2"
¼" Dia. Outer Concentric ⅛" Dia. Inner Concentric	¾", ⅞", 1" 1", 1⅛", 1¼", 1⅜", 1½"
⅛" Dia. Outer Concentric .078" Dia. Inner Concentric	¾", ⅞", 1" 1", 1⅛", 1¼", 1⅜", 1½"

*Lengths are measured from the bushing mounting surface.

To Order Shaft Combination and Length, Specify The Following Information.

- Shaft combination desired
- For dual shaft combinations, specify which sections are to be operated by each shaft.
- Shaft lengths.

Shaft endings. Standard plain round, screw driver slot and flatted shaft endings available on ¼" and ⅛" dia. shafts. .078" dia. shafts available with only plain round endings.

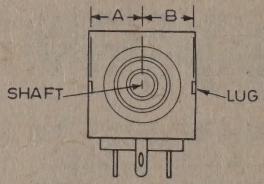


CHART NO. 6 LOCATING LUGS

Dimension A or B, or both, specify distance from shaft center to lug center

Locating Lug Option No. or Letter	Dimension A	Dimension B
1	.305"	No Lug
3	.375"	No Lug
6	.437"	No Lug
8	.531"	No Lug
2	.305"	.305"
5	.375"	.375"
7	.437"	.437"
9	.531"	.531"
A	No Lug	.305"
B	No Lug	.375"
C	No Lug	.437"
D	No Lug	.531"

To Order Locating Lugs, Specify Lug Option No. or Letter.

All controls include standard A-B mounting hardware and markings. Extra hardware is available on request. Special markings can be provided on each control, if desired. For additional information, request Allen-Bradley Publication 5217 and Mod Pot Order Form 898.

Because of the wide range of standard combinations available, pricing is quoted on an individual specification basis.

Allen-Bradley Potentiometers

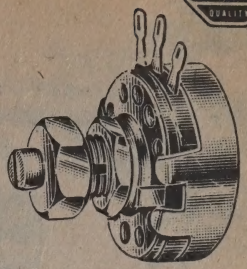
TYPE J-STYLE RV4L AND DUAL RESISTOR

LINEAR TAPER
10% TOLERANCE

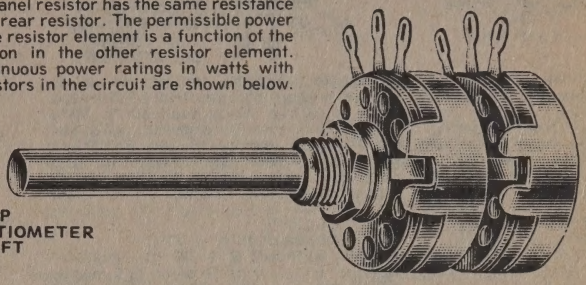
Stk. No	Type JA1L040S	Mil. No. RV4LAYSA	Ohms	Price
10F400	500UC	500A	50	A
10F401	101UC	101A	100	A
10F402	151UC	151A	150	A
10F403	201UC	201A	200	A
10F404	251UC	251A	250	A
10F405	351UC	351A	350	A
10F406	501UC	501A	500	A
10F407	751UC	751A	750	A
10F408	102UC	102A	1.0K	A
10F409	152UC	152A	1.5K	A
10F410	202UC	202A	2.0K	A
10F411	252UC	252A	2.5K	A
10F412	352UC	352A	3.5K	A
10F413	502UC	502A	5.0K	A
10F414	752UC	752A	7.5K	A
10F415	103UC	103A	10K	A
10F416	153UC	153A	15K	A
10F417	203UC	203A	20K	A
10F418	253UC	253A	25K	A
10F419	353UC	353A	35K	A
10F420	503UC	503A	50K	A
10F421	753UC	753A	75K	A
10F422	104UC	104A	.10M	A
10F423	154UC	154A	.15M	A
10F424	204UC	204A	.20M	A
10F425	254UC	254A	.25M	A
10F426	354UC	354A	.35M	A
10F427	504UC	504A	.50M	A

Type JA1L-hot molded composition potentiometer has a locking bushing. Linear taper, low noise, long life, infinite resolution. Enclosure is dust and splash resistant. After the locking nut has been tightened with a torque of 10 in. pounds the shaft will not turn with torques up to 40 in. ounces. Hardware included at no charge with order contains one mounting nut M-2786, one lock washer M-2898 and one lock nut B-13750. Shpg. wt., 4 oz. Additional hardware available.

Type JD dual controls are available in standard resistances from 50 ohms to 5.0 megohms with linear tapers. Maximum torque for dual controls is 9 in. oz.; min. 1 in. oz. at 25° C. Hardware included with order at no charge contains one mounting nut M-2786 and one lock washer M-2898. Additional hardware available. The panel resistor has the same resistance and taper as the rear resistor. The permissible power disspation in one resistor element is a function of the power dissipation in the other resistor element. Maximum continuous power ratings in watts with both entire resistors in the circuit are shown below. Shpg. wt., 4 oz.



TYPE JA1L040S
LOCKING BUSHING
3/8" SLOTTED SHAFT



TYPE JD1N200P
DUAL POTENTIOMETER
2" PLAIN SHAFT

7

LINEAR TAPER
20% TOLERANCE

Stk. No.	Type JA1L040S	Mil. No. RV4LAYSA	Ohms	Price
10F428	500MC	500B	50	B
10F429	101MC	101B	100	B
10F430	251MC	251B	250	B
10F431	501MC	501B	500	B
10F432	102MC	102B	1.0K	B
10F433	252MC	252B	2.5K	B
10F434	502MC	502B	5.0K	B
10F435	103MC	103B	10K	B
10F436	253MC	253B	25K	B
10F437	503MC	503B	50K	B
10F438	104MC	104B	.10M	B
10F439	254MC	254B	.25M	B
10F440	504MC	504B	.50M	B
10F441	745MC	754B	.75M	A
10F442	105MC	105B	1.0M	A
10F443	155MC	155B	1.5M	A
10F444	205MC	205B	2.0M	A
10F445	255MC	255B	2.5M	A
10F446	355MC	355B	3.5M	A
10F447	505MC	505B	5.0M	A

PRICE CODE

Code	1-9	10-24	25-49	50-99	100-249	250-499
A	2.55	2.29	2.24	2.12	1.41	1.09
B	2.35	2.14	2.09	2.02	1.31	1.01
C	5.85	5.26	5.20	5.06	3.20	2.47

WATTAGE TYPE JD

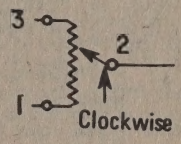
Panel Resistor	2.25	2.0	1.75	1.5	1.25	1.0	0.75	0.5	0.25	0
Rear Resistor	0	0.83	1.13	1.34	1.49	1.61	1.7	1.75	1.79	1.8

DUAL LINEAR—10% TOLERANCE

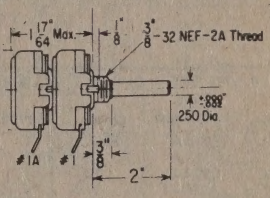
Stk. No	Type JDIN200P	Ohms	Price
10F585	500UA	50	C
10F586	101UA	100	C
10F587	251UA	250	C
10F588	501UA	500	C
10F589	102UA	1.0K	C
10F590	252UA	2.5K	C
10F591	502UA	5.0K	C
10F592	103UA	10K	C
10F593	253UA	25K	C
10F594	503UA	50K	C
10F595	104UA	.10M	C
10F596	254UA	.25M	C
10F597	504UA	.50M	C

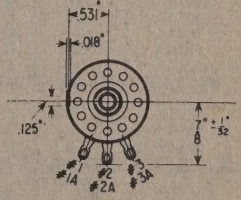
DUAL LINEAR—20% TOLERANCE

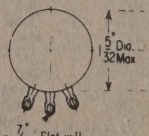
Stk. No.	Type JDIN200P	Ohms	Price
10F598	105MA	1.0M	C
10F599	255MA	2.5M	C
10F600	505MA	5.0M	C



DUAL RESISTOR POTS

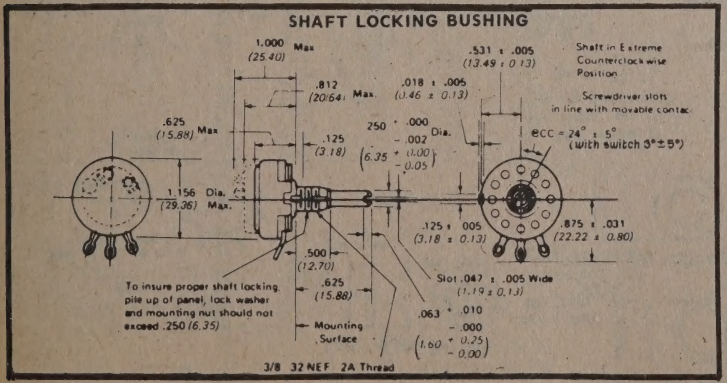






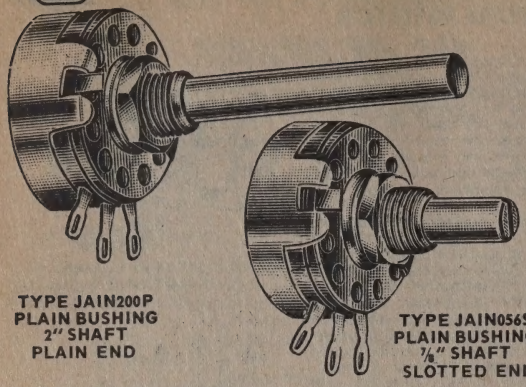
1/16" x 7/64" Slot will accommodate 2 #16 or 3 #20 B & S Gauge Solid or Stranded Wires

SHAFT LOCKING BUSHING


1.000 Max (25.40)
.812 (20.64) Max.
.531 ± .005 (13.49 ± 0.13)
.018 ± .005 (0.46 ± 0.13)
Shaft in Extreme Counterclockwise Position
Screwdriver slots in line with movable contact
ECC = 24° ± 5° (with switch 3° ± 5°)
.625 (15.88) Max
.125 (3.18)
250 +.000 -.002 Dia. (6.35 +0.00 -0.05)
1.156 Dia. (29.36) Max.
.125 ± 005 (3.18 ± 0.13)
.875 ± .031 (22.22 ± 0.80)
.500 (12.70)
.625 (15.88)
Slot .047 ± .005 Wide (1.19 ± 0.13)
To insure proper shaft locking pile up of panel, lock washer and mounting nut should not exceed .250 (6.35)
Mounting Surface
.063 +.010 -.000 (1.60 +0.25 -0.00)
3/8 32 NEF 2A Thread

Allen-Bradley Potentiometers

TYPE J-STYLE RV4N VARIABLE POTENTIOMETERS



TYPE JAIN200P
PLAIN BUSHING
2" SHAFT
PLAIN END

TYPE JAIN056S
PLAIN BUSHING
⅞" SHAFT
SLOTTED END

TYPE "J". Hot-molded composition variable resistors for use as rheostats and potentiometers in military and industrial applications where superior performance is desired. Many available as Style RV4N of MIL-R-94. Corrosion resistant, nonmagnetic materials. Dust and splash resistant. Terminals treated for easy soldering. Linear Taper "U". Locating lug provided. Supplied with mounting nut M-2786 and internal tooth lock washer M-2898. Additional hardware and SPST switch also available. (See below).

TEMP. RANGE	-55°C to +120°C
POWER RATING	2.25 watt maximum @ + 70°C
POWER DERATING	Linearly to 0 watt @ + 120 °C
RESISTANCE RANGE	Nominal values from 50 ohms to 5 megohms
VOLTAGE	500 V, max. working voltage (RMS or DC)
LOAD LIFE	Less than 10% change of total res. (1000 hr)
ROTATIONAL LIFE	Less than 10% change (100,000 cycle life test)
MARKING	Type "J", A-B trade and part number, nom. res. value. Mil spec where applicable.

ADDITIONAL HARDWARE

Stk. No.	Type	Description	Each
10F1953	M-2786	Mounting Nut	.05
10F1954	M-2898	Lock Washer	.10
10F1955	B-13750	Hex Locking Nut	.20
10F1956	M-3236	Acorn Locking Nut	.40
10F1957	M-3318	Knurled Locking Nut	.50
10F605	JS-1	SPST Switch*	Price Code D

(*)**SPST SWITCH.** Single pole, single throw snap switch available only for "turns on at start of clockwise rotation." 2 amperes, 125 volts RMS, 60 Hertz. Also rated 10 amperes, 10 volts DC, non-inductive.

Code Letter	1-9	10-24	25-49	50-99	100-249	250-499
A	1.95	1.75	1.70	1.62	1.26	.97
B	1.75	1.60	1.55	1.52	1.16	.90
C	2.25	2.02	1.97	1.87	1.26	.97
D	.66	.62	.60	.59	.38	.29

10% TOLERANCE—CW LOG TAPER

Stk. No.	Type JA1N200P	Ohms	Price
10F554	501AA	500	C
10F555	102AA	1.0K	C
10F556	252AA	2.5K	C
10F557	502AA	5.0K	C
10F558	103AA	10K	C
10F559	253AA	25K	C
10F560	503AA	50K	C
10F561	104AA	.10M	C
10F562	254AA	.25M	C
10F563	504AA	.50M	C

20% TOLERANCE—CW LOG TAPER

10F564	105RA	1.0M	C
10F565	255RA	2.5M	C
10F566	505RA	5.0M	C

10% TOLERANCE—CCW LOG TAPER

10F567	501BA	500	C
10F568	102BA	1.0K	C
10F569	252BA	2.5K	C
10F570	502BA	5.0K	C
10F571	103BA	10K	C
10F572	253BA	25K	C
10F573	503BA	50K	C
10F574	104BA	.10M	C
10F575	254BA	.25M	C
10F576	504BA	.50M	C

20% TOLERANCE—CCW LOG TAPER

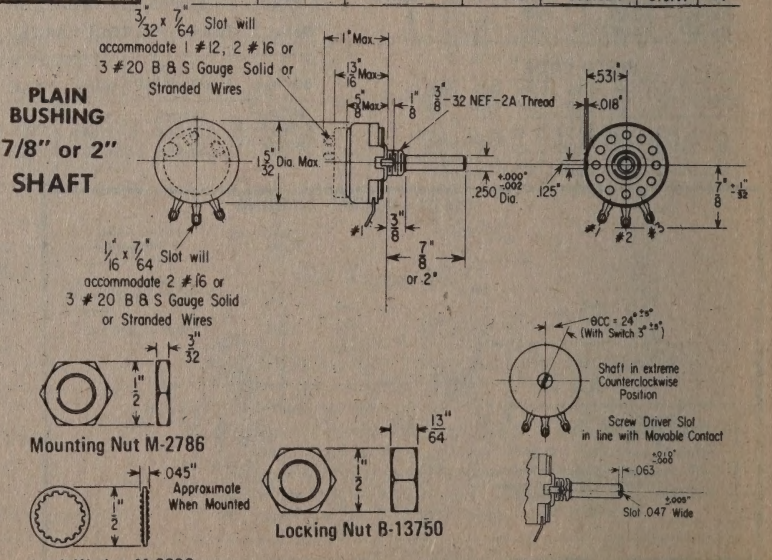
10F577	105TA	1.0M	C
10F578	255TA	2.5M	C
10F579	505TA	5.0M	C

10% TOLERANCE—LINEAR TAPER

⅞" SHAFT Stk. No.	Type JA1N056S	Mil. No. RV4NAYSD	2" SHAFT Stk. No.	Type JA1N200P	Ohms	Price
10F453	500UA	500A	10F506	500UA	50	A
10F454	101UA	101A	10F507	101UA	100	A
10F455	151UA	151A	10F508	151UA	150	A
10F456	201UA	201A	10F509	201UA	200	A
10F457	251UA	251A	10F510	251UA	250	A
10F458	351UA	351A	10F511	351UA	350	A
10F459	501UA	501A	10F512	501UA	500	A
10F460	751UA	751A	10F513	751UA	750	A
10F461	102UA	102A	10F514	102UA	1.0K	A
10F462	152UA	152A	10F515	152UA	1.5K	A
10F463	202UA	202A	10F516	202UA	2.0K	A
10F464	252UA	252A	10F517	252UA	2.5K	A
10F465	352UA	352A	10F518	352UA	3.5K	A
10F466	502UA	502A	10F519	502UA	5.0K	A
10F467	752UA	752A	10F520	752UA	7.5K	A
10F468	103UA	103A	10F521	103UA	10K	A
10F469	153UA	153A	10F522	153UA	15K	A
10F470	203UA	203A	10F523	203UA	20K	A
10F471	253UA	253A	10F524	253UA	25K	A
10F472	353UA	353A	10F525	353UA	35K	A
10F473	503UA	503A	10F526	503UA	50K	A
10F474	753UA	753A	10F527	753UA	75K	A
10F475	104UA	104A	10F528	104UA	.10M	A
10F476	154UA	154A	10F529	154UA	.15M	A
10F477	204UA	204A	10F530	204UA	.20M	A
10F478	254UA	254A	10F531	254UA	.25M	A
10F479	354UA	354A	10F532	354UA	.35M	A
10F480	504UA	504A	10F533	504UA	.50M	A

20% TOLERANCE—LINEAR TAPER

Stk. No.	Type JA1N056S	Mil. No. RV4NAYSD	Stk. No.	Type JA1N200P	Ohms	Price
10F481	500MA	500B	10F534	500MA	50	B
10F482	101MA	101B	10F535	101MA	100	B
10F483	251MA	251B	10F536	251MA	250	B
10F484	501MA	501B	10F537	501MA	500	B
10F485	102MA	102B	10F538	102MA	1.0K	B
10F486	252MA	252B	10F539	252MA	2.5K	B
10F487	502MA	503A	10F540	502MA	5.0K	B
10F488	103MA	103B	10F541	103MA	10K	B
10F489	253MA	253B	10F542	253MA	25K	B
10F490	503MA	503B	10F543	503MA	50K	B
10F491	104MA	104B	10F544	104MA	.10M	B
10F492	254MA	254B	10F545	254MA	.25M	B
10F493	504MA	504B	10F546	504MA	.50M	B
10F494	754MA	754B	10F547	754MA	.75M	A
10F495	105MA	105B	10F548	105MA	1.0M	A
10F496	155MA	155B	10F549	155MA	1.5M	A
10F497	205MA	205B	10F550	205MA	2.0M	A
10F498	255MA	255B	10F551	255MA	2.5M	A
10F499	355MA	355B	10F552	355MA	3.5M	A
10F500	505MA	505B	10F553	505MA	5.0M	A



Allen-Bradley-Variable Resistors

TYPE G, GD AND W

10% TOLERANCE

Stk. No.	Type GA2 L040S	MIL-R-94 RV6 LAYSA	Ohms	Price
10F660	101UC	101A	100	A
10F661	251UC	251A	250	A
10F662	501UC	501A	500	A
10F663	102UC	102A	10K	A
10F664	252UC	252A	25K	A
10F665	502UC	502A	50K	A
10F666	103UC	103A	1.0K	A
10F667	253UC	253A	2.5K	A
10F668	503UC	503A	5.0K	A
10F669	104UC	104A	.10M	A
10F670	254UC	254A	.25M	A
10F671	504UC	504A	.50M	A

20% TOLERANCE

Stk. No.	RV6	LAYSA	Ohms	Price
10F672	105MC	105B	1.0M	B
10F673	255MC	255B	2.5M	B
10F674	505MC	505B	5.0M	B

10% TOLERANCE

Stk. No.	Type GA2-G056S	Mil-R-94 RV6-NAYSD	Ohms	Price
10F636	101UA	101A	100	E
10F637	251UA	251A	250	E
10F638	501UA	501A	500	E
10F639	102UA	102A	1.0K	E
10F640	252UA	252A	2.5K	E
10F641	502UA	502A	5.0K	E
10F642	103UA	103A	10K	E
10F643	253UA	253A	25K	E
10F644	503UA	503A	50K	E
10F645	104UA	104A	.10M	E
10F646	254UA	254A	.25M	E
10F647	504UA	504A	.50M	E

20% TOLERANCE

10F648	105MA	105B	1.0M	F
10F649	205MA	205B	2.0M	F
10F650	255MA	255B	2.5M	F
10F651	505MA	505B	5.0M	F

10% TOLERANCE

Stk. No.	Type GD1G056S	Ohms	Price
10F610	101UA	100	I
10F611	201UA	200	I
10F612	251UA	250	I
10F613	501UA	500	I
10F614	102UA	1.0K	I
10F615	202UA	2.0K	I
10F616	252UA	2.5K	I
10F617	502UA	5.0K	I
10F618	103UA	10K	I
10F619	203UA	20K	I

10% TOLERANCE

Stk. No.	Type WA2L040S	Ohms	Price
10F680	101UC	100	C
10F681	201UC	200	C
10F682	251UC	250	C
10F683	501UC	500	C
10F684	102UC	1.0K	C
10F685	202UC	2.0K	C
10F686	252UC	2.5K	C
10F687	502UC	50K	C
10F688	103UC	10K	C
10F689	203UC	20K	C
10F690	253UC	25K	C
10F691	503UC	50K	C
10F692	104UC	.10M	C
10F693	204UC	.20M	C
10F694	254UC	.25M	C
10F695	504UC	.50M	C

20% TOLERANCE

10F696	105MC	1.0M	D
10F697	205MC	2.0M	D
10F698	255MC	2.5M	D
10F699	505MC	5.0M	D

10% TOLERANCE

Stk. No.	Type WA2G056S	Ohms	Price
10F705	101UA	100	G
10F706	201UA	200	G
10F707	251UA	250	G
10F708	501UA	500	G
10F709	102UA	1.0K	G
10F710	202UA	2.0K	G
10F711	252UA	2.5K	G
10F712	502UA	5.0K	G
10F713	103UA	10K	G
10F714	203UA	20K	G
10F715	253UA	25K	G
10F716	503UA	50K	G
10F717	104UA	.10M	G
10F718	204UA	.20M	G
10F719	254UA	.25M	G
10F720	504UA	.50M	G

20% TOLERANCE

10F721	105MA	1.0M	H
10F722	205MA	2.0M	H
10F723	255MA	2.5M	H
10F724	505MA	5.0M	H

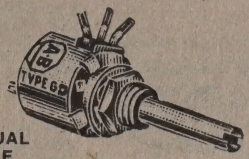
10% TOLERANCE

Stk. No.	Type GD1G056S	Ohms	Price
10F620	253UA	25K	I
10F621	503UA	50K	I
10F622	104UA	.10M	I
10F623	204UA	.20M	I
10F624	254UA	.25M	I
10F625	504UA	.50M	I
10F626	105UA	1.0M	I
10F627	205UA	2.0M	I
10F628	255UA	2.5M	I
10F629	505UA	5.0M	I

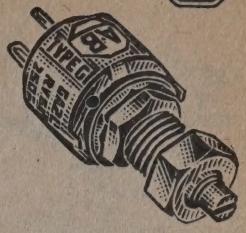
PRICE CODE

Code Letter	1-9	10-24	25-49	50-99	100-249	250-499
A	4.80	3.90	3.50	2.35	2.05	1.71
B	4.20	3.80	3.30	2.60	2.10	1.70
C	4.20	3.60	3.00	2.20	1.33	1.20
D	3.90	3.30	2.80	2.00	1.23	1.15
E	4.50	3.75	3.15	2.25	1.95	1.65
F	4.00	3.50	3.00	2.20	1.90	1.63
G	3.75	3.20	2.70	1.80	1.22	1.12
H	3.60	3.00	2.50	1.74	1.12	1.03
I	10.09	7.42	6.67	5.57	4.61	4.30

Type GA2G056S and WA2G056S Plain Bushing



ACTUAL SIZE



Type GA2L040S and WA2L040S Locking Bushing

Type GD1G056S Dual Variable Resistor

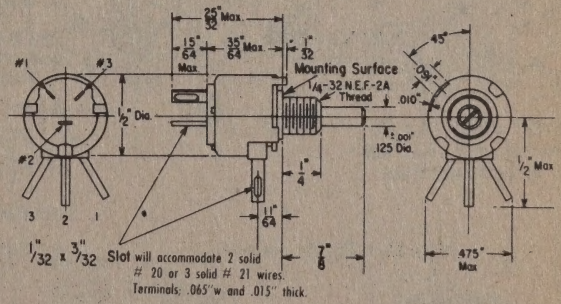
TYPE G, GD and W. High quality hot molded carbon composition type. **TYPE G** approved under MIL-R-94 style RV6. **TYPE W** similar in performance to TYPE G but is industrial grade. **TYPE GD** is dual miniature type. Plain bushing resistors are supplied with one monting nut M-4721 and one lock washer M-4748. Shaft lock bushings furnished with one locknut M-4761, M-4721 and EM-4748. Shpg. wt. 4 oz.

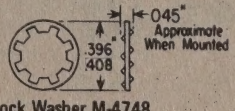
	Type G and Type W	Type GD
Torque	.5 to 3 in oz @ 25° C	4.5 in oz. @ 25° C
Temp. Range	-55° C to +120°C	
Power Rating	½ watt @ 70° C	
Derate to 0 Watt	@ 120°C	
Rotation	295° ±5°	
Resistance Range	100 ohms to 5 megohms	
Voltage	350 Volts maximum	
Moisture Resistance	Less than 10% of total resistance	
Shock & Vibration	Less than 5%	
Load Life	Less than 10% after 1000 hrs. of operation	
Enclosure	Immersion sealed	
Marking	AB part number, Nominal resistance value, and MIL designation when applicable.	

ADDITIONAL HARDWARE

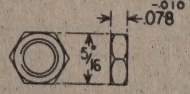
Stk. No.	Type	Description	Each
10F1920	M4721	Mounting Nut	.05
10F1921	M4748	Lock Washer	.05
10F1922	M4761	Hex Lock Nut	.10

TYPE GD

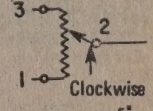


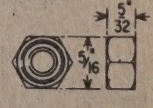


Lock Washer M-4748



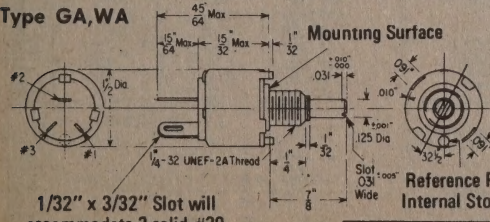
Mounting Nut M-4721





Lock Nut M-4761

Type GA,WA



Shaft in extreme Counterclockwise Position

1/32" x 3/32" Slot will accommodate 2 solid #20 or 3 solid #21 Wires

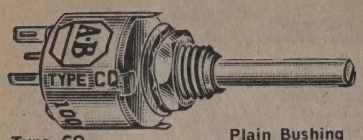
TYPE W. Not supplied with 1/32" thick washers. Stop pin rotated 180° from shown position.

Cermet Variable Resistors

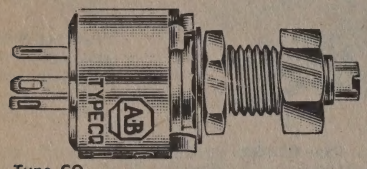
TYPE CQ & TYPE SP

TYPE CQ. Designed for use in severe environmental conditions in military and industrial equipment. Single Turn cermet. U linear taper. Supplied with hardware.

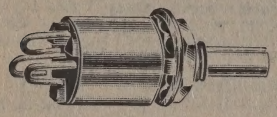
TYPE SP. Single turn cermet. Linear taper ±10% tolerance. ¼" plain bushing 5/8" shaft and 3/8" locking bushing 7/16" shaft. Supplied with hardware and mounting lugs.



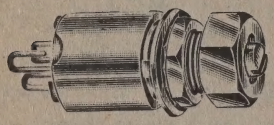
Type CQ — Plain Bushing



Type CQ — Shaft Lock Bushing



Type SP — Plain Bushing



Type SP — Locking Bushing

	CQ	SP
TEMP. RANGE	-65°C to 175°C	-65° to +150°C
POWER RATING	½ watt @ 125°C	1 watt @ 70°C
DERATE TO 0 WATT	@ 175°C	@ 150°C
ROTATION	295 ±5°	280° ±5°
RESISTANCE RANGE	100 ohms to 5 megohms	50 ohms to 1 megohm
VOLTAGE	350	300
MOISTURE RESIST.	Less than 2 % in total resistance	
TEMP. COEFF.	Less than ±150 ppm/°C	Less than ±250 ppm/°C
SHOCK & VIBRATION	Less than 2% in total resistance	
LOAD LIFE	Less than 3% in total resis. after 1000 hrs. of operation	Less than 5% in total resis. after 1000 hrs. operation
TORQUE	½ to 6 in-oz	
ENCLOSURE	Immersion sealed or water tight	
MARKING	AB part #, Nom. resistance value	

¼" PLAIN BUSHING 7/8" SLOT SHAFT 10% TOLERANCE

Stock No.	Type CQ2G056S	Ohms	Price Code
10F1400	101U	100	A
10F1401	251U	250	A
10F1402	501U	500	A
10F1403	102U	1000	A
10F1404	252U	2500	A
10F1405	502U	5000	A
10F1406	103U	10000	A
10F1407	253U	25000	A
10F1408	503U	50000	A
10F1409	104U	.1 MEG	A
10F1410	254U	.25 MEG	A
10F1411	504U	.50 MEG	A
10F1412	105U	1.0 MEG	A
10F1413	205U	2.0 MEG	A
10F1414	255U	2.5 MEG	A
10F1415	505U	5.0 MEG	A

½" LOCKING BUSHING 5/8" SLOT SHAFT 10% TOLERANCE

Stock No.	Type CQ2L040S	Ohms	Price Code
10F1450	101U	100	B
10F1451	251U	250	B
10F1452	501U	500	B
10F1453	102U	1000	B
10F1454	252U	2500	B
10F1455	502U	5000	B
10F1456	103U	10000	B
10F1457	253U	25000	B
10F1458	503U	50000	B
10F1459	104U	.1 MEG	B
10F1460	254U	.25 MEG	B
10F1461	504U	.50 MEG	B
10F1462	105U	1.0 MEG	B
10F1463	205U	2.0 MEG	B
10F1464	255U	2.5 MEG	B
10F1465	505U	5.0 MEG	B

¼" PLAIN BUSHING 5/8" SLOTTED SHAFT 10% TOLERANCE

Stock No.	Type SPSG040S	Ohms	Price Code
10F1500	500U	50	C
10F1501	101U	100	C
10F1502	251U	250	C
10F1503	501U	500	C
10F1504	102U	1K	C
10F1505	252U	2.5K	C
10F1506	502U	5.0K	C
10F1507	103U	10.0K	C
10F1508	253U	25.0K	C
10F1509	503U	50.0K	C
10F1510	104U	.10M	C
10F1511	254U	.25M	C
10F1512	504U	.50M	C

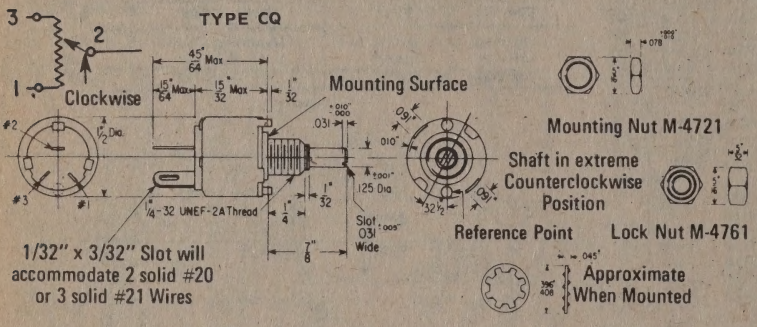
3/8" LOCKING BUSHING 7/16" SLOT SHAFT 10% TOLERANCE

Stock No.	Type SPSM028S	Ohms	Price Code
10F1550	500U	50	D
10F1551	101U	100	D
10F1552	251U	250	D
10F1553	501U	500	D
10F1554	102U	1.0K	D
10F1555	252U	2.5K	D
10F1556	502U	5.0K	D
10F1557	103U	10.0K	D
10F1558	253U	25.0K	D
10F1559	503U	50.0K	D
10F1560	104U	.10M	D
10F1561	254U	.25M	D
10F1562	504U	.50M	D
10F1563	105U	1.0M	D

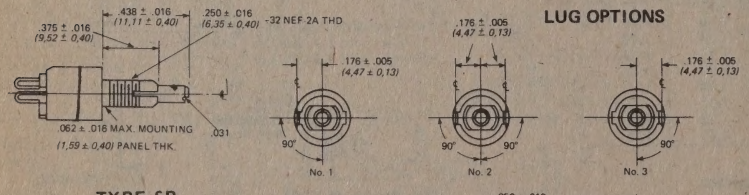
PRICE CODE

Code	1-9	10-24	25-49	50-99	100-249
A	4.95	4.00	3.40	2.75	2.35
B	5.20	4.10	3.60	3.10	2.54
C	7.60	6.40	5.60	4.60	3.40
D	7.90	6.64	5.82	4.80	3.58

TYPE CQ



LUG OPTIONS



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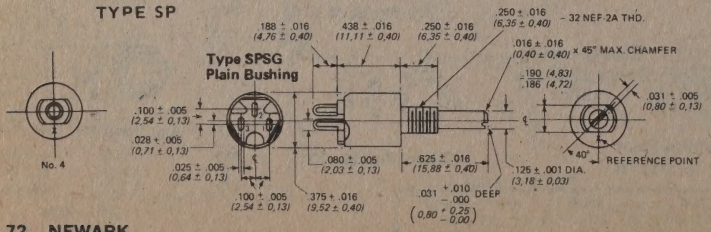
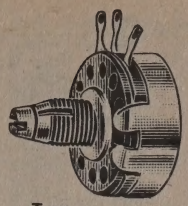
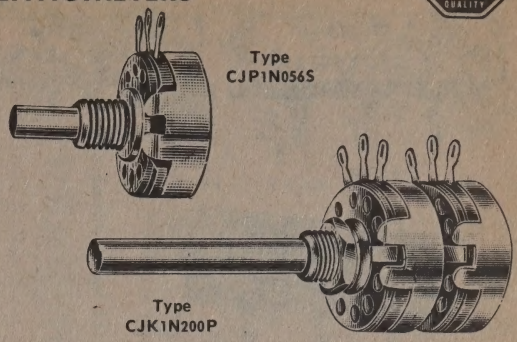


Cermet & Composition Potentiometers

TYPE CJ CERMET POTENTIOMETERS



Type CJP1L040S



Type CJP1N056S

Type CJK1N200P

TYPE CJP1L040S 10% TOLERANCE
½ LOCKING BUSHING
5/8" SLOTTED SHAFT

Stock No.	Type CJP1L040S	Ohms	PRICE CODE
10F1601	101UC	100	A
10F1602	251UC	250	A
10F1603	501UC	500	A
10F1604	102UC	1K	A
10F1605	252UC	2.5K	A
10F1606	502UC	5K	A
10F1607	103UC	10K	A
10F1608	253UC	25K	A
10F1609	503UC	50K	A
10F1610	104UC	.1M	A
10F1611	254UC	.25M	A
10F1612	504UC	.50M	A
10F1613	105UC	1.0M	A
10F1614	255UC	2.5M	A
10F1615	505UC	5.0M	A

TYPE CJP1N056S 10% TOLERANCE
3/8" PLAIN BUSHING
7/8" SLOTTED SHAFT

Stock No.	Type CJP1N056S	Ohms	Price Code
10F1651	101U	100	B
10F1652	251U	250	B
10F1653	501U	500	B
10F1654	102U	1K	B
10F1655	252U	2.5K	B
10F1656	502U	5.0K	B
10F1657	103U	10K	B
10F1658	253U	25K	B
10F1659	503U	50K	B
10F1660	104U	.10M	B
10F1661	254U	.25M	B
10F1662	504U	.50M	B
10F1663	105U	1.0M	B
10F1664	255U	2.5M	B
10F1665	505U	5.0M	B

TYPE CJK1N200P 10% TOLERANCE

Stock No.	Type CJK1N200P	Ohms	Price Code
10F1701	101U	100	C
10F1702	251U	250	C
10F1703	501U	500	C
10F1704	102U	1K	C
10F1705	252U	2.5K	C
10F1706	502U	5.0K	C
10F1707	103U	10K	C
10F1708	253U	25K	C
10F1709	503U	50K	C
10F1710	104U	100K	C
10F1711	254U	250K	C
10F1712	504U	500K	C
10F1713	105U	1.0M	C
10F1714	255U	2.5M	C
10F1715	505U	5.0M	C

Type CJ cermet potentiometers are designed for severe environmemtal applications. The type CJ has a 5 watt rating at 70°C derated to zero at 150°C. Linear taper 10% tolerance. 1/2" locking bushing, 5/8" slotted shaft, 3/8" plain bushing with 7/8" slotted shaft. Temp. coef. ±150 ppm. —65°C to 150°C. Less than 3 % resistance change after temp. cycling. Less than 5% resistance change after moisture per Mil Std.—202. Less than 5% total Res. after 1000 hrs. Load life at 70°C. Dimensions same as type J, except switch not available. Supplied with hardware.

	PRICE CODE				
Code	1-9	10-24	25-49	50-99	100-249
A	5.60	5.10	4.55	4.15	3.65
B	4.90	4.40	4.10	3.60	3.20
C	10.40	9.50	8.50	7.70	6.80

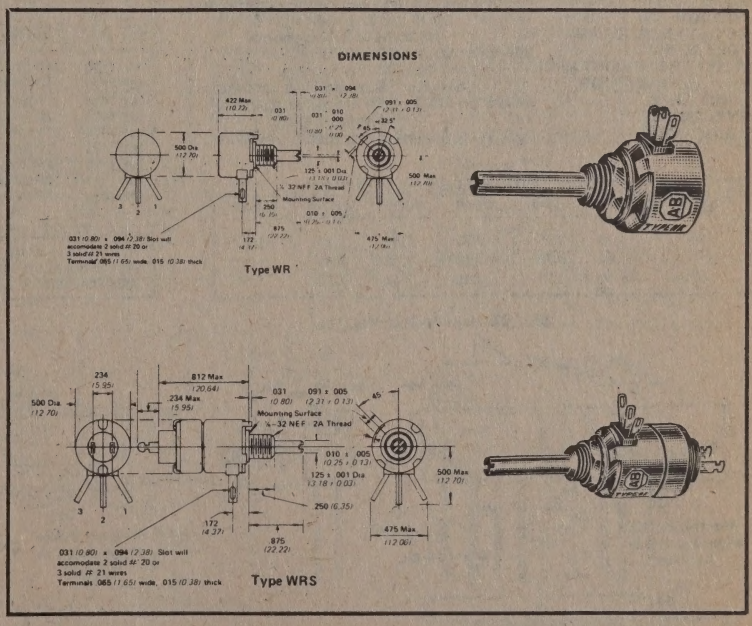
TYPES WR AND WRS HOT-MOLDED VARIABLE RESISTOR- ½-WATT

TYPE WR-LESS SWITCH

Stock No.	Type	Ohms
10F2300	WRA1G056S101U	100
10F2301	WRA1G056S201U	100
10F2302	WRA1G056S251U	250
10F2303	WRA1G056S501U	500
10F2304	WRA1G056S102U	1K
10F2305	WRA1G056S202U	2K
10F2306	WRA1G056S252U	2.5K
10F2307	WRA1G056S502U	5.0K
10F2308	WRA1G056S103U	10K
10F2309	WRA1G056S203U	20K
10F2310	WRA1G056S253U	25K
10F2311	WRA1G056S503U	50K
10F2312	WRA1G056S104U	100K
10F2313	WRA1G056S204U	200K
10F2314	WRA1G056S254U	250K
10F2315	WRA1G056S504U	500K
10F2316	WRA1G056S105U	1 meg
10F2317	WRA1G056S205U	2 meg
10F2318	WRA1G056S255U	2.5 meg
10F2319	WRA1G056S505U	5 meg

TYPE WRS-WITH SWITCH

10F2320	WRS1G056S101U	100
10F2321	WRS1G056S201U	200
10F2322	WRS1G056S251U	250
10F2323	WRS1G056S501U	500
10F2324	WRS1G056S102U	1K
10F2325	WRS1G056S202U	2K
10F2326	WRS1G056S252U	2.5K
10F2327	WRS1G056S502U	5K
10F2328	WRS1G056S103U	10K
10F2329	WRS1G056S203U	20K
10F2330	WRS1G056S253U	25K
10F2331	WRS1G056S503U	50K
10F2332	WRS1G056S104U	100K
10F2333	WRS1G056S204U	200K
10F2334	WRS1G056S254U	250K
10F2335	WRS1G056S504U	500K
10F2336	WRS1G056S105U	1 meg
10F2337	WRS1G056S205U	2 meg
10F2338	WRS1G056S255U	2.5 meg
10F2339	WRS1G056S505U	5 meg

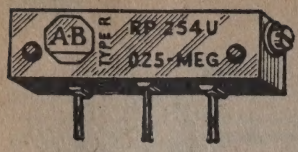


Carbon composition potentiometers offer behind-panel depth of less than 1/2". Type WRS has 1A line switch actuated at beginning of clockwise rotation. Tol.: ±10%. Linear "U" taper. Power: 1/2-watt max. at +70°C, for "U" taper, at rated voltage. Voltage: 350V rms or DC max. working. Temp. Range: Resistor, -55°C to +120°C; switch, -55°C to +100°C. Switch: 1 A, 125 V, 60 Hz and 1.5A, 28 VDC non-ind.

Type	1-9	10-24	25-49	50-99	100-249	250-499	500-Up
WR	5.28	4.08	3.28	2.53	1.77	1.32	1.23
WRS	10.48	7.85	6.20	4.89	3.75	2.80	2.34

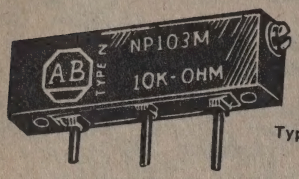
Allen-Bradley Trimmers

TYPE N, RP AND RS MULTI-TURN TRIMMERS



Type RP

Type RS



Type N

10% TOLERANCE					20% TOLERANCE			
Stk. No.	Type	MIL-R-22097 RJ11AS	Ohms	Pr	Stk. No.	Type	Ohms	Pr
10F1135	RS101U	101	100	A	10F1154	RS101M	100	B
10F1136	RS201U	201	200	A	10F1155	RS201M	200	B
10F1137	RS251U	.....	250	A	10F1156	RS251M	250	B
10F1138	RS501U	501	500	A	10F1157	RS501M	500	B
10F1139	RS102U	102	1.0K	A	10F1158	RS102M	1.0K	B
10F1140	RS202U	202	2.0K	A	10F1159	RS202M	2.0K	B
10F1141	RS252U	.....	2.5K	A	10F1160	RS252M	2.5K	B
10F1142	RS502U	502	5.0K	A	10F1161	RS502M	5.0K	B
10F1143	RS103U	103	10K	A	10F1162	RS103M	10K	B
10F1144	RS203U	203	20K	A	10F1163	RS203M	20K	B
10F1145	RS253U	253	25K	A	10F1164	RS253M	25K	B
10F1146	RS503U	503	50K	A	10F1165	RS503M	50K	B
10F1147	RS104U	104	.10M	A	10F1166	RS104M	.10M	B
11F1148	RS204U	. . .	20MA	A	10F1167	RS204M	.20M	B
10F1149	RS254U	254	.25M	A	10F1168	RS254M	.25M	B
10F1150	RS504U	504	.50M	A	10F1169	RS504M	.50M	B
10F1151	RS105U	105	1.0M	A	10F1170	RS105M	1.0M	B
10F1152	RS205U	. . .	2.0M	A	10F1170	RS205M	2.0M	B
10F1153	RS225U	. . .	2.5M	A	10F1172	RS225M	2.5M	B

- HOT MOLDED COMPOSITION RESISTANCE ELEMENT
- 300 VOLTS MAXIMUM CONTINUOUS WORKING VOLTAGE RMS OR DC
- RELIABLE IMMERSION SEALED PERFORMANCE
- TYPE "R" MIL APPROVED
- TYPE "RJ11" MIL-R-22097
- TYPE "NP" INDUSTRIAL GRADE

Hot-molded composition, continuously adjustable 25-turn variable resistors intended primarily for trimmer applications. Immersion sealed enclosure. Corrosion resistant, non-magnetic materials. Sealed, molded, insulating enclosure with "O" ring equipped adjustment screw.

Type "R". MIL approved. Pin or lug terminals spaced on 0.1" grid system for PC boards. Type RJ11. Mil-R-22097. Marked with MIL designation and circuit diagrams if applicable. Type "N". Performance similar to Type RP except industrial grade. Available in pin leads only.

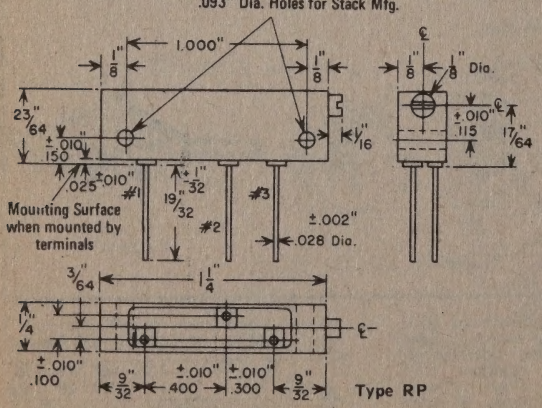
	TYPE "R"	TYPE "N"
TEMP. RANGE	-55° C to +125° C	-55° C to +100° C
POWER RATING	¼ watt @ 70° C	⅛ watt @ 50° C
DERATE TO 0 WATT	@ 125° C	@ 100° C
ROTATION	25±3 turns -5% max. res. change/500 cycles	
TORQUE	0.10 to 8 in. oz. @ +25° C	
RESISTANCE RANGE	100 ohms to 2.5 megohms	
VOLTAGE	300 Volts max. working voltage (RMS or DC)	
MOISTURE RESISTANCE	Less than 10% temporary change	
SHOCK/VIBRATION	Less than 3% overall res. change	
LOAD LIFE	Less than 10% in total res. after 1000 hrs.	
ENCLOSURE	Immersion sealed	
MARKING	Type R, A-B trademark, resistance value	

10% TOLERANCE						20% TOLERANCE					
Stk. No.	Type	Ohms	Pr	Stk. No.	Type	Ohms	Pr	Stk. No.	Type	Ohms	Pr
10F1090	RP101U	100	A	10F1109	RP101M	100	B				
10F1091	RP201U	200	A	10F1110	RP201M	200	B				
10F1092	RP251U	250	A	10F1111	RP251M	250	B				
10F1093	RP501U	500	A	10F1112	RP501M	500	B				
10F1094	RP102U	1.0K	A	10F1113	RP102M	1.0K	B				
10F1095	RP202U	2.0K	A	10F1114	RP202M	2.0K	B				
10F1096	RP252U	2.5K	A	10F1115	RP252M	2.5K	B				
10F1097	RP502U	5.0K	A	10F1116	RP502M	5.0K	B				
10F1098	RP103U	10K	A	10F1117	RP103M	10K	B				
10F1099	RP203U	20K	A	10F1118	RP203M	20K	B				
10F1100	RP253U	25K	A	10F1119	RP253M	25K	B				
10F1101	RP503U	50K	A	10F1120	RP503M	50K	B				
10F1102	RP104U	.10M	A	10F1121	RP104M	.10M	B				
10F1103	RP204U	.20M	A	10F1122	RP204M	.20M	B				
10F1104	RP254U	.25M	A	10F1123	RP254M	.25M	B				
10F1105	RP504U	.50M	A	10F1124	RP504M	.50M	B				
10F1106	RP105U	1.0M	A	10F1125	RP105M	1.0M	B				
10F1107	RP205U	2.0M	A	10F1125	RP205M	2.0M	B				
10F1108	RP225U	2.5M	A	10F1127	RP255M	2.5M	B				

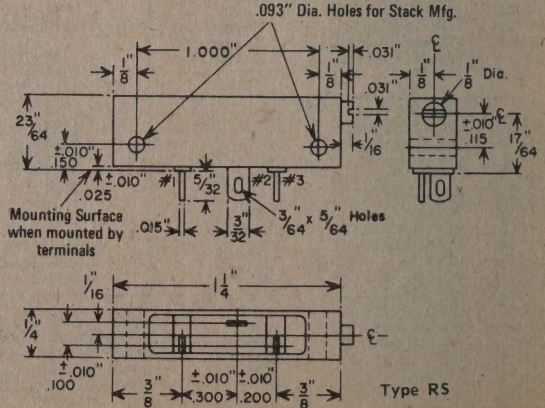
20% TOLERANCE											
Stk. No.	Type No.	Ohms	Price	Stk. No.	Type No.	Ohms	Price	Stk. No.	Type No.	Ohms	Price
10F1020	NP101M	100	C	10F1029	NP203M	20K	C				
10F1021	NP201M	200	C	10F1030	NP253M	25K	C				
10F1022	NP251M	250	C	10F1031	NP503M	50K	C				
10F1023	NP501M	500	C	10F1032	NP104M	.10M	C				
10F1024	NP102M	1.0K	C	10F1033	NP204M	.20M	C				
10F1025	NP202M	2.0K	C	10F1034	NP254M	.25M	C				
10F1026	NP252M	2.5K	C	10F1035	NP504M	.50M	C				
10F1027	NP502M	5.0K	C	10F1036	NP105M	1.0M	C				
10F1028	NP103M	10K	C	10F1037	NP205M	2.0M	C				
.....	.....	....	..	10F1038	NP255M	2.5M	C				

PRICE CODE						
Code Letter	1-9	10-24	25-49	50-99	100-249	250-499
A	4.20	3.95	3.75	3.55	3.30	3.10
B	4.00	3.75	3.55	3.35	3.10	2.90
C	3.30	2.75	2.25	1.60	1.50	1.40

The Type N dimensions are similar to the RP except the Type N has no holes for stack mounting, and N slot depth is .035" x .010-.005 instead of .031".



Type RP

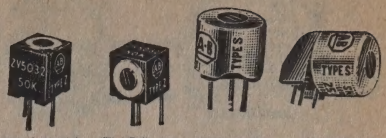


Type RS

Allen Bradley Trimmers

TYPE Z AND TYPE S-SINGLE TURN CERMET TRIMMERS

10% TOLERANCE					20% TOLERANCE				
ZV Stk. No.	ZA Stk. No.	ZV & ZA Type No.	Ohms	Price	ZV Stk. No.	ZV Stk. No.	ZV & ZA Type No.	Ohms	Price
10F960	10F1330	5001	50	A	10F990	10F1353	5002	50	B
10F961	10F1331	7501	75	A	10F991	10F1354	7502	75	B
10F962	10F1332	1011	100	A	10F992	10F1355	1012	100	B
10F963	10F1333	2011	200	A	10F993	10F1356	2012	200	B
10F964	10F1334	2511	250	A	10F994	10F1357	2512	250	B
10F965	10F1335	5011	500	A	10F995	10F1358	5012	500	B
10F966	10F1336	7511	750	A	10F996	10F1359	7512	750	B
10F967	10F1337	1021	1.0K	A		10F1360	1022	1.0K	B
10F968	10F1338	2021	2.0K	A	10F998	10F1361	2022	1.0K	B
10F969	10F1339	2521	2.5K	A	10F999	10F1362	2522	2.5K	B
10F970	10F1340	5021	2.0K	A	10F1000	10F1363	5022	5.0K	B
10F971	10F1341	7521	7.5K	A	10F1001	10F1364	7522	7.5K	B
10F972	10F1342	1031	10K	A	10F1002	10F1365	1032	10K	B
10F973	10F1343	2031	20K	A	10F1003	10F1366	2032	20K	B
10F974	10F1344	2531	25K	A	10F1004	10F1367	2532	25K	B
10F975	10F1345	5031	50K	A	10F1005	10F1368	5032	50K	B
10F976	10F1346	7531	75K	A	10F1006	10F1369	7532	75K	B
10F977	10F1347	1041	.10M	A	10F1007	10F1370	1042	.10M	B
10F978	10F1348	2041	.20M	A	10F1008	10F1371	2042	.20M	B
10F979	10F1349	2541	.25M	A	10F1009	10F1372	2542	.25M	B
10F980	10F1350	5041	.50M	A	10F1010	10F1373	5042	.50M	B
10F981	10F1351	7541	.75M	A	10F1011	10F1374	7542	.75M	B
10F982	10F1352	1051	1.0M	A	10F1012	10F1375	1052	1.0M	B



TYPE ZV TYPE ZA TYPE SV TYPE SH

Type Z and S. For applications where severe environmental conditions exist. Have pin terminals for mounting on 0.1" grid circuit boards. **Type ZA** is similar to ZV except triangular pin spacing is same as a competitive trimmer. **Resistance Range:** 50 ohm to 1 Megohm. **Voltage:** 300 V. **Moisture Resist:** 2% total resistance change. **Temp. Coeff:** 250ppm /°C. **Load Life:** 3% change in total resistance. **Enclosure:** Immersion sealed. **Marking:** AB part number and nominal resistance value.

	Type Z	Type S
TEMP. RANGE	-55°C to +125°C	-65°C to +150°C
POWER	½Watt @ 70°C	½Watt @ 85°C
DERATE TO	0 Watt @ 70°C	0 Watt @ 85°C
ROTATION	300° ± 15°	280° ± 10°

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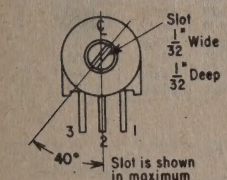
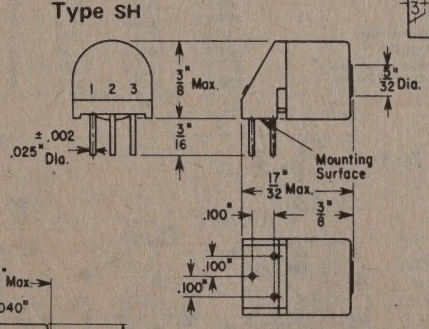
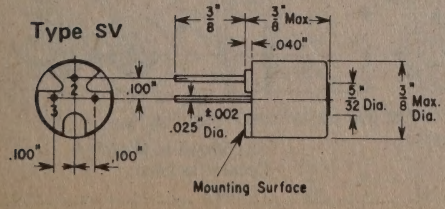
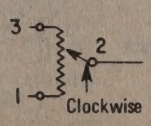
10% TOLERANCE				20% TOLERANCE				10% TOLERANCE							
Stk. No.	Type No.	Ohms	Price	Stk. No.	Type No.	Ohms	Price	Stk. No.	Type	Ohms	Price	Stk. No.	Type	Ohms	Price
10F900	ZH5001	50	A	10F930	ZH5002	50	B	10F870	SV5001	50	C	10F840	SH5001	50	D
10F901	ZH7501	75	A	10F931	ZH7502	75	B	10F871	SV7501	75	C	10F841	SH7501	75	D
10F902	ZH1011	100	A	10F932	ZH1012	100	B	10F872	SV1011	100	C	10F842	SH1011	100	D
10F903	ZH2011	200	A	10F933	ZH2012	200	B	10F873	SV2011	200	C	10F843	SH2011	200	D
10F904	ZH2511	250	A	10F934	ZH2512	250	B	10F874	SV2511	250	C	10F844	SH2511	250	D
10F905	ZH5011	500	A	10F935	ZH5012	500	B	10F875	SV5011	500	C	10F845	SH5011	500	D
10F906	ZH7511	750	A	10F936	ZH7512	750	B	10F876	SV7511	750	C	10F846	SH7511	750	D
10F907	ZH1021	1.0K	A	10F937	ZH1022	1.0K	B	10F877	SV1021	1.0K	C	10F847	SH1021	1.0k	D
10F908	ZH2021	2.0K	A	10F938	ZH2022	2.0K	B	10F878	SV2021	2.0K	C	10F848	SH2021	2.0K	D
10F909	ZH2521	2.5K	A	10F939	ZH2522	2.5K	B	10F879	SV2521	2.5K	C	10F849	SH2521	2.5K	D
10F910	ZH5021	5.0K	A	10F940	ZH5022	5.0K	B	10F880	SV5021	5.0K	C	10F850	SH5021	5.0K	D
10F911	ZH7521	7.5K	A	10F941	ZH7522	7.5K	B	10F881	SV7521	7.5K	C	10F851	SH7521	7.5K	D
10F912	ZH1031	10K	A	10F942	ZH1032	10K	B	10F882	SV1031	10K	C	10F852	SH0131	10K	D
10F913	ZH2031	20K	A	10F943	ZH2032	20K	B	10F883	SV2031	20K	C	10F853	SH2031	20K	D
10F914	ZH2531	25K	A	10F944	ZH2532	25K	B	10F884	SV2531	25K	C	10F854	SH2531	25K	D
10F915	ZH5031	50K	A	10F945	ZH5032	50K	B	10F885	SV5031	50K	C	10F855	SH5031	50K	D
10F916	ZH7531	75K	A	10F946	ZH7532	75K	B	10F886	SV7531	75K	C	10F856	SH7531	75K	D
10F917	ZH1041	10M	A	10F947	ZH1042	.10M	B	10F887	SV1041	.10M	C	10F857	SH1041	.10M	D
10F918	ZH2041	.20M	A	10F948	ZH2042	.20M	B	10F888	SV2041	.20M	C	10F858	SH2041	.20M	D
10F919	ZH2541	.25M	A	10F949	ZH2542	.25M	B	10F889	SV2541	.25M	C	10F859	SH2541	.25M	D
10F920	ZH5041	.50M	A	10F950	ZH5042	.50M	B	10F890	SV5041	.50M	C	10F860	SH5041	.50M	D
10F921	ZH7541	.75M	A	10F951	ZH7542	.75M	B	10F891	SV7541	.75M	C	10F861	SH7541	.75M	D
10F922	ZH1051	1.0M	A	10F952	ZH1052	1.0M	B	10F892	SV1051	1.0M	C	10F862	SH1051	10M	D

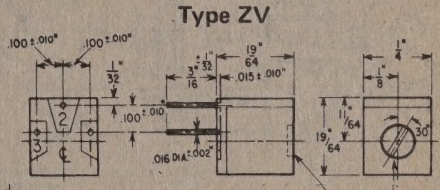
Price Code						
Code Letter	1-9	10-24	25-49	50-99	100-249	250-499
A	2.00	1.88	1.76	1.70	1.54	1.44
B	1.90	1.80	1.70	1.65	1.50	1.40
C	3.25	2.25	1.60	1.50	1.40	1.30
D	3.75	2.75	2.00	1.75	1.65	1.55

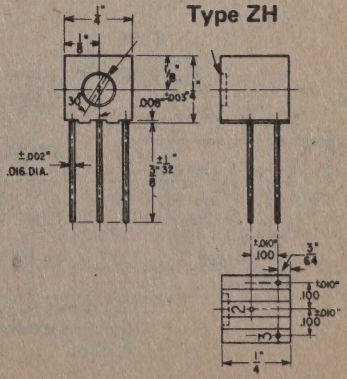






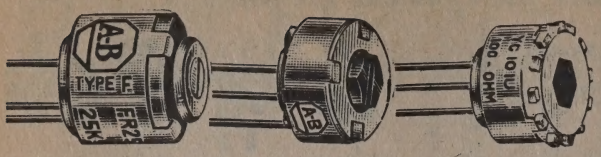






Allen-Bradley Trimmers

TYPE F AND Y SINGLE TURN TRIMMERS



Type FR Type YR Type YC

ACTUAL SIZE

Type FR. Hot molded carbon composition single turn trimmers. Designed for demanding rheostat or potentiometer applications in electronic equipment. Small ½" dia. size make them ideal for subminiature assemblies and PC applications. Pin type terminals fit 0.1 printed wiring board standard layout. Enclosure: immersion sealed. Pin type terminals and plastic slotted actuator. Shpg. wt. 4 oz.

Type YR and YC. Hot molded carbon composition single turn adjustable resistor for trimmer application. The low profile design fits into commonly used ⅜" PC board stacking. Enclosure: dust and splash resistant.

Type YR - pin type terminals. **Type YC** - slotted and notched actuator. Shpg. wt. 4 oz.

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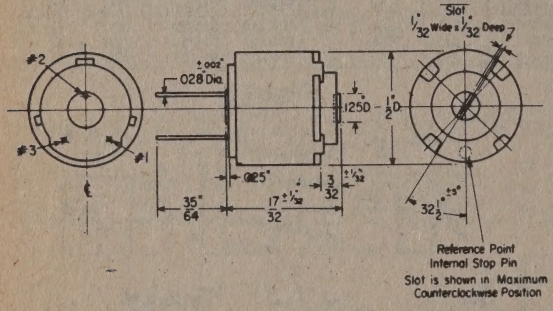
	TYPE "FR"	TYPE "YR" AND "YC"
Temp. Range	-55 C to +120 C	-55 C to +100 C
Power Rating	¼ Watt @ 70 C	¼ watt @ 50 C
Derate to O Watt	@ 120 C	@ 100 C
Rotation	295 ±5	
Resistance Range	100 ohms to 5 megohms	
Voltage	350	
Shock/Vibration	Less than 3% in total resistance	
Load Life	10% max. change after 1000 hrs. operation	
Torque	¼ to 3 in. oz.	
Marking	A-B part # and nom. resistance value	

PRICE CODE

Code Letter	1-9	10-24	25-49	50-99	100-249	250-499
A	3.20	2.20	1.70	1.60	1.50	1.40
B	3.00	2.00	1.50	1.40	1.30	1.20
C	3.35	2.35	1.85	1.75	1.65	1.55
D	3.15	2.15	1.65	1.55	1.45	1.35
E	3.10	2.10	1.60	1.50	1.40	1.30
F	2.90	1.90	1.40	1.30	1.20	1.10

TYPE F

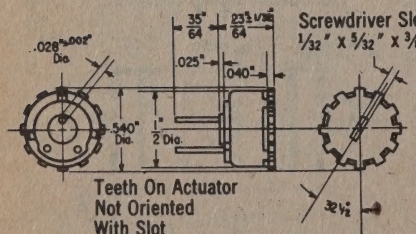


10% TOLERANCE				20% TOLERANCE			
Stk. No.	Type FR	Ohms	Price	Stk. No.	Type FR	Ohms	Price
10F1045	101U	100	A	10F1065	101M	100	B
10F1046	201U	200	A	10F1066	201M	200	B
10F1047	251U	250	A	10F1067	251M	250	B
10F1048	501U	500	A	10F1068	501M	500	B
10F1049	102U	1.0K	A	10F1069	102M	1.0K	B
10F1050	202U	2.0K	A	10F1070	202M	2.0K	B
10F1051	252U	2.5K	A	10F1071	252M	2.5K	B
10F1052	502U	5.0K	A	10F1072	502M	5.0K	B
10F1053	103U	10K	A	10F1073	103M	10K	B
10F1054	203U	20K	A	10F1074	203M	20K	B
10F1055	253U	25K	A	10F1075	253M	25K	B
10F1056	503U	50K	A	10F1076	503M	50K	B
10F1057	104U	.10M	A	10F1077	104M	.10M	B
10F1058	204U	.20M	A	10F1078	204M	.20M	B
10F1059	254U	.25M	A	10F1079	254M	.25M	B
10F1060	504U	.50M	A	10F1080	504M	.50M	B
10F1061	105U	1.0M	A	10F1081	105M	1.0M	B
10F1062	205U	2.0M	A	10F1082	205M	2.0M	B
10F1063	255U	2.5M	A	10F1083	255M	2.5M	B
10F1064	505U	5.0M	A	10F1084	505M	5.0M	B

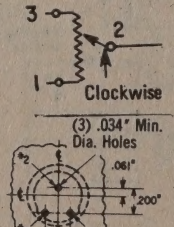
10% TOLERANCE				20% TOLERANCE			
Stk. No.	Type YC	Ohms	Price	Stk.No.	Type YC	Ohms	Price
10F750	101U	100	C	10F770	101M	100	D
10F751	201U	200	C	10F771	201M	200	D
10F752	251U	250	C	10F772	251M	250	D
10F753	501U	500	C	10F773	501M	500	D
10F754	102U	1.0K	C	10F774	102M	1.0K	D
10F755	202U	2.0K	C	10F775	202M	2.0K	D
10F756	252U	2.5K	C	10F776	252M	2.5K	D
10F757	502U	5.0K	C	10F777	502M	5.0K	D
10F758	103U	10K	C	10F778	103M	10K	D
10F759	203U	20K	C	10F779	203M	20K	D
10F760	253U	25K	C	10F780	253M	25K	D
10F761	503U	50K	C	10F781	503M	50K	D
10F762	104U	.10M	C	10F782	104M	.10M	D
10F763	204U	.20M	C	10F783	204M	.20M	D
10F764	254U	.25M	C	10F784	254M	.25M	D
10F765	504U	.50M	C	10F785	504M	.50M	D
10F766	105U	1.0M	C	10F786	105M	1.0M	D
10F767	205U	2.0M	C	10F787	205M	2.0M	D
10F768	255U	2.5M	C	10F788	255M	2.5M	D
10F769	505U	5.0M	C	10F789	505M	5.0M	D

10% TOLERANCE				20% TOLERANCE			
Stk.No.	Type YR	Ohms	Price	Stk.No.	Type YR	Ohms	Price
10F795	101U	100	E	10F815	101M	100	F
10F796	201U	200	E	10F816	201M	200	F
10F797	251U	250	E	10F817	251M	250	F
10F798	501U	500	E	10F818	501M	500	F
10F799	102U	1.0K	E	10F819	102M	1.0K	F
10F800	202U	2.0K	E	10F820	202M	2.0K	F
10F801	252U	2.5K	E	10F821	252M	2.5K	F
10F802	502U	5.0K	E	10F822	502M	5.0K	F
10F803	103U	10K	E	10F823	103M	10K	F
10F804	203U	20K	E	10F824	203M	20K	F
10F805	253U	25K	E	10F825	253M	25K	F
10F806	503U	50K	E	10F826	503M	50K	F
10F807	104U	.10M	E	10F827	104M	.10M	F
10F808	204U	.20M	E	10F828	204M	.20M	F
10F809	254U	.25M	E	10F829	254M	.25M	F
10F810	504U	.50M	E	10F830	504M	.50M	F
10F811	105U	1.0M	E	10F831	105M	1.0M	F
10F812	205U	2.0M	E	10F832	205M	2.0M	F
10F813	255U	2.5M	E	10F833	255M	2.5M	F
10F814	505U	5.0M	E	10F834	505M	5.0M	F

TYPE YC

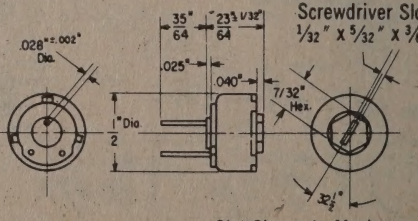


Slot Shown In Maximum Counterclockwise Position



Relation of Terminals to .100" Printed Circuit Spacing

TYPE YR



Slot Shown In Maximum Counterclockwise Position

Potentiometers

BOURNS HANDY INDEX

Model	Page
H-491 to H-510	84
200	80
215	80
224 (RTR12)	80
260	80
271	79
272	79
273	79
274	79
275	79
276	79
3005	78
3006	78
3007	79
3009	79
3012 (RJ11)	81
3052 (RJ12)	81
3057	80
3059 (RJ12)	80
3067	79
3068	79
3069	78
3082	82
3099	79
3250 (RT22)	81
3252 (RJ22)	81
3255	79
3260 (RT26)	82
3362 (RJ26)	82
3280	81
3282	81
3290 (RT24)	81
3292 (RJ24)	82
3300	80
3305	78
3322 (RJ50)	80
3329	78
3339	78
3345	80
3359	78
3369	78
3389	78
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3859	84
3862	84
MIL-R-22097	78, 79, 81
MIL-R-27208	80, 81

BOURNS PART NUMBERING SYSTEM

200, 3010	L	1	102	M
Basic Model	**Terminal Style**	**Modifying Number**	**Resistance Code**	**Panel Mount**
Contains 3 or 4 digits	**L**—Insulated stranded leads **J, S**—Solder lugs **P, R, T, Y**—Printed circuit pins **H, W66, X**—PC pins, side-adjust **W**—PC pins, top-adjust	**1**—Standard resistance **2**—100K standard resistance	First 2 digits indicate significant numbers; 3rd digit indicates number of zeros	Available as noted

SELECTION GUIDE INDEX

For details on specific models look under the applicable section heading and page number.

ADJUSTMENT POTENTIOMETERS

RECTANGULAR MULTI-TURN

WIREWOUND

Length	Commercial Model	Industrial Model	Mil-Spec Model	Page
1¼"	271/3/5	200		129, 130
		224		130
		260		130
		3057	RT12 RTR12	130
1"	3067			129
¾"	3005			128
	3007			129

CERMET

1¼"		3012		131
		3052		131
		3059	RJ12	130
¾"	3006	3099*(DIP)		128, 129
	3009			129
	3069			129
½"		3082		132

CARBON

1¼"	272/4/6	215		129, 130
1"	3068			129

SQUARE MULTI-TURN

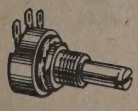
WIREWOUND

½"	3255	3250	RT22	129, 131
⅜"		3280		131
		3290	RT24 RTR24	131
¼"		3260	RT26	132

CERMET

½"		3252	RJ22	131
⅜"	3299	3282		131
		3292	RJ22	132
¼"		3262	RJ26	132

SINGLE-TURN



WIREWOUND

½"	3345			130
5/16"	3305	3300		128, 130

CERMET

½"		3369		128
⅜"	3389**			128
5/16"		3339†		128
¼"	3329	3322	RJ50	128, 130

CONTROLS/VARIABLE RESISTORS

CERMET

¾"	3859	3852		134
½"	3359	3862	RVC6	128, 134

PRECISION POTENTIOMETERS

STANDARD INDUSTRIAL | BUSHING MOUNT

WIREWOUND

NUMBER OF TURNS	DIAMETER	MODEL NUMBER	PAGE
5	⅞"	3520	133
		3540	133
10	½"	3700	133
		3707	133
	⅞"	3500	132
		3507	132
		3509	133
	1 3/16"	3400	133

CONDUCTIVE PLASTIC

10	⅞"	3501	132

10-TURN READOUT POTENTIOMETERS

KNOBPOT® POTENTIOMETERS

TYPE	DIAMETER	MODEL NUMBER	PAGE
CLOCK FACE	¾"	3600	133
	1¼"	3640	133
DIGITAL	⅞"	3610	133
	1¼"	3650	133

TURNS-COUNTING DIALS

1" DIAMETER	H-490 SERIES	134
1⅜" DIAMETER	H-510 SERIES	134

NOTE: Bourns offers a wide selection of high-performance Precision Potentiometers which can be modified for custom requirements. For additional details contact: Bourns Precision Rotary Controls, 1200 Columbia Avenue, Riverside, California 92507. (714) 684-1700.

†4-Turn adjustment

*Dual in-line package **Square package

Potentiometers

COMMERCIAL SINGLE-TURN POTENTIOMETERS

Model 3359P

Model 3359W

CERMET SINGLE-TURN MODEL 3359

Resistance stability under humid conditions. Mech. rotation: 270°. Power rating: 0.5 watt at 70°C. Max. operating temp.: 125° C. Screwdriver slotted at both ends of shaft. Tolerance: ±20%. Size: 0.375″ max. dia., thickness (P) .228″, (W) .236″. Temp. coef.: to 1K, 0 to +300 ppm/°C; 1K and up, 0 to +200 ppm/°C.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9600	3359P	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	.95	.85	.75	.70	.65	.60
12F9601	3359W		.98	.88	.78	.72	.67	.62

Model 3389P

Model 3389

CERMET SINGLE-TURN MODEL 3389

Low cost, low moisture absorption; sealed for industrial cleaning. Mech. rotation: 310°. Power rating: 0.5 watt at 70°C. Max. oper. temp.: 125°C. Tol.: ±20%. Temp. coef.: ±150 ppm/°C. .39″ x .36″ x .24″.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9800	3389P	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	.76	.70	.65	.63	.60	.56
12F9827	3389R							
12F9825	3389S							
12F9801	3389W							
12F9802	3389T							

Model 3389W

WIREWOUND SINGLE-TURN MODEL 3305

Sealed to prevent contamination from fluxing, soldering and cleaning. Withstands industrial process cleaning without appreciable shift in value. Stops provided at each end of travel. Power rating: 0.5 watt at 70°C. Abs. min. res.: 0.5 ohm to 1.0%. Oper. temp.: 125°C max. Tolerance: ±5%. Size: (P) 5/16″ dia. x 3/16″ thk. (W) 5/16″ w. x 1/4″ d. x 3/8″ h.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9602	3305P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K	1.75	1.68	1.61	1.56	1.47	1.37
12F9603	3305W		2.25	2.16	2.07	2.00	1.89	1.77

Model 3305W

TRIMPOT® MODEL 3329

Single turn potentiometer meets requirements of MIL-R-22097. Positive sealed to withstand adverse conditions of wave soldering and immersion cleaning process. Power rating: 0.5 watt at 85°C. Absolute minimum resistance: 2 ohms. Operating maximum temperature: 150°C. Tolerance: ±20%. Size: (H and P) 0.250″ dia. x 0.180″ h.; (W) 0.290″ dia. x 0.245″ h.

12F9604	3329H	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	1.75	1.66	1.57	1.50	1.45	1.40
12F9605	3329P							
12F9606	3329W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	2.50	2.38	2.25	2.15	2.07	2.00

Model 3329H

CERMET SINGLE-TURN MODEL 3369

Very high power rating in relation to size: 1.0 watt at 125°C. Has improved stability and low noise. Performance constant in all environments. Mechanical rotation: 295°, Maximum operating temperature: 175°C. Tolerance: ±10%. Temperature coefficient: ±150 ppm/°C. Size: (P) .500″ dia. x .492″ dpth.; (S) .500″ dia. x .457″ dpth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9803	3369P	100, 250, 500, 1K, 2.5K, 5K, 10K, 20K, 50K, 100K, 250K, 500K, 1 meg, 2.5 megs, 5 megs	3.20	2.20	1.70	1.60	1.50	1.40
12F9804	3369S		3.40	2.40	1.90	1.80	1.70	1.60

Model 3369

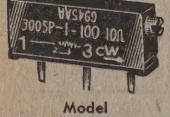
COMMERCIAL MULTI-TURN POTENTIOMETERS

Model 3339P

CERMET MULTI-TURN MODEL 3339

Precise wiper setting of multi-turn pot in single-turn package size. Sealed to withstand wave soldering and immersion cleaning process. Humidity characteristics meet MIL-STD-202. Four turns. Power rating: 0.5 watt at 85°C. Operating temp. max.: 150°C. Tol.: ±20%. Temp. coef.: ±100 ppm/°C. Size: 0.30″ dia. x 0.25″ thk.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9607	3339P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 MEG	2.50	2.32	2.09	1.98	1.86	1.76
12F9823	3339H		2.50	2.32	2.09	1.98	1.86	1.76
12F9434	3339W		3.50	3.25	2.93	2.78	2.61	2.47

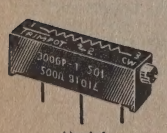


Model 3005P

WIREWOUND E-Z TRIM® MODEL 3005

Sealed to prevent fluxing, soldering and cleaning contamination. Humidity meets MIL-STD-202, Method 103. Self-locking adjustment screw. 20-turn screwdriver adjustment. Power rating: 1.0 watt at 40°C. Absolute min. resistance: 0.5% or 1.0 ohms, whichever is greater. Maximum operating temperature: 125°C. Tolerance: ±10%. Temp. coefficient: ±100 ppm/°C. Size: 11/64″ w. x 5/16″ h. x 3/4″ lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9608	3005P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K	2.00	1.85	1.75	1.72	1.65	1.55



Model 3006

TRIMPOT® MODEL 3006

Low cost, low profile with high power rating: 0.75 watt at 70°C. 15 turns. Sealed to MIL-R-22097, withstands industrial cleaning process. Maximum operating temperature: 125°C. Tolerance: ±10%. Temperature coefficient: ±100 ppm/°C. Size: 0.190″ w. x .250″ h. x .75″ lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9805	3006P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	1.40	1.30	1.21	1.19	1.15	1.08
12F9806	3006W							
12F9450	3006Y							

Quantity Prices For One Resistance Value And Type Only

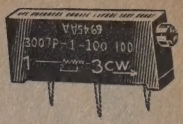
Potentiometers

COMMERCIAL MULTI-TURN POTENTIOMETERS

WIRE-WOUND E-Z TRIM® MODEL 3007

Wiper assembly idles at both ends. Humidity meets MIL-STD-202C, Method 103. Self-locking adjustment screw. 20-turns nominal adjustment; welded terminations. Power rating: 1.0 watt at 40°C. Absolute min. resistance: 0.5% or 1.0 ohm, whichever is greater. Operating temperature maximum: 125°C. Tolerance: ±10%. Temperature coefficient: ±100 ppm/°C. Size: .17" w. x .31"h. x .75" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9609	3007P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K	2.15	1.99	1.79	1.71	1.60	1.51

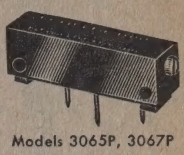


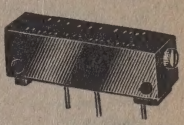
Model 3009P

CERMET E-Z TRIM® MODEL 3009

Wiper assembly idles at both ends of travel. 20 turns nominal adjustment. Power rating: 0.75 watt at 25°C. Absolute min. res.: 2.0% or 1 ohm, whichever is greater. Max. oper. temp.: 125°C. Tolerance: 10%. Temp. coefficient: ±100 ppm/°C. Size: .19" w. x .35" h. x .75" lgth. *Y type is RJ11 pin configuration.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9610 12F9611	3009P 3009Y*	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	1.94	1.84	1.75	1.71	1.65	1.55

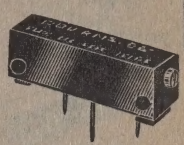

Models 3065P, 3067P


Models 3065S, 3067S

WIRE-WOUND E-Z TRIM® MODEL 3067

Wiper assembly idles at both ends of travel preventing forced adjustment. 15 turn screwdriver adjustment. Power rating: 0.5 watt at 25°C. Absolute min. resistance: 0-2.0%. Operating temperature maximum: 85°C. Tolerance: ±10%. Size: .28" w. x .36" h. x 1.00" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9612 12F9613	3067S 3067P	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K	1.85	1.71	1.54	1.46	1.37	1.30


Model 3068P

CARBON E-Z TRIM® MODEL 3068

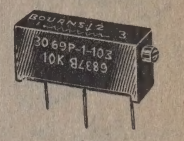
Stable infinite resolution carbon element. Self-locking adjustment screw; 15 turn screwdriver adjustment. Power rating: 0.2 watt at 25°C. End setting: 0-5% voltage ratio. Operating temperature: 85°C maximum. Tolerance: ±20%. Operating temperature range: −55°C to +85°C. Size: .28" w. x .36" h. x 1.00" lgth.

12F9614 12F9615	3068S 3068P	20K, 50K, 100K, 200K, 500K, 1 meg	1.85	1.71	1.54	1.46	1.37	1.30

CERMET E-Z TRIM® MODEL 3069

MIL Spec immersion seal gives trouble-free operation after P.C. board processes. Tinned pins for compatibility with automated and hand soldering methods. 20 turns nominal adjustment. Power rating: 0.75 watt at 25°C. Absolute minimum resistance: 2% or 1 ohm whichever is greater. Operating maximum temperature: 125°C. Tolerance: ±10%. Temperature coefficient: ±100 ppm/°C. Size: 0.25" w. x 0.35" h. x 0.75" lgth.

12F9616	3069P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	1.94	1.84	1.75	1.71	1.65	1.55



Model 3069P

WIRE-WOUND TRIMIT® MODELS 271, 273, 275

Ideal for industrial controls and lab type applications. Self-locking adjustment shaft for stable electrical settings; wiper assembly idles at both ends. 25-turn screwdriver adjustment. Power rating: 0.5 watt at 70°C. Absolute minimum resistance: 2.0%. Operating maximum temperature: 105°C. Operating temperature range: −55°C to +105°C. Temperature coefficient of wire: 20 ppm/°C max. Size: 0.25"w. x .312"h. x 1.25" lgth.

12F9617 12F8909 12F9812	271 273 275	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	3.19	2.95	2.66	2.52	2.36	2.24
	Panel mount	Available **271** or **273** model. Add to price	1.10	1.02	.92	.87	.82	.77

Models 271, 272

CARBON TRIMIT® MODELS 272, 274, 276

Infinite resolution Resistaloy® carbon element. Self-locking shaft; 25-turn adjustment. Power Rating: 0.2 watt at 50°C. End setting: 0-5.0% voltage ratio. Operating Temperature: 105°C maximum. Tolerance: ±20%. Size: ¼" width x 5/16" height 1¼" length.

Stock No.	Bourns Model	Resistance Range, Ohms	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9620 12F9621 12F9622	272 274 276	5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs, 5 megs	3.78	3.50	3.15	2.99	2.80	2.66
	Panel mount	Available **272** or **274** model. Add to price	1.10	1.02	.92	.87	.82	.77

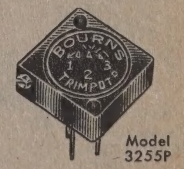
Models 273, 274

Models 275, 276

TRIMPOT® MODEL 3255

High temperature all-plastic case; 25-turn screwdriver adjustment. Power rating: 1.0 watt at 50°C. End settings: 0.1% or 1.0 ohm, whichever is greater. Operating Temperature: 150°C maximum. Temperature Coefficient: 70 ppm/°C. Tolerance: ±5%. Size: ½" square x 3/16" thick (L); 7/32" thick (P or W).

12F9623 12F9624 12F9625	3255L 3255P 3255W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	3.19	2.95	2.66	2.52	2.36	2.24
	Panel mount	Available L or W terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

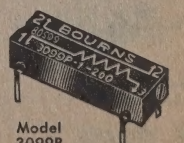


Model 3255P

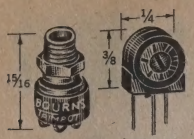
CERMET DUAL IN-LINE TRIMPOT® MODEL 3099

Sealed to meet MIL-R-22097 immersion requirements. Standard DIP size (TO-116) compatible with DIP automatic insertion equipment. Temperature Coefficient: ±100 ppm/°C max. over entire temperature and resistance range. Power rating: 1.0 watts @ 70°C. Abs. Min. Res.: 2% or 1 ohm, whichever is greater. Mechanical Adjustment: 20 turns nominal. Operating Temperature: −55°C to +150°C. Size: 0.250"w. x 0.190"h. x 0.750"lg.

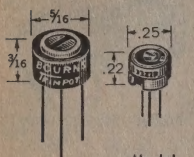
12F9626	3099P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	3.75	3.35	3.00	2.80	2.60	2.45



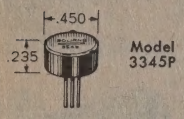
Model 3099P



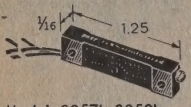
Model 3300S Model 3300W



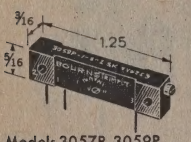
Model 3300P Model 3322P



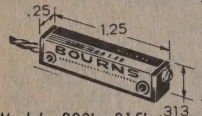
Model 3345P



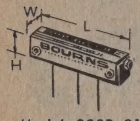
Models 3057L, 3059L



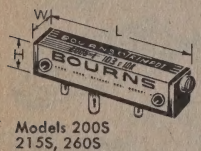
Models 3057P, 3059P



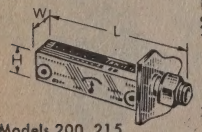
Models 200L, 215L, 260L



Models 200P, 215P 260P



Models 200S 215S, 260S



Models 200, 215 260 Panel Mount

Models 224L, 3052L

HIGH PERFORMANCE SINGLE TURN POTENTIOMETERS

WIREWOUND MODEL 3300

Meets applicable portions of MIL-R-27208, MIL-R-5272C. Single-turn adjustment. Power Rating: 0.5 watt at 70°C. Abs. Min. Res.: 0.5 ohm or 1.0%, whichever is greater. Operating Temperature: 175°C max. Tolerance: 5%. Size: 5/16" diameter x 3/16" height. (P); 1/4" width x 3/8" height. (W); 15/16" height. (S, panel mount).

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance when ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9627 12F9628	3300P 3300W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 100K	5.94	5.50	4.95	4.70	4.40	4.18
12F9629	3300S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 100K	8.91	8.25	7.43	7.05	6.60	6.27

MODEL 3322 (RJ50)

Meets or exceeds MIL-R-22097, Style RJ50. Temperature Coefficient: ±100ppm/°C. Power Rating: 0.5 watt at 85°C. Abs. Min. Res.: 1 ohm. Operating Temperature: −65°C to +175°C. Tolerance: ±10%. Size .25" diameter x .22" thickness.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance when ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9630	3322P	10, 20, 50, 100, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg.	5.50	5.22	4.90	4.66	4.35	4.13

WIREWOUND MODEL 3345

Low cost industrial potentiometer. Sealed for printed circuit applications. Single-turn adjustment. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 1.0% or 5Ω whichever is greater. Res. Tolerance: ±5% standard. Oper. Temp: −55 to +150°C. Temp. Coefficient: per MIL-R-27208, 70 ppm/°C. Mechanical Adjustment: 310° nominal. Size: .450" diameter x .235" thick.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance when ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9400	3345P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	2.30	2.09	1.88	1.71	1.60	1.45
12F9401	3345P	20K, 50K	2.53	2.30	2.07	1.88	1.76	1.60

HIGH PERFORMANCE MULTI-TURN POTENTIOMETERS

CERMET MODEL 3059 (RJ12)

MIL spec immersion seal gives trouble-free operation after PC board processes. Solderable pins for compatibility with automated and hand soldering methods. Temperature Coefficient: ±100 ppm/°C max. over entire resistance and temperature range. Power Rating: 1.0 watt or 400 volts max. at 70°C. Abs. Min. Res: 2 ohms, max. Mechanical Adjustment: 22±5 turns. Oper. Temp.: −55°C to +150°C. Size: 1/16"w x 1 1/4" 3/16"w x 5/16"h x 1 1/4" lg.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9633 12F9634 12F9635 12F9636	3059J 3059L 3059P 3059Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	3.00	2.85	2.70	2.57	2.43	2.29
	Panel mount	Available J or L terminals. Add to price	1.10	1.02	.92	.87	.82	.77

WIRE-WOUND MODEL 3057

12F9637 12F9638 12F9639 12F9640	3057J 3057L 3057P 3057Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	5.46	4.83	4.15	3.73	3.56	3.40

GENERAL PURPOSE WIRE-WOUND MODEL 200

Exceeds steady-state humidity requirements of MIL-STD-202. 25-turns nominal adjustment. Power rating: 0.5 watt at 70°C. Absolute minimum resistance: 0.7% or 0.5 ohm, whichever is greater, 10 ohms to 50K; 5% for 100K. Operating temperature maximum: 125°C. Tolerance: ±10%. Size: 0.280" w. x .313" h. x 1.25" lgth.

12F9641 12F9642 12F9643	200L 200P 200S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	4.86	4.50	4.05	3.84	3.60	3.42
	Panel mount	Available L or S terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

CARBON TRIMPOT® MODEL 215

Excellent shock, vibration and acceleration stability. Self-locking wiper assembly idles at both ends. 22 turns adjustment. Power rating: 0.25 watt or 300 volts max. at 50°C. Absolute min. resistance: 0 to 1% voltage ratio. Max. operating temp.: 135°C. Tolerance: ±20%. Size: 0.28" w. x 0.315" h. x 1.25" lgth.

12F9644 12F9645 12F9646	215L 215S 215P	5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs, 5 megs	4.86	4.50	4.05	3.84	3.60	3.42
	Panel mount	Available L or S terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

WIREWOUND TRIMPOT® MODEL 260

Stable against shock, vibration and acceleration. Surpasses steady state humidity requirements of MIL-STD-202. Power rating: 1.0 watts at 70°C. Absolute min., resistance: 10 ohms to 1K, 0.2% or 1.0 ohm, whichever is greater; 2K to 50K, 0.1%; 100K, 5%, Max. oper. temp.: 175°C. Tolerance ±10%, 0.280" w x .312x1.25".

12F9650 12F9651 12F9652	260L 260P 260S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	5.94	5.50	4.95	4.70	4.40	4.18
	Panel mount	Available L or S terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

WIREWOUND TRIMPOT® MODEL 224 (RT12)

Meets MIL-R-27208 requirements. High maximum operating temperature: 175°C. High power dissipation: 1.0 watt at 70°C. 22 turn screwdriver adjustment. Self-locking adjustment. Absolute minimum resistance: 10 to 200 ohms, the greater of 0.25% or 1 ohm; 500 to 2K, 0.2%; 5K to 50K, 0.1%; 100K, 5%. Tolerance: ±5%. Operating temperature range: −65 to +175°C. 0.19" w. x .32" x 1.25".

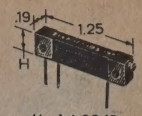
12F9653 12F9654 12F9655	224L 224S 224P	10, 20, 100, 200, 500, 1K, 2K, 5K, 10K	7.02	6.50	5.85	5.55	5.20	4.94
	Panel mount	Available L or S terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

HIGH-PERFORMANCE MULTI-TURN POTENTIOMETERS (Cont'd)

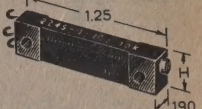
CERMET TRIMPOT® MODEL 3052 (RJ12)

Meets all specifications of MIL-R-22097. High operating temp. maximum: 175°C. Power rating: 1.0 watt at 70°C. Idling wiper assembly. End setting: 2 ohms maximum all resistances. Nom. adjustment: 22 turns. Oper. temp.: −65°C to −175°C. .190″ w. x .320 x 1.25″.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance when ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9658 12F9659 12F9660	3052L 3052P 3052S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 meg	5.94	5.50	4.95	4.70	4.40	4.18
	Panel mount	Available **L** or **S** terminals. Add to price	1.10	1.02	.92	.87	.82	.77



Model 224P
3052P



Models 224S
3052S

CERMET TRIMPOT® MODEL 3012 (RJ11)

Requirements of MIL-R-22097 met or exceeded. Power rating: 1.0 watt or 500 volts max. at 70°C. End setting: 2 ohms maximum all resistances. Nominal adjustment: 22 turns. Operating temperature: −65° to +175°C. Tolerance: 10%. 0.280″ w. x .31 x 1.25″.

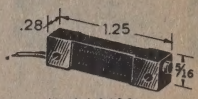
Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9661 12F9662	3012L 3012P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 meg	5.94	5.50	4.95	4.70	4.40	4.18
	Panel mount	Available **L** terminal. Add to price	1.10	1.02	.92	.87	.82	.77

Models 3012, 3052
Panel Mount

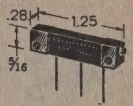
WIREWOUND MODEL TRIMPOT® 3250 (RT22)

Humidity-proof; sealed in high-temperature plastic case. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 175°C. Tolerance: ±5%. Size: ½″ sq. x 3/16″ thick (**L**); 7/32″ thick (**P, W** or **W66**).

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9683	3250L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	6.71	6.22	5.59	5.31	4.97	4.72
12F9684	3250L	20K, 25K	7.56	7.00	6.30	5.98	5.60	5.32
12F9685	3250L	50K	10.00	9.27	8.34	7.91	7.41	7.04
12F9686	3250P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.23	6.69	6.02	5.71	5.35	5.08
12F9813	3250P	20K, 25K	7.97	7.38	6.64	6.30	5.90	5.61
12F9814	3250P	50K	10.53	9.75	8.78	8.33	7.80	7.41
12F9840	3250W	10, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.23	6.69	6.02	5.71	5.35	5.08
12F9839	3250W	20K, 25K	7.97	7.38	6.64	6.30	5.90	5.61
12F9838	3250W	50K	10.53	9.75	8.78	8.33	7.80	7.41
12F9834	3250W-66	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.23	6.69	6.02	5.71	5.35	5.08
12F9835	3250W-66	20K, 25K	7.97	7.38	6.64	6.30	5.90	5.61
12F9836	3250W-66	50K	10.53	9.75	8.78	8.33	7.80	7.41



Model 3012L

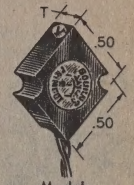


Model 3012P

½″ SQUARE CERMET TRIMPOT® MODEL 3252 (RJ22)

Meets or exceeds requirements of MIL-R-22097. Style RJ22, Char. C. Temperature Coefficient: ±100 ppm/°C maximum over entire temperature and resistance range. Power Rating: 1.0 watt or 400 volts maximum at 70°C. Absolute Minimum Resistance: 1 ohm, all resistances. Mechanical Adjustment: 22 turns nominal. Operating Temperature Range: −65°C to +150°C. Size: ½″ sq. x 3/16″ t. (**L**): 7/32″ t. (**P, W** and **X**).

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance in Your Order	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9691 12F9692 12F9693 12F9694	3252L 3252P 3252W 3252X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	5.62	5.35	5.06	4.77	4.50	4.05

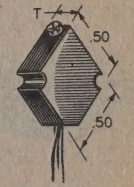


Models
3250L, 3250P
3250W, 3250W-66

⅜″ SQUARE WIREWOUND TRIMPOT® MODEL 3280

Meets or exceeds requirements of MIL-R-27208. All plastic case provides sealing against liquids and potting compounds plus reliable moisture resistance. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 175°C. Tolerance: ±5%. Size: ⅜″ sq. x 13/64″ thk.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9695 12F9696 12F9697	3280L 3280P 3280W W-66	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.56	7.00	6.30	5.98	5.60	5.32
	Panel mount	Available **L** or **W** terminals. Add to basic price	2.20	2.03	1.83	1.75	1.63	1.55

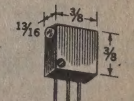


Model 3252

⅜″ SQUARE CERMET TRIMPOT® MODEL 3282

Meets applicable requirements of MIL-R-22097. Power Rating: 0.5 watt at 85°C. Abs. Min. Res: 0.1% or 1.0Ω whichever is greater. Mechanical Adjustment: 25 turns nominal. Temperature Coefficient: ±100 ppm/°C maximum at all Resistances. Operating Temperature Range: −65°C to +175°C. Size: ⅜″ sq. x 13/64″ thk.

12F9699 12F9700 12F9701 12F9702	3282H 3282L 3282P 3282W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 500K, 1 meg	6.50	6.18	5.85	5.72	5.52	5.18
	Panel mount	Available **H, L, W** terminals. Add to price	2.20	2.03	1.83	1.75	1.63	1.55

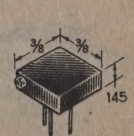


Model 3280, 3282

⅜″ SQUARE WIREWOUND MODEL 3290 (RT24)

Meets or exceeds MIL-R-27208. All plastic case provides sealing against liquids and potting; positive end stops; reliable moisture resistance. Power Rating: 1.0 watt @ 70°C. Absolute Minimum Resistance: 0.1% or 1.0 ohm, whichever is greater. Maximum Operating Temperature: 175°C. Tolerance: ±5%. Size: ⅜″ sq. x 0.150″ thk. (**L**); 0.150″ thk. (**P**); .375″ w. x .375″ d. x .150″ thk. (**H. W**).

12F9703 12F9704 12F9705 12F9706	3290H 3290L 3290P 3290W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.33	6.79	6.11	5.80	5.43	5.16

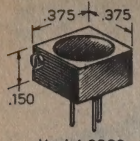


Model 3290

Quantity Prices for One Resistance Value or Type Only

HIGH-PERFORMANCE MULTI-TURN POTENTIOMETERS (Cont'd)

⅜" SQUARE CERMET TRIMPOT® MODEL 3292 (RJ24)

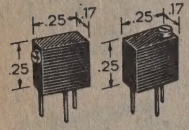


Model 3292

Meets or exceeds MIL-R-22097. Char. C and F, Style RJ24. Temperature Coefficient: ±100 ppm/°C over entire temperature and resistance range. Power Rating: 0.5 watt or 400 volts maximum at 85°C. Absolute Minimum Resistance: 1 ohm, all resistances. Mechanical Adjustment: 22 turns nominal. Operating Temperature Range: −65°C to +175°C. Size: 0.375" sq. x 0.150" thk.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9707 12F9708 12F9709 12F9710	3292L 3292P 3292W 3292X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 500K, 1 meg	6.50	6.18	5.85	5.72	5.52	5.18

¼" SQUARE WIREWOUND MODEL 3260 (RT26)

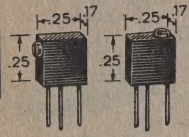


Model 3260H Model 3260W

All plastic case provides positive end stops at both ends of travel; sealing against liquids and potting compounds. Clutch action wiper. Power Rating: 0.2 watt at 70°C. Abs. Min. Res.: 0.1% or 1.0 ohm, whichever is greater. Operating Temperature: 175°C max. Tolerance: ±5%. Size: ¼" square x 11/64" high.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9711	3260H	10, 20, 50, 100, 200, 500, 1K	7.50	6.95	6.25	5.93	5.56	5.28
12F9785	3260H	2K, 5K	8.25	7.64	6.88	6.53	6.11	5.81
12F9712	3260W	10, 20, 50, 100, 200, 500, 1K	7.50	6.95	6.25	5.93	5.56	5.28
12F9786	3260W	2K, 5K	8.25	7.64	6.88	6.53	6.11	5.81

¼" SQUARE CERMET MODEL 3262 (RJ26)

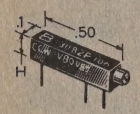


Model 3262X Model 3262W

Meets or exceeds requirements of MIL-R-22097, style RJ26. Temperature coefficient: ±100 ppm/°C maximum over entire temperature and resistance range. Power rating: .25 watt at 85°C. Absolute minimum resistance: 1 ohm, all resistances. Mechanical adjustment: 12 ±2 turns. Operating temperature range: −65° to +175°C. Size: 0.250" sq. x 0.170" thk.

Stock No.	Bourns Model	Resistance Range, Ohms	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9713 12F9714 12F9715	3262W 3262X 3262P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg	7.00	6.50	5.84	5.55	5.20	4.94

MICROMINIATURE TRIMPOT® CERMET MODEL 3082



Model 3082

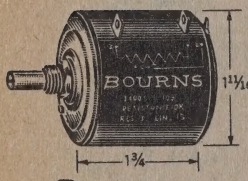
Temperature coefficient: ±100 ppm/°C maximum over entire temperature and resistance range. Power rating: 0.3 watt at 85°C. Absolute minimum resistance: 2 ohms maximum. Mechanical adjustment through entire range: 10 turns nominal. Operating temperature: −65° to +150°C. Size: 0.100" w. x 0.500" lgth. x 0.100" h.

			EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F9716	3082P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg, 2 megs	7.70	7.13	6.42	6.09	5.71	5.42

BUSHING MOUNT PRECISION POTENTIOMETERS

Lockwasher and mounting nut supplied. Standard resistance range given; special resistances are available.
Resistance code: First 2 digits indicate significant numbers, 3d digit indicates number of zeros, e.g.: 103 = 10000 ohms.

10-TURN 1 13/16" DIAMETER MODEL 3400 (Fig. A)

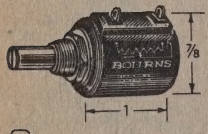


A

High temperature, moisture resistant, thermosetting plastic housing. Exceeds humidity cycling requirements of MIL-R-12934. Shaft supported front and rear by sleeve bearings. Power rating: 5.0 watts at 40°C. Absolute minimum resistance: 1.0 ohms or 0.15%, whichever is greater. Independent linearity: ±0.15% maximum. Maximum operating temperature: 105°C. Resistance tolerance: ±3%. Size: 1 13/16" dia. x 1¾" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-4	5-9	10-24	25-49	50-99	100-249
12F9766	3400S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 30K, 50K, 100K, 200K	11.00	10.00	9.50	9.00	8.50	8.00
12F9787	3400S-1	500K	20.90	19.00	18.05	17.10	16.15	15.20
12F9788	3400S-1	1 meg	38.50	35.00	33.25	31.50	29.75	28.00

10-TURN ⅞" DIAMETER WIRE-WOUND MODEL 3500 (Fig. B)

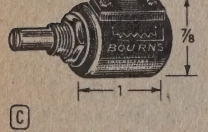


B

High temperature, thermosetting plastic housing. Humidity exceeds requirments set in MIL-STD-202, Method 103. Power rating: 2.0 watts at 70°C. Absolute minimum resistance: 1.0 ohm or 0.1%, whichever is greater. Independent linearity: ±0.20%. Operating temperature: 125°C maximum. Resistance tolerance: ±3%. Size: ⅞" dia. x 1" lgth.

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-4	5-9	10-24	25-49	50-99	100-249
12F9767	3500S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 30K, 50K, 75K, 100K, 125K	11.00	10.00	9.50	9.00	8.50	8.00
12F9789	3500S-1	150K, 200K, 250K	20.90	19.00	18.05	17.10	16.15	15.20
12F9790	3500S-1	500K	30.80	28.00	26.60	25.20	23.80	22.40

10-TURN ⅞" DIAMETER CONDUCTIVE PLASTIC MODEL 3501 (Fig. C)

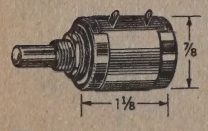


C

Infinitron® conductive plastic element provides essentially infinite resolution. Exceeds moisture resistance requirements of MIL-R-39023. Exclusive termination assures low end resistance and definite effective electrical angle. Power Rating: 2.0 watts at 70°C (325 volts maximum). Independent Linearity: ±0.5% maximum. Maximum Operating Temperature: 105°C. Resistance Tolerance: ±10%. Size: ⅞" dia. x 1" lgth.

12F9768	3501S-1	1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K	16.50	15.00	14.25	13.50	12.75	12.00
12F9791	3501S-1	1 meg, 2 megs, 4 megs	38.50	35.00	33.25	31.50	29.75	28.00

10-TURN INDUSTRIAL ⅞" DIAMETER WIRE-WOUND MODEL 3507 (Fig. D)



D

Special rotor and slider assembly assures excellent wiper stability. Power Rating: 2.0 watts at 25°C. Absolute minimum resistance: 1.0 ohm or 0.25%, whichever is greater. Maximum operating temperature: 105°C. Size: ⅞" dia. x 1⅛" lg. For 0.032" w. x 0.032" d. shaft slot, specify 3507S-3; same values and price.

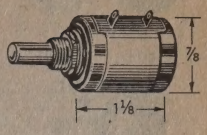
12F9769	3507S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 30K, 50K, 100K	8.25	7.50	6.60	6.25	5.95	5.50
12F9792	3507S-1	250K	18.15	16.50	14.52	13.74	13.08	12.09

Potentiometers

BUSHING MOUNT PRECISION POTENTIOMETERS (Cont'd)

10-TURN ⅞" DIAMETER WIRE-WOUND MODEL 3509 (Fig. A)

Nonmetallic shaft and bushing: shaft with screwdriver slot standard; other shafts and modifications available on request. Power Rating: 2.0 watts at 25°C. Absolute Minimum Resistance: 1 ohm or .25%, whichever is greater. Independent Linearity: ±.25% maximum. Operating Temperature Maximum: 105°C. Resistance Tolerance: ±5%. 3509S-8 has metallic shaft bushing. Size: ⅞" dia. x 1⅛" lgth.

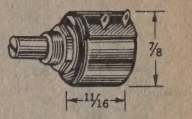


A

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-4	5-9	10-24	25-49	50-99	100-249
12F9770	3509S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	6.55	5.95	5.66	5.36	5.06	4.76
12F9821	3509S-8	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	7.37	6.70	6.36	6.03	5.69	5.36

5-TURN ⅞" DIAMETER WIRE-WOUND MODEL 3520 (Fig. B)

Exceeds humidity cycling requirements of MIL-R-12934. High temperature, moisture resistant, thermosetting plastic housing. Contact pressure control of 100% assures low noise and long rotational life. Power Rating: 1.5 watts at 70°C. Absolute Minimum Resistance: 1.0 ohm or 0.1%, whichever is greater. Independent Linearity: ±0.3% maximum. Operating Temperature Maximum: 125°C. Resistance Tolerance: ±3%. Size: ⅞" dia. x .678" lgth.

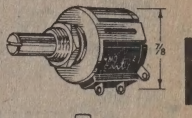


B

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	EACH 1-4	5-9	10-24	25-49	50-99	100-249
12F9771	3520S-1	25, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K	14.85	13.50	12.82	12.15	11.47	10.80
12F9793	3520S-1	100K	24.75	22.50	21.37	20.25	19.12	18.00
12F9794	3520S-1	250K	34.65	31.50	29.92	28.35	26.77	25.20

10-TURN ⅞" DIAMETER MODEL 3540 (Fig. C)

Mechanically locked construction. Extends only ¾" behind panel. Direct terminal to element SILVERWELD bond, eliminates vulnerable multi-joint connections. Power Rating: 2.0 watt @ 70°C. Resistance Tolerance: ±5%. Linearity (Independent) ±0.25%. Operating Temperature Range: −55° to +125°C. Absolute Minimum Resistance: 1.0 ohm or 0.1% whichever is greater. Size: .875" dia. x 1½" lgth.



C

Stock No.	Bourns Model	Resistance Range, Ohms Specify Resistance When Ordering	1-4	5-9	10-24	25-49	50-99	100-249
12F9587	3540S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	6.25	6.25	5.65	5.35	5.05	4.75

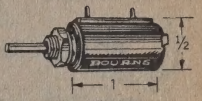
10-TURN ½" DIAMETER MODEL 3700 (Fig. D)

Contact pressure control of 100% assures low noise and long rotational life. Exceeds MIL-R-12934 humidity cycling requirements. High temperature, moisture resistant, thermosetting plastic housing. Power Rating: 1.0 watt at 70°C. Absolute Minimum Resistance: 1.0 ohm or 0.1%, whichever is greater. Independent Linearity: ±0.5% maximum. Operating Temperature Maximum: 125°C. Resistance Tolerance: ±5%. Size: ½" dia. x 1" lgth.

12F9772	3700S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	26.95	24.50	23.27	22.05	20.82	19.60

10-TURN INDUSTRIAL ½" DIAMETER MODEL 3707 (Fig. D)

Silverweld® termination eliminates vulnerable single wire termination. Special rotor design assures excellent wiper stability. Power Rating: 1.0 watt at 40°C. Independent Linearity: ±1.0%. Maximum Operating Temperature: 105°C. Resistance Tolerance: ±5%. Size: ½" dia. x 1" lgth.



D

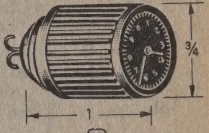
12F9773	3707S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	18.98	17.25	16.39	15.53	14.67	13.80

KNOBPOT® BUSHING MOUNT PRECISION POTENTIOMETERS

Knob, readout dial and potentiometer in one package requires less front panel space than most dials alone; requires little back panel space. Self-locking feature provides excellent stability during vibration and shock; 100% contact pressure control insures high mechanical life. Sealed to pass MIL-STD-202, Method 103, humidity. Lockwasher and mounting nut included.

10-TURN ¾" DIAMETER KNOBPOT® MODEL 3600 (Fig. E)

Phasing of dial readout to potentiometer performed at factory with accuracy of ±0.5% (including linearity). Power Rating: 1.5 watts at 25°C. Absolute Minimum Resistance: 1.0 ohm or 0.1%, whichever is greater. Maximum Operating Temperature: 85°C. Resistance Tolerance: ±5%. Size: ¾" dia. x 1" lgth.

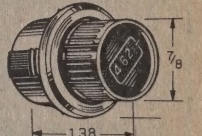


E

Stock No.	Bourns Model	Resistance Range, Ohms	EACH 1-9	10-24	25-49	50-99	100-249
12F9774	3600S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	19.80	19.32	17.54	16.50	15.60
12F9795	3600S-1	200K, 250K	29.27	28.57	25.92	24.39	23.06

10-TURN ⅞" DIAMETER DIGITAL KNOBPOT® MODEL 3610 (Fig. F)

Integral digital readout, knob and potentiometer. Recessed lens. Snap-in mounting cup. ⅞" diameter. Behind panel extension less than ⅞". Power Rating: 1.5 watt at 25°C. Resistance Tolerance: ±5%. Accuracy: ±0.5% voltage ratio. Absolute Minimum Resistance: 1 ohm or 0.1% whichever is greater. Oper. Temp. Range: −25° to +85°C. Temp. Coefficient of Wire Res.: 20 ppm/°C max. ⅞" dia. x 1⅓" lgth.

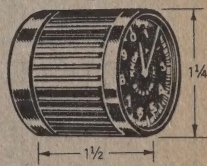


F

Stock No.	Bourns Model	Resistance, Range, Ohms Specify Resistance When Ordering	EACH 1-9	10-24	25-49	50-99	100-249
12F9575	3610S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K 50K, 100K, 200K	21.00	20.50	18.60	17.50	16.55
12F9586	3610S-1	250K	28.92	28.23	25.61	24.10	22.79

10-TURN 1¼" DIAMETER KNOBPOT® SENIOR MODEL 3640 (Fig. G)

Clock face readout provides excellent readability and setting accuracy. Phasing adjusted to ±0.1%. Repeatability to ±.05% voltage ratio. Power rating: 2.5 watts at 25°C. Abs. min. res.: 1.0 ohm or 0.1%, whichever is greater. Max. oper. temp.: 85°C. Tolerance: ±3%. Extends 9/16" behind panel. 1¼" diameter, 1½" out from panel. Requires two holes in panel: 0.413" and .0785".

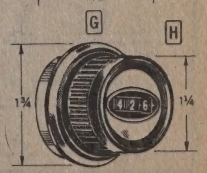


G

Stock No.		Resistance Range Specify Resistance When Ordering	Each 1-9	10-24	25-49	50-99	100-249
12F9663	3640S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K, 100K, 125K, 200K, 250K	23.00	21.30	19.17	18.19	17.04

10-TURN 1¼" DIAMETER DIGITAL KNOBPOT® MODEL 3650 (Fig. H)

Digital readout, knob and potentiometer in one unit requires less front panel space than most dials alone. Readability of 1 part in 10,000. 0.05% repeatability of total applied voltage. Output accuracy within 0.1% of total applied voltage (including linearity). Power rating: 2.5 watts at 25°C. Absolute minimum resistance: 1.0 ohm or 0.1%, whichever is greater. Maximum operating temperature: 85°C. Resistance tolerance: ±3%. Knob dia.: 1¼". Unit extends total of 1.58" behind panel front.



H

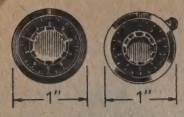
12F9664	3650S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K, 100K, 200K, 250K	28.50	26.39	23.75	22.54	21.11

Quantity Prices for One Resistance Value or Type Only

Potentiometers

TURNS COUNTING DIALS

For use with precision potentiometers or other rotating devices up to 30 turns. Mounts directly to pot shaft. 0-30 turns. 100 dial div. per turn. Oper. Temp. Range: −15° to +85°C.



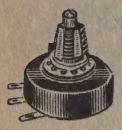
H-490-1 H-490-2

H-510

Stock No.	Bourns No.	Finish	Shaft Dia.	Brake	EACH 1-9	10-24	25-99	100-249	250-499
12F9665	H-491-1	Clear	3/32"	No	7.05	6.70	6.35	5.99	5.64
12F9666	H-492-1	Clear	3/32"	Yes	7.25	6.89	6.53	6.16	5.80
12F9667	H-493-1	Black	3/32"	No	7.25	6.89	6.53	6.16	5.80
12F9668	H-494-1	Black	3/32"	Yes	7.40	7.03	6.66	6.29	5.92
12F9415	H-491-2	Clear	1/8"	No	7.05	6.70	6.35	5.99	5.64
12F9416	H-492-2	Clear	1/8"	Yes	7.25	6.89	6.53	6.16	5.80
12F9417	H-493-2	Black	1/8"	No	7.25	6.89	6.53	6.16	5.80
12F9418	H-494-2	Black	1/8"	Yes	7.40	7.03	6.66	6.29	5.92
12F9669	H-491-3	Clear	1/4"	No	6.75	6.41	6.08	5.74	5.40
12F9670	H-492-3	Clear	1/4"	Yes	6.95	6.60	6.26	5.91	5.56
12F9671	H-493-3	Black	1/4"	No	6.95	6.60	6.26	5.91	5.56
12F9672	H-494-3	Black	1/4"	Yes	7.15	6.79	6.44	6.08	5.72
12F9673	H-510-1	Clear	1/8"	Yes	5.70	5.42	5.13	4.85	4.56
12F9674	H-510-2	Clear	1/4"	Yes	5.70	5.42	5.13	4.85	4.56

CERMET CONTROLS

CERMET ELEMENT PANEL MOUNTED POTENTIOMETERS



Model 3852E

Model 3859E

Model 3862C

Model 3862E

Single turn potentiometers for panel mount have improved setability and low noise for outstanding performance. Thin ¾" diameter case has extremely high power rating: 2 watts at +70°C. Resistance tolerance: ±10%; ±5% available. Tapers: Linear, 10% CW or 10% CCW. Contact resistance variation: ±3% maximum of total resistance. Temperature coefficient: ±150 ppm/°C. High Performance Models meet or exceed applicable requirements of MIL-R-94 or MIL-R-23285. **High Performance Model 3852:** Housing ¾" dia. x ¼" length. Resistance range: 50 ohms to 5 megs, linear taper; 1K to 2.5 megs, CW and CCW taper. Power rating: 2 watts at 70°C, linear; 1 watt, CW and CCW taper. Operating temperature: −65° to +150°C. **Commercial Model 3859:** Same as model 3852 except operating temperature range −65° to +125°C. **High Performance Model 3862:** Housing ½" dia. by 0.453" length. Resistance range: 100 ohms to 5 megs, linear taper; 500 ohms to 2.5 megs, CW and CCW tapers. Power rating: 1 watt at 125°C, linear taper; 0.5 watt, CW and CCW taper. Operating temperature range: −65°C to +175°C. **All models** supplied with hardware; other shaft lengths available. Types with locking bushings supplied with locking nut. **Specify:** Plain round, screwdriver slot, round with flat shaft; solder lugs or PC terminals; resistance; and linear, CW, or CCW taper.

Stock No.	Bourns Model	Bushing Style	Bushing Lgth.	Shaft Dia.	Standard Shaft Lgth. Min.	Standard Shaft Lgth. Max.	Each 1-9	10-24	25-49	50-99	100-249	250-499
12F9675	3852A	3/8-32 UNEF	3/8"	1/4"	1/2"	7/8"	2.40	2.14	2.09	1.99	1.56	1.23
12F9676	3852B	3/8-32 UNEF locking	1/2"	1/4"	5/8"	7/8"	2.80	2.49	2.44	2.32	1.82	1.43
12F9677	3852C	1/4-32 UNEF	1/4"	1/8"	3/8"	7/8"	2.50	2.23	2.18	2.08	1.63	1.28
12F9678	3852E	1/4-32 UNEF locking	3/8"	1/8"	1/2"	7/8"	2.80	2.49	2.44	2.32	1.82	1.43
12F9679	3859A	3/8-32 UNEF threaded plastic	3/8"	1/4"	1/2"	7/8"	1.95	1.74	1.70	1.62	1.27	1.00
12F9680	3859B	Plastic snap-in	1/4"	1/4"	3/8"	7/8"	1.85	1.65	1.61	1.54	1.20	.95
12F9681	3862C	1/4-32 UNEF-2A	1/4"	1/8"	3/8"	7/8"	4.20	3.95	3.80	3.40	2.20	1.70
12F9682	3862E	1/4-32 UNEF-2A locking	1/2"	1/8"	5/8"	.....	4.60	4.32	4.16	3.68	2.54	1.85

PART NUMBERING SYSTEM AND ORDERING

The models with features indicated are normally stocked for immediate delivery.

EXAMPLE: 3852A—282—103A

3852	A	28	2	103	A
Model Number and Diameter	Bushing Style and Size ①	Shaft Length FMS ② and Diameter	Terminal Style and Shaft End	Resistance Code ⑤	Taper ⑥ and Resistance Tolerance

3852 ¾"
- A Plain 3/8" — 16, 28 — ③ 1/4" Dia.
- B Locking 3/8" — 20 — ③ 1/4" Dia.
- C Plain 1/4" — 12, 28 — ③ 1/8" Dia.
- E Locking 1/4" — 16 — ③ 1/8" Dia.

3859 ¾"
- A Plain 3/8" — 16, 28 — ③ 1/4" Dia.
- B Snap-in 3/8" — 12 — ③ 1/4" Dia.

3862 ½"
- C Plain 1/4" — 12, 28 — ③ 1/8" Dia.
- E Locking 1/4" — 20 — ③ 1/8" Dia.

Terminal Style and Shaft End:
- 2 Lugs, Slotted.
- 6 Printed Circuit, Slotted.

Resistance Code ⑤: 500*, 101, 251, 251, 501, 102, 252, 502, 103, 253, 503, 104, 254, 504, 105, 255, 505

50Ω RANGE NOT AVAILABLE IN MODEL 3862

Taper ⑥ and Resistance Tolerance: A Linear ±10%

NOTES

2. Shaft lgth. numbering code based on no. of 1/32" increments in the lgth. from the mounting surface (FMS). Thus a 7/8" shaft lgth. is ordered as "28".
3. Min. lgth. slotted shaft available for each model bushing combination as shown.
5. Other nominal res. available incl. those listed below.

Code	Ohms	Code	Ohms	Code	Ohms	Code	Ohms
151	150	202	2.0K	353	35K	754	750K
201	200	352	3.5K	753	75K	155	1.5 Meg
351	350	752	7.5K	154	150K	205	2.0 Meg
751	750	153	15K	204	200K	355	3.5 Meg
152	1.5K	203	20K	354	350K		

MOUNTING HARDWARE

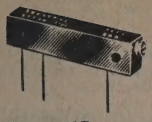
Hardware indicated by (*) is normally supplied with unit. Other hardware may be ordered separately. Hardware packaged separately.

Stock No.	Type	Used For	100/Pkg
12F9419	H-36-1 Flat Washer	3862C, E 3852C, E	1.00
12F9420	H-36-2 Flat Washer	3852A, B 3859A	1.00
12F9421	H-37-1* Lock Washer	3852C, E 3862C, E	1.00
12F9422	H-37-2* Lock Washer	3852A, B 3859A	1.00
12F9423	H-38-1* Mounting Nut	3852C, E 3862C, E	1.00
12F9424	H-38-2* Mounting Nut	3852A, B 3859A	1.00
12F9425	H-38-3* Locknut	3852E 3862E	1.00
12F9426	H-38-4* Locknut	3852B	1.00
12F9427	H-39 Adapter	3852A, B 3859A	N/C
12F9428	H-40-1 Panel "O" Ring	3852C, E	.10 EA.
12F9429	H-40-2 Panel "O" Ring	3862C, E	.20 EA.

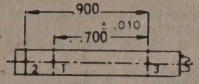
Spectrol

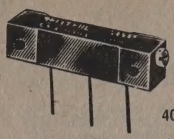
WIRE WOUND RESIST. ELEMENTS FOR TEMP. STABILITY

MIL SPEC INDUSTRIAL TRIMMERS—1¼" RECTANGULAR MULTI-TURN

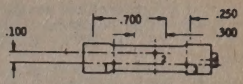


40P





40Y



MODEL 40 Y

For circuits where temp. stability is important. Has tempco of 50PPM/°C max. and operating temp range of -65°C to 175°C. Constructed with terminal strengths of 2 lbs. min and meets MIL-R-27208 specification for shock, vibration and moisture resistance.

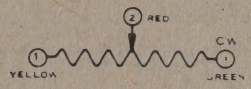
Screw-driver adjustment is 22 turns ±5. Slider idles at end stops without damage. Body mounting holes 0.093" diameter on 1" centers. Tol.: ±5%. 1 watt @70°C. Size 1.250x0.315x0.190". Wt.: 3.4 Grams.

Type 40P	Type 40Y	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3572	67F3578	10							
67F3573	67F3579	20							
67F3574	67F3580	50	2.95	2.70	2.45	2.30	2.15	2.05	2.00
67F3575	67F3581	100							
67F3576	67F3582	200							
67F3577	67F3583	500							

Type 40P	Type 40Y	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3584	67F3591	1K							
67F3585	67F3592	2K	2.95	2.70	2.45	2.30	2.15	2.05	2.00
67F3586	67F3593	5K							
67F3587	67F3594	10K							
67F3588	67F3595	20K	3.50	3.20	3.00	2.80	2.65	2.45	2.35
67F3589	67F3596	50K	6.30	5.80	5.35	4.95	4.60	4.35	4.05
67F3590	67F3597	100K	7.70	7.10	6.50	6.00	5.55	5.20	4.85

7

MODEL 40L—1¼" RECTANGULAR MULTI-TURN



Type 40L	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3598	10							
67F3599	20							
67F3600	50							
67F3601	100	2.95	2.70	2.45	2.30	2.15	2.05	2.00
67F3602	200							
67F3603	500							
67F3604	1K							

Type 40L	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3605	2K							
67F3606	5K	2.95	2.70	2.45	2.30	2.15	2.05	2.00
67F3607	10K							
67F3608	20K	3.50	3.20	3.00	2.80	2.65	2.45	2.35
67F3609	50K	6.30	5.80	5.35	4.95	4.60	4.35	4.05
67F3610	100K	7.70	7.10	6.50	6.00	5.55	5.20	4.85

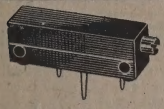
MIL. SPEC, RT12

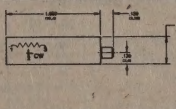
Built to Military standards per MIL-R-27208. Screw turns 22 ±5 for full electrical travel. Tempco is 50 PPM/°C. Immersion 1 minute in 85°C water. Mounting holes 0.093" diameter on 1" centers.

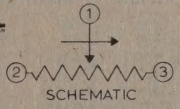
Operating range: -65°C to 175°C. Resistance tolerance: ±5%. 1.0 wattage @70°C. Size: 1.250x0.135x0.190". Net weight: 4.3 Grams maximum.

MIL RT12C2Y	Spec RT12C2L	RT12C2P	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3611	12F2822	12F2831	50							
67F3612	12F2823	12F2832	100	3.75	3.45	3.15	2.95	2.70	2.55	2.40
67F3613	12F2824	12F2833	200							
67F3614	12F2825	12F2834	500							
67F3615	12F2826	12F2835	1K							

MIL RTY2GC2Y	Spec RT12C2L	Type RT12C2P	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3616	12F2827	12F2836	2K							
67F3617	12F2828	12F2837	5K	3.75	3.45	3.15	2.95	2.70	2.55	2.40
67F3618	12F2829	12F2838	10K							
67F3619	12F2830	12F2839	20K	4.25	4.05	3.75	3.50	3.30	3.15	3.00



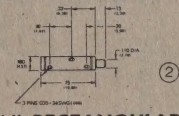


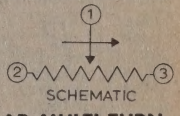


MODEL CW 15-1" RECTANGULAR MULTI-TURN

Designed for industrial wirewound trimmer applications. PC pin style. Resistance tolerance ±10%. Maximum power rating .5 watts at 70°C. Operating temperature -40 to +125°C. Temperature coefficient ±50 ppm/°C. Dielectric withstanding voltage 1000 volts rms for 1 minute. 20 turns nominal. Sealed for board washing. Size: .36"H x .28"W x 1.00"L. Weight .095 oz. nominal.

Type CW15	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3620	10							
67F3622	50							
67F3623	100							
67F3624	200							
67F3625	500	1.80	1.65	1.50	1.40	1.30	1.25	1.20
67F3626	1K							
67F3627	2K							
67F3628	5K							
67F3629	10K							
67F3630	20K							
67F3631	50K	2.15	2.05	1.90	1.80	1.65	1.60	1.50





MODEL CW 52 - ¾" RECTANGULAR MULTI-TURN

Designed for industrial and commercial applications. PC pin style. Resistance tolerance ±10%. maximum power rating 1.0 watt at 40°C. Operating temperature -40°C to +125°C. Temperature coefficient ±50 ppm/°C. Dielectric withstanding voltage 1000 volts rms. 20 turns nominal. Size .29"H x .18" W x .75"L. Weight .05 oz. nominal.

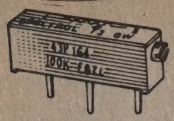
Type CW52	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3633	25							
67F3635	100							
67F3636	200							
67F3637	250							
67F3639	500	1.75	1.60	1.45	1.40	1.30	1.25	1.15
67F3640	1K							
67F3641	2K							
67F3642	2.5K							
67F3643	5K							
67F3644	10K							
67F3645	20K							

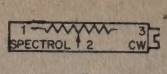
Spectrol

Trimmers

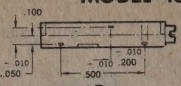
Cermet Resistance Elements For Infinite Resolution ¾" Rectangular Multi-Turn

MODEL 43

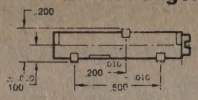




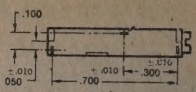
43P



43P



43W



43Y

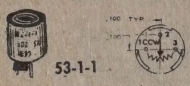
Designed for general use where cost and space are factors. Has 20 turn screw-driver adjustment with idling and stops. Operating temp. range: —65°C to 125°C. Fully sealed, suitable for automatic soldering.

Wedge shaped pins make automatic insertion practical. Choice of 3 pin grids. Perfect for new or replacement purposes. Resistance tolerance: ±10%. ¾ watt @ 25°C. Size: .750x.25x.19.

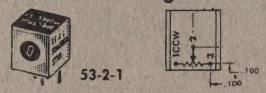
Type 43P	Type 43W	Type 43Y	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F4400	12F4418	12F4436	10							
12F4401	12F4419	12F4437	20							
12F4402	12F4420	12F4438	50							
12F4403	12F4421	12F4439	100							
12F4404	12F4422	12F4440	200	1.35	1.25	1.20	1.15	1.10	1.05	1.00
12F4405	12F4423	12F4441	500							
12F4406	12F4424	12F4442	1K							
12F4407	12F4425	12F4443	2K							
12F4408	12F4426	12F4444	5K							

Type 43P	Type 43W	Type 43Y	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F4409	12F4427	12F4445	10K							
12F4410	12F4428	12F4446	20K							
12F4411	12F4429	12F4447	50K							
12F4412	12F4430	12F4448	100K							
12F4413	12F4431	12F4449	200K	1.35	1.25	1.20	1.15	1.10	1.05	1.00
12F4414	12F4432	12F4450	250K							
12F4415	12F4433	12F4451	500K							
12F4416	12F4434	12F4452	1 Meg							
12F4417	12F4435	12F4453	2 Meg							

MODEL 53 11/32" Round & Cube Single Turn



53-1-1

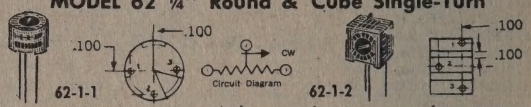


53-2-1

Single turn, PC mount trimmers meet environ sects. of MIL-R-22097. Fully sealed, suitable for automatic soldering. Stop strength of 10 oz. in. Oper. temp.: -65°C to 125°C. Tol.: ±20%. ½ watt @ 85°C. Size: .343 dia. Wt.: 1.5 GMs max.

Type 53-1-1	Type 53-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F3029	12F3045	10							
12F3030	12F3046	20							
12F3031	12F3047	50							
12F3032	12F3048	100							
12F3033	12F3049	200							
12F3034	12F3050	500							
12F3035	12F3051	1K							
12F3036	12F3052	2K							
12F3037	12F3053	5K	1.65	1.55	1.45	1.40	1.30	1.25	1.15
12F3038	12F3054	10K							
12F3039	12F3055	20K							
12F3040	12F3056	50K							
12F3041	12F3057	100K							
12F3042	12F3058	200K							
12F3043	12F3059	500K							
12F3044	12F3060	1 meg							

MODEL 62 ¼" Round & Cube Single-Turn



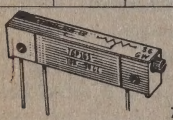
62-1-1

62-1-2

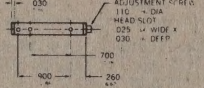
Single turn sub-miniature, PC mount trimmers meet MIL-R-22097 environ. specs. Fully sealed, suitable for automatic soldering. Elect. adjust.: 215° min. End stops. 6.0 oz.-in. stop strength. Oper. temp.: 65°C to 125°C. ¾ Watt @25°C Size: .250. Wt.: 1.0 GM max.

Type 62-1-1	Type 62-2-1	Ohms	1-9	10-24	25-49	50-99	100-249	250 499	500-999
12F4204	12F4220	10							
12F4205	12F4221	20							
12F4206	12F4222	50							
12F4207	12F4223	100							
12F4208	12F4224	200							
12F4209	12F4225	500							
12F4210	12F4226	1K	1.70	1.60	1.50	1.45	1.35	1.25	1.20
12F4211	12F4227	2K							
12F4212	12F4228	5K							
12F4213	12F4229	10K							
12F4214	12F4230	20K							
12F4215	12F4231	50K							
12F4216	12F4232	100K							
12F4217	12F4233	200K							
12F4218	12F4234	500K							
12F4219	12F4235	1 meg.							

MODEL 70 1¼" Rectangular Multi-Turn



70P



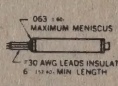
70Y

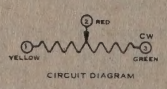
For use where higher operating wattage and temperature is desired. Resistant to humidity, shock and vibration. 20 turn screwdriver adjustment with idling end stops. Insulated wire lead or PC pin models. Body mounting holes: .093" on 1" centers. Operating temp. range is -55°C to 150°C. Tolerance: ±10%. 1 watt @ 85°C. Size: 1.250 x .315 x .190. Net wt. 3.3 Gms. Maximum.

Type 70P	Type 70Y	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3515	67F3534	10							
67F3516	67F3535	20							
67F3517	67F3536	50							
67F3518	67F3537	100							
67F3519	67F3538	200	1.95	1.85	1.75	1.60	1.50	1.40	1.30
67F3520	67F3539	500							
67F3521	67F3540	1K							
67F3522	67F3541	2K							
67F3523	67F3542	5K							

Type 70P	Type 70Y	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3524	67F3543	10K							
67F3525	67F3544	20K							
67F3527	67F3546	50K							
67F3528	67F3547	100K							
67F3529	67F3548	200K	1.95	1.85	1.75	1.60	1.50	1.40	1.30
67F3530	67F3549	250K							
67F3531	67F3550	500K							
67F3532	67F3551	1 Meg							
67F3533	67F3552	2 Meg							

MODEL 70 L





1¼" Rectangular Multi-Turn

Type 70L	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3553	10							
67F3554	20							
67F3555	50							
67F3556	100							
67F3557	200	2.45	2.30	2.15	1.95	1.85	1.75	1.60
67F3558	500							
67F3559	1K							
67F3560	2K							
67F3561	5K							

Type 70L	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3562	10K							
67F3563	20K							
67F3565	50K							
67F3566	100K							
67F3567	200K	2.45	2.30	2.15	1.95	1.85	1.75	1.60
67F3568	250K							
67F3569	500K							
67F3570	1 Meg							
67F3571	2 Meg							

Trimmers

Spectrol

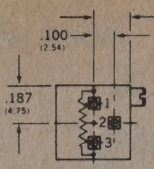
MODEL 50 WIRE WOUND RES. ELEMENTS FOR TEMP. STABILITY

FIG. A

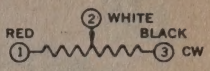
FIG. B

FIG. C

FIG. D



3/8" SQUARE MULTI-TURN METAL CASE

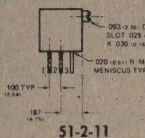


Features an exceptional size/power factor for service where space is limited. Can be integrated into almost any layout. See mounting arrangements illustrated above. Screw adjustment of 23 turns ±5. Stops /clutch feature. Tempco is 50 PPM/°C. Figure A has 6" Teflon leads and 0.075" diameter mounting holes on 0.375" centers. Resistance tolerance ±5%. .75 watt @ 85°C. Size: .375 x .375 x .190" Nominal. Weight: Figure A, 2.0 Grams; others, 1.5 Grams maximum.

Fig. A 50-1-11	Fig. B 50-2-11	Fig. C 50-3-11	Fig D 50-4-11	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3646	67F3656	67F3666	67F3676	50							
67F3647	67F3657	67F3667	67F3677	100							
67F3648	67F3658	67F3668	67F3678	200							
67F3649	67F3659	67F3669	67F3679	500							
67F3650	67F3660	67F3670	67F3680	1K	6.80	6.20	5.80	5.40	5.20	4.80	4.60
67F3651	67F3661	67F3671	67F3681	2K							
67F3652	67F3662	67F3672	67F3682	5K							
67F3653	67F3663	67F3673	67F3683	10K							
67F3654	67F3664	67F3674	67F3684	20K	7.60	6.90	6.50	6.05	5.80	5.35	5.15
67F3655	67F3665	67F3675	67F3685	50K	8.20	7.50	7.00	6.50	6.29	5.80	5.55

MODEL 51 3/8" SQUARE MULTI-TURN

FIG. E



51-2-11 (RT24C2X)

FIG. F

51-3-11 (RT24C2W)

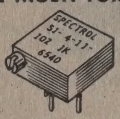
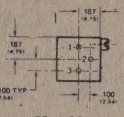
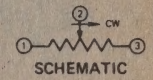


FIG. G



51-4-11 (RT24C2P)



7

Offers excellent electrical and mechanical properties. This unit provides all P.C. pin configurations common to square trimmers. Total assembly sealed in diallyl phthalate housing. Stops/Clutch mechanism standard in all configurations. Max. power (watts).

STANDARD

Fig. E 51-2-11	Fig. F 51-3-11	Fig. G 51-4-11	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3686	67F3691	67F3696	10							
67F3687	67F3692	67F3697	20							
67F3688	67F3693	67F3698	50	4.20	3.85	3.60	3.40	3.15	2.90	2.70
67F3689	67F3694	67F3699	100							
67F3690	67F3695	67F3700	200							

.75 at 85°C, tempco ±50 PPM/°C, resistance tolerance ±5%, temp: —65°C to +150°C, Weight .035 ounce max. Electrical travel 23 ± 3 turns.

PLASTIC CASE

Fig. E 51-2-11	Fig. F 51-3-11	Fig. G 51-4-11	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3701	67F3707	67F3713	500							
67F3702	67F3708	67F3714	1K							
67F3703	67F3709	67F3715	2K	4.20	3.85	3.60	3.40	3.15	2.90	2.70
67F3704	67F3710	67F3716	5K							
67F3705	67F3711	67F3717	10K							
67F3706	67F3712	67F3718	20K	4.80	4.40	4.10	3.85	3.60	3.35	3.10

MIL. SPEC. STYLE RT24, 3/8" SQUARE MILITARY MULTI-TURN

.75 Watt @ 85°C. Size: 0.375 x 0. 375 x 0.190 Nominal

Has same general specifications as Model 51 above plus full compliance to RT24 requirements of MIL-R-27208. Screw adjustment is 25 turns nominal. Designed especially for prototype Military equipment or for field replacement. MIL designation is RT 24 Series. Order by Newark Stock Number.

Fig. E RT24C2X 51-2-10	Fig. F RT24C2W 51-3-10	Fig. G RT24C2P 51-4-10	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3719	67F3729	67F3739	10							
67F3720	67F3730	67F3740	20							
67F3721	67F3731	67F3741	50	4.80	4.50	4.25	3.95	3.80	3.65	3.45
67F3722	67F3732	67F3742	100							
67F3723	67F3733	67F3743	200							

Fig. E RT24C2X 51-2-10	Fig. F RT24C2W 51-3-10	Fig. G RT24C2P 51-4-10	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
67F3724	67F3734	67F3744	500							
67F3725	67F3735	67F3745	1K							
67F3726	67F3736	67F3746	2K	4.80	4.50	4.25	3.95	3.80	3.65	3.45
67F3727	67F3737	67F3747	5K							
67F3728	67F3738	67F3748	10K							

MODEL 55 ½" SQUARE MULTI-TURN METAL CASE

Provides higher wattage in a package only 0.500" square for demanding circuits. Temperature stable to 50 PPM/°C maximum. Screw adjusted with 23 turns ±3 of shaft. Has idler at stops to prevent damage. Operating temperature range: —65°C. to 150°C. Figure A, has 6" Teflon leads and 0.093" diameter mounting holes on 0.520" centers. Circuit diagram above, except red, green and yellow leads from left to right. Resistance tolerance is ±5% 1.5 watt @ 70°C. Size: 0.500x0.500x0.190. Nominal. Weight: 2.5 Grams maximum.

Fig. A 55-1-8	Fig. B 55-3-8	Fig. C 55-2-8	Fig. D 55-4-8	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
...	12F3011	67F3749	12F3015	20							
12F2622	12F2632	67F3750	12F2791	50							
12F2625	12F2635	67F3751	12F2794	500							
...	12F2636	67F3752	12F2795	1K	5.70	5.25	4.90	4.55	4.40	4.05	3.90
12F2627	12F2637	67F3753	12F2796	2K							
...	12F2638	67F3754	12F2797	5K							
12F2629	12F2639	67F3755	12F2798	10K							
12F2630	12F2640	67F3756	12F2799	20K	6.45	5.90	5.50	5.10	4.95	4.55	4.35
12F2631	12F2641	67F3757	12F2800	50K	6.95	6.35	5.95	5.55	5.30	4.85	4.70

MIL. SPEC. STYLE RT22

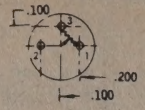
Has specifications of Model 55 above; also complies fully to RT22. requirements of MIL-R-27208. Screw adjustment of 25 turns nominal. RT22C2L, lead version. Others, pin version. Circuit diagram same as above, except color code red, green and yellow from left to right. Weight: 2.5 Grams maximum.

Fig. A RT22C2L 55-1-10	Fig. B RT22C2X 55-2-10	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2960	67F3758	50							
12F2961	67F3759	100							
12F2962	67F3760	200							
12F2963	67F3761	500	5.25	5.00	4.70	4.45	4.20	3.90	3.65
12F2964	67F3762	1K							
12F2965	67F3763	2K							
12F2966	67F3764	5K							
12F2967	67F3765	10K							
12F2968	67F3766	20K	5.70	5.45	5.15	4.85	4.55	4.30	4.00

Fig. C RT22C2W 55-3-10	Fig. D RT22C2P 55-4-10	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
8F918	12F2969	50							
8F919	12F2970	100							
8F920	12F2971	200							
8F921	12F2972	500	4.70	4.45	4.20	3.95	3.75	3.50	3.25
8F922	12F2973	1K							
8F923	12F2974	2K							
8F924	12F2975	5K							
8F925	12F2976	10K							
8F926	12F2977	20K	5.15	4.90	4.65	4.35	4.15	3.85	3.60

Trimmers & Rotary Switches

MODEL 80 - 11/32" DIA. ROUND SINGLE - TURN



Sub-miniature trimming potentiometer with the size of a transistor and 50 PPM/°C stability designed for high density packaging. Single turn adjustment with stops, 80-3-4; continuous rotation, 80-3-1. Effective electrical travel 310° nominal. Meets many environmental specifications of MIL-R-27208. Temperature range: -65°C to 150°C. Tolerance: 5% Wirewound, 1.0 watt @ 50°C. Size: .241x.345" Dia. Weight: 1.0 Gram maximum.

Type 80-3-4	Type 80-3-1	Ohm	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F3025	12F3027	10							
12F3026	12F3028	20							
12F2652	12F2662	50							
12F2653	12F2663	100	3.70	3.40	3.15	2.95	2.85	2.60	2.50
12F2654	12F2664	200							
12F2655	12F2665	500							

Type 80-3-4	Type 80-3-1	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2656	12F2666	1K							
12F2657	12F2667	2K							
12F2658	12F2668	5K	3.70	3.40	3.15	2.95	2.85	2.60	2.50
12F2659	12F2669	10K							
12F2660	12F2670	20K	4.15	3.80	3.55	3.30	3.20	2.95	2.80
12F2661	12F2671	50K	4.50	4.10	3.85	3.55	3.45	3.15	3.05

MODEL 84 WIREWOUND—½" DIA. ROUND SINGLE-TURN

84-3-8

84-3-10

84-5-6

Higher power miniature trimmers for Military and industrial circuits. Designed to meet applicable portions of MIL-R-27208. Tempco of 50 PPM/°C maximum. Choice of 3 packages above.

Effective adjustment 300° nominal. Temperature range: -65 to 175°C. Tolerance: ±5% 1.5 watt @ 70°C. Weight: 1.7 Grams maximum.

TYPE 84-3-8—SCREWDRIVER ADJUST-PC PINS

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2958	10							
12F2959	20							
12F2680	50	3.30	3.00	2.80	2.60	2.50	2.30	2.20
12F2681	100							
12F2682	200							
12F2683	500							

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2684	1K							
12F2685	2K	3.30	3.00	2.80	2.60	2.50	2.30	2.20
12F2686	5K							
12F2687	10K							
12F2688	20K	3.70	3.35	3.15	2.90	2.80	2.60	2.50

TYPE 84-3-10—KNOB ADJUST-PC PINS

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2932	10							
12F2933	20							
12F2934	50	4.00	3.60	3.40	3.15	3.05	2.80	2.70
12F2935	100							
12F2936	200							
12F2937	500							

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2938	1K							
12F2939	2K	4.00	3.60	3.40	3.15	3.05	2.80	2.70
12F2940	5K							
12F2941	10K							
12F2942	20K	4.45	4.05	3.80	3.55	3.40	3.15	3.00

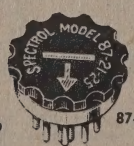
TYPE 84-5-6—PANEL BUSHING MOUNT-SOLDER HOOKS

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2945	10							
12F2946	20							
12F2947	50							
12F2948	100	5.10	4.65	4.35	4.05	3.90	3.60	3.45
12F2949	200							
12F2950	500							

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499	500-999
12F2951	1K							
12F2952	2K	5.10	4.65	4.35	4.05	3.90	3.60	3.45
12F2953	5K							
12F2954	10K							
12F2955	20K	5.70	5.20	4.85	4.50	4.35	4.00	3.85

MODEL 87 MINIATURE ROTARY SWITCHES

87-11-19



87-21-25

87-31-33

2-Pole

1-Pole

3-Pole

Miniature rotary switches suitable for many dry circuits as well as loads up to ¼ ampere at 28VDC. Positive detent action and proven rotational life of 4000 operations per position. Has stops. Dielectric strength: 1000 VAC at sea level. Capacitance: pin to pin or, pin to case, 2PF maximum. Sealed. Suitable for automatic soldering. Bushing mount has 12-20 threads, 0.275 long. Weight: 3.0 Grams maximum.

Stock No.	Type	Poles	1-9	10-24	25-49	50-99	100-249	250-499	500-999
8F900	87-11-19	1	4.10	3.75	3.50	3.25	3.15	2.90	2.80
8F901	87-21-19	1	4.75	4.35	4.05	3.80	3.65	3.35	3.20
8F902	87-31-10	1	5.25	4.80	4.50	4.20	4.00	3.70	3.55
8F903	87-11-24	2	4.60	4.20	3.90	3.65	3.50	3.25	3.10
8F904	87-21-24	2	5.25	4.80	4.50	4.20	4.00	3.70	3.55

Stock No.	Type	Poles	1-9	10-24	25-49	50-99	100-249	250-499	500-999
8F905	87-31-25	2	5.80	5.25	4.95	4.60	4.40	4.05	3.90
8F906	87-11-33	3	4.95	4.50	4.20	3.90	3.80	3.50	3.35
8F907	87-21-33	3	5.60	5.10	4.80	4.45	4.30	3.95	3.80
8F908	87-31-33	3	6.10	5.55	5.20	4.85	4.65	4.30	4.10

Precision Potentiometers

Spectrol

PRECISION LINEAR WIREWOUND

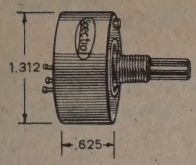


FIG. A
MODEL 132

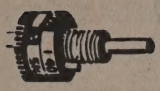


FIG. B
MODEL 140

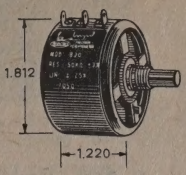


FIG. C
MODEL 830

FIG. D
MODEL 162

SINGLE-TURN MODEL 132 WIRE WOUND 2.75 WATTS @ 40°C. SIZE: 0.625" x 1.312 DIAMETER

Precision potentiometer for general purpose industrial use. Independent linearity: Up to 200 ohms, ±1%; above 200 ohms, ±0.5%. Electrical rotation: 352° ±2°. Temperature range: —55°C to +125°C. Shaft length including bushing: 0.875" x 0.250" diameter. Bushing: ⅜-32x⅜". Resistance Tol. ±3% Weight: 1.0 oz.

Fig. A	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F4043	100							
67F3513	200							
12F4044	500	7.00	6.75	6.60	6.30	5.95	5.60	5.25
12F4045	1K							
12F4046	2K							

Fig. A	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F4047	5K							
12F4048	10K							
12F4049	20K	7.00	6.75	6.60	6.30	5.95	5.60	5.25
12F4050	30K							

SINGLE-TURN MODEL 140 WIREWOUND 2.0 WATTS @ 40°C SIZE: 0.305" x 0.500" DIAMETER

Precision miniature potentiometer. Independent linearity: ±1.0%. Has stops. Electrical rotation: 320° ±5°. Temperature range: —55°C. to +125°C. Shaft length including bushing: 0.700" x 0.1248" diameter maximum. Bushing: ¼ - 32⁵⁄₁₆". Resistance Tolerance: ±5%. Weight: 0.1 oz. maximum.

Fig. B	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2698	50							
12F2699	100							
12F2700	200	5.95	5.75	5.60	5.30	5.05	4.85	4.60
12F2701	500							
12F2702	1K							

Fig. B	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2703	2K							
12F2704	5K							
12F2705	10K	5.95	5.75	5.60	5.30	5.05	4.85	4.60
12F2706	20K							
12F2707	50K							

3-TURN MODEL 830 WIREWOUND 3.0 WATTS @ 40°C SIZE: 1.220" x 1.812" DIAMETER

Extra rugged design for machine controls and industrial test instruments. Independent linearity: ±0.25%. Has stops. Electrical rotation: 1080° +4° to -0°. Temperature range: -55°C to +125°C. Shaft length including bushing: 0.812" x 0.2497" diameter. Bushing: ⅜ - 32x⁵⁄₁₆". Resistance Tolerance: ±3%. Weight: 3.0 oz. maximum.

Fig. C	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2746	100							
67F3514	200							
12F2747	500	10.00	9.70	9.50	9.00	8.75	8.50	8.00
12F2748	1K							
12F2749	2K							
12F2750	5K							

Fig. C	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2751	10K							
12F2752	20K	10.00	9.70	9.50	9.00	8.75	8.50	8.00
12F2753	30K							
12F2754	50K							

10-TURN MODEL 162 WIREWOUND 2.0 WATTS @ 40°C SIZE: 1.000" x 0.500" DIAMETER

Precision potentiometer for limited panel space. Independent linearity: ±0.3%. Has stops. Electrical rotation: 3600° +15° to -0°. Temperature range: -55°C to +125°C. Shaft length including bushing: 0.687" x 0.935" diameter. Bushing: ¼-32x0.281" Resistance Tolerance: ±5%. Weight: 1.0 maximum.

Fig. D	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2899	100							
12F2900	200							
12F2901	500	10.00	9.70	9.50	9.00	8.50	8.00	7.50
12F2902	1K							
12F2903	2K							

Fig. D	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2904	5K							
12F2905	10K							
12F2906	20K	10.00	9.70	9.50	9.00	8.50	8.00	7.50
12F2907	30K							
12F2908	50K							

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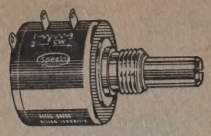
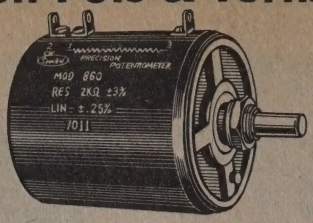


MODEL 534



MODEL 860

MODEL HEL 05

• NEW 10-TURN MODEL 534

Low cost industrial wirewound precision potentiometer available as three turn (533), five turn (535) and dual gang units as well as 10-turn (534) standard. Choose between bushing and servo-mounting styles. Rugged construction and superior stop strength inherent in design. Resistance tolerance ±5%. Max. power 2.0 watts at 70°C. Operating temp. −55 to 125°C. Linearity tolerance ±.25%. Shaft revolutions 1 million. Temperature coefficient 20 ppm/°C. Size: .750" x .875" dia.

Stk. No.	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F4463	100							
12F4464	200							
12F4465	500	5.95	5.80	5.65	5.35	5.05	4.75	4.45
12F4466	1K							
12F4467	2K							

Stk. No.	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F4468	5K							
12F4469	10K							
12F4470	20K	5.95	5.80	5.65	5.35	5.05	4.75	4.45
12F4471	50K							
12F4472	100K							

7

10-TURN MODEL 860

High power model for wide service. Independent linearity: ±0.25%. Has stops. Electrical rotation: 3600° +4° to 0°. Temperature range: −55°C to 125°C. Shaft length including bushing: 0.812" x 0.2497 diameter. Bushing: ⅜-32 x 9/16". Resistance Tolerance: Up to 200 ohms, ±5%; above, ±3%. 8.0 watts @ 40°C. Size: 2.000" x 1.812" diameter. Weight: 4.5 oz. maximum.

Stk. No.	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2755	25							
12F2756	50							
12F2757	100							
12F2758	200	10.00	9.70	9.50	9.00	8.75	8.50	8.00
12F2759	500							
12F2760	1K							
12F2761	2K							

Stk. No.	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2762	5K							
12F2763	10K							
12F2764	20K							
12F2765	30K	10.00	9.70	9.50	9.00	8.75	8.50	8.00
12F2766	50K							
12F2767	100K							
12F2768	200K							

• NEW MODEL HEL 05-10

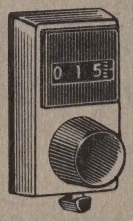
Low cost ½" industrial wirewound pot. Ideal for tight applications. Linearity ±1%. Elec. rotation 3600° + 10° −0° Power-rating: 1.5 w at 40°C. Rotational life 100,000 shaft revs. Temp. range: −20° to +100°C. Size: 1.650" x .500" dia.

Stk. No.	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
67F3500	50							
67F3501	100							
67F3502	250							
67F3503	500	7.70	7.45	7.25	6.95	6.30	6.00	5.70
67F3504	1K							
67F3506	2K							

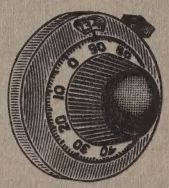
Stk. No.	Ohms	1-4	5-9	10-24	25-49	50-99	100-249	250-499
67F3505	2.5K							
67F3507	5K							
67F3508	10K							
67F3509	20K	7.70	7.45	7.25	6.95	6.30	6.00	5.70
67F3510	25K							
67F3511	50K							

TURNS COUNTING DIALS

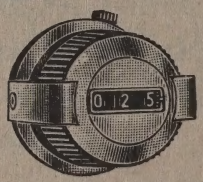
Model 11



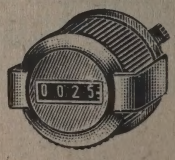
Model 15



Model 21



Model 25-1-3



Model 25-4-13

Model 11. Eleven turns. Counts to 1099. Satin body finish. Black knob and brake lever. Black numerals. 1" diameter. For ¼" and ⅛" shaft. Order by stock number. Weight: 0.7 oz. maximum.

Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2773	11-1-11	¼"	7.35	7.05	6.90	6.60	6.25	6.00	5.75
12F2774	11-3-11	⅛"	7.85	7.55	7.35	7.05	6.65	6.40	6.15

Model 15. Ten turns. Counts to 999. Satin body finish. Black removable knob, for shaft access after mounting. Smooth operating mechanism and positive brake. Size: 1.750" H x 1.0" W x 1.0" Lg. Weight 1.6 ozs.

Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F4492	15-1-11	¼"	10.95	9.70	9.45	8.90	8.50	8.10	7.70
67F3512	15-3-11	⅛"	10.55	10.20	9.90	9.35	8.90	8.50	8.10

Model 21. Fifteen turns. Counts to 1499. Satin body finish; black knob and brake lever. Black numerals. 1 13/16" diameter. For ¼" and ⅛" shaft. Order by stock number. Weight: 3.0 oz. maximum.

Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49	50-99	100-249	250-999
8F898	21-1-11	¼"	5.70	5.50	5.40	5.15	4.90	4.60	4.30
8F899	21-3-11	⅛"	6.20	6.00	5.85	5.60	5.30	5.00	4.70

Model 25. Type 25-1 has 11 turns to 1099 digits; 25-4, has 100 turns to 9999 digits. Both have satin chrome finish with white numerals, on black background; also black knurled knob and brake lever. Body size: 13/16" diameter. For ¼" shaft. Weight: 3.7 oz. maximum.

Stk. No.	Type	Shaft Dia.	1-4	5-9	10-24	25-49	50-99	100-249	250-499
12F2777	25-1-13	¼"	13.50	12.70	12.10	11.50	11.00	10.50	10.00
12F2778	25-4-13	¼"	18.55	17.45	16.65	15.80	15.15	14.45	13.75

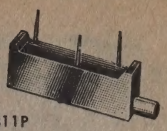
Cermet and Filmet Trimmers

BUNKER RAMO AMPHENOL

MODEL 3811P FILM-MET TRIMMER

Features 100% metallic element with low noise and TC of 100 ppm/°C, plus infinite resolution; all have PC pins and a ±10% resistance tolerance. Temperature, −55° to 125° C.

Stk. No.	Type	Resistance Range, Ohms Specify Resistance Desired	1-9	10-24	25-49	50-99	100-249	250-499
12F4154	3811P	10, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K	2.94	2.77	2.59	2.44	2.31	2.16



3811P

CERMET TRIMMERS

Feature ½-watt minimum ratings and wide resistance range with values up to 5 megohms. For applications where infinite resolution is required. Total resistance and voltage settings remain relatively constant during temperature extremes. Less susceptible to failure when exposed to power or temperatures above specifications. All trimmers have ±10% resistance tolerance, low TC of 150 ppm/°C and temperature range from −55° to 150°C.

2305P, X, W—RJ24—MICROMINIATURE

⅜" square Meets MIL-R-22097, Style RJ24. Has 26-turn ratio for full resistance range.

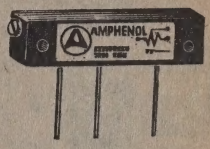
Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	1-9	10-24	25-49	50-99	100-249	250-499
12F4331 12F6050 12F6062	2305P 2305X 2305W	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 500K, 1 MEG	7.32	6.74	6.15	5.77	5.48	5.18

2305P-RJ124

2855P, L—RJ11 HIGH TEMPERATURE 1¼" RECTANGULAR

Meets or exceeds all requirements of MIL-R-22097 style RJ11. Cermet element offers infinite resolution and standard TC or 100ppm/°C.

Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	1-9	10-24	25-49	50-99	100-249	250-499
12F4122 12F6080	2855P 2855L	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 500K, 1 MEG	5.72	5.26	4.81	4.51	4.28	4.05



2855P-RJ11

2905P, L, X, W—RJ22 SUBMINIATURE ½" SQUARE

Cermet element offers infinite resolution . . . wide resistance. Terminal pins are molded-in for greater strength and reliability. Terminations are gold strap and welded directly to resistance element minimizing IR loss.

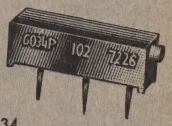
Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	1-9	10-24	25-49	50-99	100-249	250-499
12F4134 12F6090 12F7000 12F7015	2905P 2905L 2905X 2905W	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 500K, 1 MEG	6.48	6.01	5.64	5.31	5.02	4.69

2905P-RJ22

6034P, K, Y—MICROMINIATURE ¾" RECTANGULAR

Low-cost, commercial cermet trimmer offers infinite resolution . . . wide resistance range. TC of 100 ppm/°C is standard. Multi-finger contact reduces CRV to minimum and enhance rotational life. Sealed construction . . . ideal for use in automated board cleaning processes.

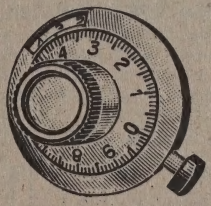
Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	1-9	10-24	25-49	50-99	100-249	250-499
12F4365 12F4350 12F4383	6034P 6034K 6034Y	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 MEG	1.58	1.46	1.31	1.25	1.17	1.08



6034

DFA SERIES CONCENTRIC

- 1 Part in 1000 Reading Accuracy
- Up to 99 Dials Per Square Foot of Panel Space
- Satin Chrome on Black Finish



Precision setting and indicating device for use with multiturn potentiometers, particularly in control-console and computer applications. Dial control knob couples directly to potentiometer shaft, so there is no backlash in control of actual resistance setting. Single numeral in window above knob indicates number of completed turns of shaft, and graduated dial indicates in tenths and hundredths percent of partial turns of shaft enabling an accuracy in setting of one part per 1000.

Model DFA-N with satin chrome finish. **Model DFA-NB** with white numbers on black finish. Both models include a flip-lock lever which applies 25 inch-ounces of torque against accidental displacement.

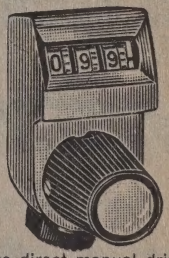
Units measure 1.06 inches wide, with a body height of 1.25 inches (1.63 inches including lock and lever) enabling grouping of miniature ten-turn potentiometers in control banks of up to 99 elements per square foot of panel space.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
12F6045	DFA-N	4.50	4.25	4.05	3.80	3.60
12F6046	DFA-NB	4.50	4.25	4.05	3.80	3.60

See Next Page For More Amphenol Precision Dials

DFD SERIES, DIGITAL

- 250 PPM Reading Accuracy
- High-Density Packaging—Up to 72 Per Sq. Foot



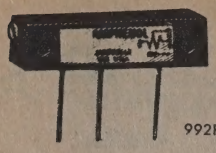
DFD is a precision mechanism that provides direct manual drive for panel-mounted, ten-turn potentiometer and an associated 3-digit readout that registers drive-shaft rotation in turns, to three significant figures; vernier wheel providing four graduations intermediate between adjacent digits on least significant digit counter wheel permits interpolating to 250 parts per million, or less—fully compatible with resolution and linearity of average ten-turn precision potentiometer.

Entire assembly is less than one inch wide and less than two inches high, making it feasible to mount up to 72 controls per square foot of panel space, yet digital display is comfortable readable at all times. It is not hidden by operator's hand during adjustment and is equipped with a magnifying window that significantly enlarges numerals and vernier scale for easy viewing from all positions.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
12F6047	DFD	9.00	8.50	8.00	7.60	7.20

Wirewound Trimmers

Commercial 1-watt trimmers have 100% usable range and linear output with shaft adjustment. Minimum load life: 1000 hours. Minimum mechanical rotation life: 200 cycles.

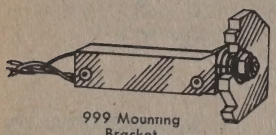

992P

992L

MODEL 992—1¼" RECTANGULAR

22-turn ratio for full resistance range. Tol. ±10% to 100 ohms; ±5%, 100 ohms and up. Temp., −55 to 125°C. P series, 0.1" spacing. L series, color-coded wire leads. Meets MIL-STD-202 steady-state humidity specifications. External terminals are silver-brazed to mandrel wire. Avg. Shpg. wt. 5 grams.

Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F956	992P	50, 100, 200, 500, 1K, 2K, 5K, 10K	2.95	2.73	2.46	2.33	2.18	2.07
12F965	992P	20K	4.10	3.79	3.42	3.24	3.03	2.88
12F941	992L	100, 500, 1K, 2K, 5K, 10K	2.95	2.73	2.46	2.33	2.18	2.07
12F950	992L	20K	4.10	3.79	3.42	3.24	3.03	2.88
12F1635	999	Bracket, 11 19/32"L x 1 5/32"W x 5/16"H	.81	.75	.68	.64	.60	.....


999 Mounting Bracket

MODEL 2300—RT24—MICROMINIATURE ⅜" SQUARE

Meets requirements of MIL-R-27208. 0.42" square with 25-turn ratio for full resistance range. Tol. ±10%; temp. −65 to 150°C. With 0.1" pin spacing. W—Printed circuit pins, edge mount, top adjust leadscrew. X—Same as W except side adjust leadscrew. Avg. Shpg. wt. 1 gram.

Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F4300	2300P	10, 50, 100	6.90	6.35	5.80	5.43	5.16	4.88
30F1285	2300W	200, 500, 1K	6.90	6.35	5.80	5.43	5.16	4.88
30F1286	2300X	2K, 5K, 10K, 20K	6.90	6.35	5.80	5.43	5.16	4.88

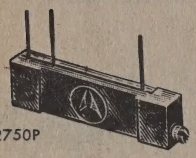
2300P

2750L

MODEL 2750—RT12—HIGH TEMPERATURE 1¼" RECTANGULAR

Meets requirements of MIL-R-27208. 1¼" long with 22-turn ratio for full resistance range. Tol., ±5%; temp., −65 to 175°C. With 0.1" pin spacing. Ultra-low mass wiper with unique one-piece design retains critical resistance settings . . . even under 100 g's shock. Avg. Shpg. wt. 3 grams.

Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F1657	2750L	50, 100, 200, 500, 1K, 2K, 5K, 10K	5.21	4.83	4.53	4.27	4.04	3.78
12F1667	2750L	20K	5.74	5.32	4.99	4.70	4.45	4.16
12F1757	2750P	50, 100, 200, 500, 1K, 2K, 5K, 10K	5.21	4.83	4.53	4.27	4.04	3.78
12F1767	2750P	20K	5.74	5.32	4.99	4.70	4.45	4.16


2750P

MODEL 2850—RT11—HIGH TEMPERATURE 1¼" RECTANGULAR

Meets requirements of MIL-R-27208. 1¼" long with 22-turn ratio for full resistance range. Tol., ±5%; temp., −65 to 175°C. Silicon "O" ring. P series with 0.1" spacing. L series with color-coded wire leads. High temperature diallyl phthalate case functions easily as a stable body for internal circuit components up to 150°C. Avg. Shpg. wt. 5 grams.

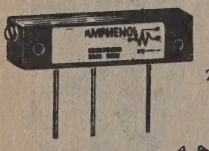
Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F1644	2850L	50, 100, 200, 500, 1K, 2K, 5K, 10K	5.21	4.83	4.53	4.27	4.04	3.78
12F1654	2850L	20K	5.74	5.32	4.99	4.70	4.45	4.16
12F1744	2850P	10, 50, 100, 200, 500, 1K, 2K, 5K, 10K	5.21	4.83	4.53	4.27	4.04	3.78
12F1754	2850P	20K	5.74	5.32	4.99	4.70	4.45	4.16

2850L

MODEL 2900—RT22—SUBMINIATURE ½" SQUARE

Meets requirements of MIL-R-27208, Style RT22. ½" square with 25-turn ratio for full resistance range. Molded-in terminal pins for greater strength and reliability. A telescoping joint with chamfered external edges assures positive sealing. Tol., ±5%; temp., −65 to 175°C. P series has 0.1" pin spacing. L series has color-coded teflon coated wire leads. Avg. Shpg. wt. 3 grams.

Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
12F1670	2900L	50, 100, 200, 500, 1K, 2K, 5K, 10K	5.43	5.04	4.72	4.45	4.21	3.94
12F1680	2900L	20K	5.93	5.50	5.16	4.85	4.60	4.30
30F1287	2900W	50, 100 200, 500, 1K, 2K, 5K, 10K	5.43	5.04	4.72	4.45	4.21	3.94
30F1288	2900W	20K	5.93	5.50	5.16	4.85	4.60	4.30
30F1289	2900X	50, 100, 200, 500, 1K, 2K, 5K, 10K	5.43	5.04	4.72	4.45	4.21	3.94
30F1290	2900X	20K	5.93	5.50	5.16	4.85	4.60	4.30
12F1770	2900P	10, 50, 100, 200, 500, 1K, 2K, 5K, 10K	4.87	4.52	4.24	3.98	3.77	3.53
12F1780	2900P	20K	5.36	4.97	4.67	4.39	4.16	3.89


2850P

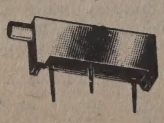
2900L

2900P

MODEL 3800 & 3810—MICROMINIATURE ¾" RECTANGULAR, SOLVENT-RESISTANT

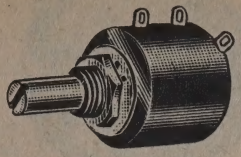
¾" long with 20-turn ratio for full resistance range. Full length mandrel optimum resolution. Corrosion-proof, gold-plated circuit pins are silver-brazed to resistance element for rugged, long-life. Tol., ±10%; temp., −65 to 125°C. P series with 0.1" pin spacing. K series, 0.2" spacing. P-2 series, 0.1" spacing with "Vista-Trim." 3810 series with silicon "O" ring to seal out dust and humidity. Avg. Shpg. wt. 1.2 grams.

Stock No.	Type	Resistance Range, Ohms Specify Resistance Desired	EACH 1-9	10-24	25-49	50-99	100-249	250-499
30F1510	3800P	10, 20, 50, 100	1.75	1.62	1.46	1.39	1.30	1.23
12F5000	3800K	200, 500, 1K	1.75	1.62	1.46	1.39	1.30	1.23
30F1521	3810P	2K, 5K, 10K, 20K	2.14	1.98	1.86	1.75	1.66	1.55
12F5010	3810K		2.14	1.98	1.86	1.75	1.66	1.55


3800

NEW SCOT POT—SERIES 4201B 10 TURN

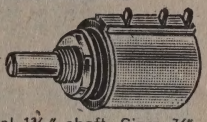
- Lower Unit Cost
- Guaranteed Performance
- Pre-Tested—No Cost of Qualification



Pwr. rating 2W @ 70°C derated to 0W @ 125°C. Low cost ⅞" dia. ¾" short potentiometer. Independent Linearity is ±0.25% Std, ±0.075% best. Electrical and mechanical rotation: 3600° +10°-0°. Temp. range, −55 to +125°C. Temp. coeff. ±20 ppm/°C max. Life: 1,000,000 revolutions. Noise, 100 Ohms ENR max.

Stk. No.	Ohms	Linear Tol.	1-9	10-24	25-49	50-99	100-249
12F7025	500	±.25%	3.99	3.85	3.76	3.65	3.29
12F7026	1K	±.25%					
12F7027	2K	±.25%					
12F7028	5K	±.25%					
12F7029	10K	±.25%					
12F7030	20K	±.25%					
12F7031	50K	±.25%					

SERIES MF78 10 TURN WIREWOUND



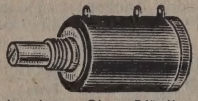
Power rating; 2 watts at 40°C. Rotational life; 500,000 revolutions. Oper. temp. −55° to +85°C. Stop strength; 2.5 in/lbs. Torque; .6 oz. in. max. Solder lug terminals. Dielectric strength; 500V RMS. Noise; 100 ohms ENR max. Stainless steel 13/16" shaft. Size; ⅞" diameter, 1" long. Wt. 1 oz.

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
12F4163	100	± 5%	±.2%
12F4164	200	± 5%	±.2%
12F4165	500	± 3%	±.2%
12F4166	1K	± 3%	±.2%
12F4167	2K	± 3%	±.2%
12F4168	5K	± 3%	±.2%
12F4169	10K	± 3%	±.2%
12F4170	20K	± 3%	±.2%

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
12F4171	50K	± 3%	±.2%
12F4172	100K	± 3%	±.2%
12F4173	125K	± 3%	±.2%

PRICES				
	1-9	10-24	25-49	50-99
100 to 20K	6.50	6.20	5.85	5.55
50K to 125K	7.80	7.40	7.00	6.65

SERIES 2151B 10 TURN WIREWOUND



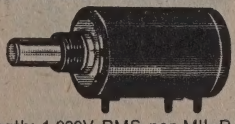
Thermosetting plastic rotor does not change size or shape. Rotational life; 2,000,000 revolutions. No backlash. Case meets MIL-R-12934 steady state humidity requirements. Power rating; 3 watts at 40°C. Oper. temp. −55°C to +105°C. Solder lug term. Size; ⅞" dia. x 1.45". Wt. 1.0 oz.

12F1800	25	± 5%	±.25%
12F1801	50	± 5%	±.25%
12F1802	100	± 3%	±.25%
12F1803	200	± 3%	±.25%
12F1804	500	± 3%	±.25%
12F1805	1K	± 3%	±.25%
12F1806	2K	± 3%	±.25%
12F1807	5K	± 3%	±.25%
12F1808	10K	± 3%	±.25%
12F1809	20K	± 3%	±.25%

12F1810	30K	± 3%	±.25%
12F1811	50K	± 3%	±.25%
12F1812	100K	± 3%	±.25%

PRICES				
1-9	10-24	25-49	50-99	100-249
10.50	9.97	9.45	8.92	8.40

SERIES 4301B 10 TURN WIREWOUND



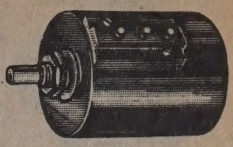
Molded element grooves in phenolic housing assure high linear accuracy. Power rating; 3 watts at 40°C. Torque; .75 oz. Zero backlash. Noise; 100 ohms ENR max. Oper. temp. −55°C to +105°C. Rotational life; 2,000,000 revolutions. Dielectric strength; 1,000V RMS per MIL-R-12934. Size; ⅞" dia. x 1.45". Wt. 1.0 oz.

12F6020	25	± 5%	±.25%
12F6021	50	± 5%	±.25%
12F6022	100	± 5%	±.25%
12F6023	200	± 5%	±.25%
12F6024	500	± 5%	±.25%
12F6025	1K	± 5%	±.25%
12F6026	2K	± 5%	±.25%
12F6027	5K	± 5%	±.25%

12F6028	10K	± 5%	±.25%
12F6029	20K	± 5%	±.25%
12F6031	50K	± 5%	±.25%
12F6032	100K	± 5%	±.25%

PRICE				
1-9	10-24	25-49	50-99	100-249
6.95	6.45	6.20	5.90	5.45

SERIES 4401B 10 TURN WIREWOUND



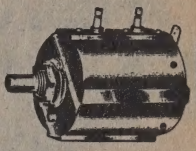
Pwr. rating 5W @ 40°C. Backlash within resolution. Gold-plated, turret type terminal. Oper. temp. −55 to +105°C. Rotation life: 2,000,000 revolutions. Starting torque, 3 oz. in. Dielectric strength: 1,000V rms at room temp. 13/16" stainless steel shaft. Size: 1 13/16" dia. x 2⅛". Wt. 4.2 oz. max.

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
12F6000	25	± 5%	± .5%
12F6001	50	± 5%	± .5%
12F6002	100	± 5%	±.25%
12F6003	200	± 5%	±.25%
12F6004	500	± 5%	±.25%
12F6005	1K	± 5%	±.25%
12F6006	2K	± 5%	±.25%
12F6007	5K	± 5%	±.25%

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
12F6008	10K	± 5%	±.25%
12F6009	20K	± 5%	±.25%
12F6011	50K	± 5%	±.25%
12F6012	100K	± 5%	±.25%

PRICES				
1-9	10-24	25-49	50-99	100-249
6.95	6.45	6.20	5.90	5.45

SERIES 205 10 TURN WIREWOUND



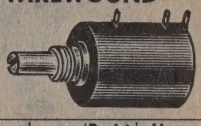
Power rating 5W @ 40°C. Electrical rotation: 3600° +14.4-0°. Oper. temp. −55 to +105°C. Dielectric strength: 1,000 V rms per MIL-R-12934. No backlash. Life: 1,000,000 revolutions. Linear types: *Independent; †Zero-based. Solder lug terminal. Starting torque: 3 oz. in. ⅞" stainless steel shaft. 1¾" dia. x 2⅛". Wt. 5 oz. max.

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
12F800	1.15	±10%	±0.1%*
12F801	2.9	±10%	±0.1%*
12F802	25	±10%	±0.1%†
12F803	50	± 3%	±0.1%†
12F804	100	± 3%	±0.1%†
12F805	200	± 3%	±0.1%†
12F806	500	± 3%	±0.1%†
12F807	1K	± 3%	±0.1%†
12F808	2K	± 3%	±0.1%†
12F809	5K	± 3%	±0.1%†
12F810	10K	± 3%	±0.1%†

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
12F811†	20K	± 3%	±0.1%
12F812†	30K	± 3%	±0.1%
12F813†	50K	± 3%	±0.1%
12F814†	100K	± 3%	±0.1%
12F4174†	200K	± 5%	±0.1%
12F4175†	300K	± 5%	±0.1%

PRICE					
1-9	10-24	25-49	50-99	100-249
19.42	18.42	17.48	16.48	15.54

SERIES 4101B 10 TURN WIREWOUND



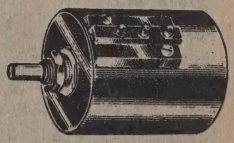
Pwr. rating: 2W @ 40°C. Rotation: elec., 3600° +10°-0°; mech., 3600°+20° -0°. ⅞" thermoplastic polycarbonate shaft. Oper. temp. −55 to +125°C. Start torque; 1.5 oz. in. Wt. 1 oz. max.

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
30F1500	100	± 5%	±.25%
30F1501	200	± 5%	±.25%
30F1502	500	± 5%	±.25%
30F1503	1K	± 5%	±.25%
30F1504	2K	± 5%	±.25%
30F1505	5K	± 5%	±.25%
30F1506	10K	± 5%	±.25%
30F1507	20K	± 5%	±.25%

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
30F1508	50K	± 5%	±.25%
30F1509	100K	± 5%	±.25%

PRICE					
1-9	10-24	25-49	50-99	100-249
5.95	5.65	5.35	5.05	4.75

SERIES 2201B 10 TURN WIREWOUND

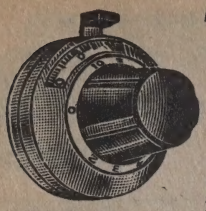


Independent linearity type. Pwr. rated; 5W @ 40°C. Elec. rotation: 3600°+4°-0°. ⅛" stainless steel shaft. Turret terminals. Dielectric strength: 1,000V rms at room temp. Oper. temp. −55 to +105°C. Backlash: within resolution. Starting torque, 3 oz. in. Size: 1 13/16" dia. x 2⅛". Wt. 4.2 oz. max.

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
12F885	25	± 5%	± .5%
12F886	50	± 5%	± .5%
12F887	100	± 3%	±.25%
12F888	200	± 3%	±.25%
12F889	500	± 3%	±.25%
12F890	1K	± 3%	±.25%
12F891	2K	± 3%	±.25%
12F892	5K	± 3%	±.25%
12F893	10K	± 3%	±.25%
12F894	20K	± 3%	±.25%

Stk. No.	Ohms	Resist. Tol.	Linear Tol.
12F895	30K	± 3%	±.25%
12F896	50K	± 3%	±.25%
12F897	100K	± 3%	±.25%
12F898	200K	± 5%	± .5%
12F4176	300K	± 5%	± .5%

PRICE					
1-9	10-24	25-49	50-99	100-249
10.50	9.97	9.45	8.92	8.40

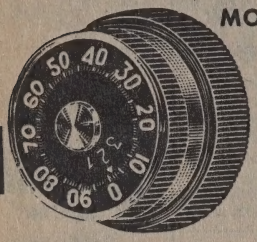


MODEL 1370 COUNTING DIAL

- 1000:1 INDEXING ACCURACY
- ZERO BACKLASH
- FINGERTIP DISK BRAKE
- EASILY READABLE TO 3 FEET
- EXTRA SENSITIVE ACTION

Concentric 10-turn dial ⅞" dia. Large outer vernier dial for max adjust, readout accuracy. Dial mounts directly to shaft. index accuracy 1000:1. Accepts ¼" dia. shaft; up to .177" panel thickness. Aluminum cover, polystyrol control knob, zinc dial. Rotation: continuous CW or CCW.

Stk. No.	Type	1-9	10-24	25-49	50-99	100-249
12F880	1370	6.50	6.17	5.85	5.53	5.20

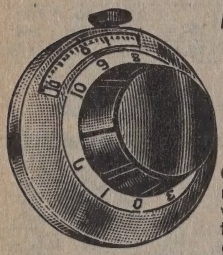


MODEL 3041 1" MICRODIAL®

- 3-FOOT READABILITY
- NON-REFLECTIVE LENS
- EPICYCLIC GEAR MOVEMENT
- FREE OF BACKLASH
- FINGERTIP GRIP AND BRAKE
- 1000:1 INDEXING ACCURACY

Ideal for use with series 205 and 1111B Micropots; also for all other potentiometers having ten turn adjustment and ¼" diameter shaft. White numerals on black scale. Smooth, silent gear action. Dimensions: 1 9/32 x 15/16" diameter. Continuous CW or CCW.

Stock No.	Type	Description	1-9	10-24	25-49	50-99	100-249
12F875	3041-2	Black Brake Knob	9.18	8.71	8.24	7.82	7.35



MODEL 1350 COUNTING DIAL

- 6-FOOT READABILITY OF OUTER VERNIER DIAL
- SHAFT MOUNTED DIAL ELIMINATES BACKLASH
- FINGER-TIP BRAKE DOES NOT DISTURB SETTING

Counting dial features 2 concentrically mounted dials: larger counts shaft reverse in 100 equal increments; inner—full reverse. Smooth equicyclic motion eliminates error. Indexing accuracy: 1000:1. 1 13/16" dia. Ten turns. Shaft dia.: ¼". Housing: clear anodized aluminum. Shpg. wt. 4.4 oz.

Stk. No.	Type	1-9	10-24	25-49	50-99	100-249
12F878	1350	5.75	5.46	5.18	4.89	4.60

MODEL 3141 AND 3141-2 DIALS

- FAST, DIRECT READINGS UP TO 6 FEET
- BRAKE AND CONTROL KNOB ELIMINATES BACKLASH
- 1000:1 INDEXING ACCURACY

Ultra modern design hides ⅔ of bulk behind mounting panel. Projects only 25/32" from front. Dial assembly mounts directly to standard ¼" shaft. Maximum operation speed: 6000 counts per minute (60 RPM). Operating temperature: −54°C to −71°C. Housing and back cover: die-cast zinc. Cover and control knob: anodized aluminum. Clear lens. Solder lug terminals available on type 3141-2 only. Rotation: continuous CW or CCW. **Special readouts and gear ratios are available on special order.**

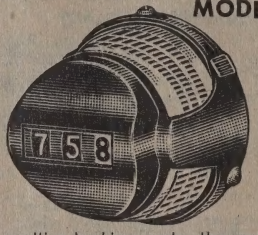
Stk. No.	Type	Illumination	1-9	10-24	25-49	50-99	100-249
12F879	3141	None	12.60	11.97	11.34	10.71	10.08
12F6036	3141-2	White light	14.35	13.62	12.94	12.16	11.48

MODEL 1309 3-DIGIT READOUT

- WIDE-ANGLE VIEWING
- READABLE TO 8 FEET
- POSITIVE-ACTION BRAKE
- ZERO BACKLASH
- ACCURACY 1000:1
- UP TO 6000 COUNTS PER MIN.

Precision design features finger-tip positive action brake and zero backlash. Large, easy-to-read, contrasting numerals, with convex window lens, provide wide-angle viewing plus readability up to 8 feet. Standard gear ratio of 10 to 1 provides continuous ten turn readout of 000 through 999 to initial zero readings. It therefore provides 1000 counts in 10 turns of the control knob. Rotation is continuous clockwise or counter-clockwise. Maximum operating speed: 6000 counts per minute (60 RPM). Rubber seal protects critical assembly from dust and moisture. Control knob is mounted directly to shaft. Housing and mounting plate are die cast zinc. Black enamel housing. Dimensions: 1.816" diameter by 1.660" deep. **A wide variety of special styles, finishes, colors, readouts, gear ratios, markings, shaft diameters, and environmental dials are available on special order.**

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
12F831	1309	16.38	15.54	14.75	13.91	13.12

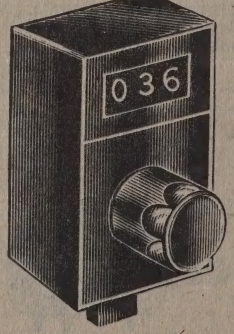


MODEL 1314 4-DIGIT READOUT

- ACCURACY 10,000:1
- 8-FOOT READABILITY
- ZERO BACK-LASH
- 6000 COUNTS PER MIN.
- FINGER-TIP BRAKE
- DUST, MOISTURE SEAL

Precision counting dial specially designed for industrial use. Over-center finger-tip brake assures positive braking under the most demanding conditions. Superior accuracy permits use in critical applications. Method of count: inline digital readout (4 digital display) 0000 to 9999 in one hundred turns of control knob; one turn of control knob displays readout of 100 in increments of tenths. Rotation is continuous clockwise or counter-clockwise. Numerical size: 3/16" high. Control dial is mounted directly to shaft and permits no backlash in adjustment. Has rubber seal to protect from dust and moisture. Maximum operation speed: 6000 counts per minute (60 RPM). Operating temperature range: −54°C to +71°C. Material specifications: zinc diecast housing and mounting plate. Housing is finished in black enamel. Dimensions: 2 1/16" diameter by 1.660" deep. **Special styles, finishes, colors, readouts, gear ratios, markings shaft diameters and environmental dials are available on special order.**

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
12F6038	1314	22.57	21.42	20.31	19.16	18.06



1381, 1385 COUNTING DIALS

- HIGH INDEXING ACCURACY OF 1000:1
- FINGERTIP BRAKE HOLDS CRITICAL SETTING
- ULTRA-MODERN STYLING
- ZINC DIE-CAST HOUSING

New miniature precision digital dial features special design at exceptionally low cost. Offers ultra-modern styling to compliment any panel layout. Ideal for precision potentiometers up to 10 turns. Accepts shafts ¼" in diameter. Finger-tip brake assures maintenance of critical dial setting without backlash. Model 1381 is available in black finish; Model 1385 in black-grey hammer. Size: 1 9/32" x 1 13/16". **⅛" shaft diameter available on special order.**

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
12F6039	1381	9.00	8.55	8.10	7.65	7.20
12F6040	1385	9.00	8.55	8.10	7.65	7.20

NOW AVAILABLE AT NEWARK—MOST COMPLETE LINE OF AMPHENOL POTS AND DIALS!

Potentiometers

SERIES RV4—2 WATT THICK FILM CONDUCTIVE PLASTIC Meets Mil. Spec.—MIL-R-94B

Type RV4NAYSD: ⅜" long standard bushing. Slotted shaft ¼" diameter, ⅜" long FMS.

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249	250-499
9F1400	RV4NAYSD500A	50					
8F700	RV4NAYSD101A	100					
9F1402	RV4NAYSD151A	150					
8F701	RV4NAYSD251A	250					
8F702	RV4NAYSD501A	500					
9F1406	RV4NAYSD751A	750					
8F703	RV4NAYSD102A	1000					
9F1408	RV4NAYSD152A	1500					
8F704	RV4NAYSD252A	2500					
9F1410	RV4NAYSD352A	3500					
8F705	RV4NAYSD502A	5000					
9F1412	RV4NAYSD752A	7500					
8F706	RV4NAYSD103A	10K					
9F1414	RV4NAYSD153A	15K	1.95	1.60	1.50	1.25	.92
8F707	RV4NAYSD253A	25K					
8F708	RV4NAYSD503A	50K					
9F1418	RV4NAYSD753A	75K					
8F709	RV4NAYSD104A	100K					
9F1420	RV4NAYSD154A	150K					
8F710	RV4NAYSD254A	250K					
9F1422	RV4NAYSD354A	350K					
8F711	RV4NAYSD504A	500K					
9F1424	RV4NAYSD754A	750K					
8F712	RV4NAYSD105A	1 Meg					
8F713	RV4NAYSD255B	2.5 Meg					
9F1429	RV4NAYSD355B	3.5 Meg					
8F714	RV4NAYSD505B	5 Meg					

Type RV4NAYSK. Maximum operating temperature: 120°C. Maximum resistance change due to humidity test: 100 megs. Slotted operating shaft ¼" diameter, 2½" long.

9F1467	RV4NAYSK502A	5000					
9F1468	RV4NAYSK103A	10K					
9F1470	RV4NAYSK503A	50K	1.95	1.60	1.50	1.25	.92
9F1471	RV4NAYSK104A	100K					
9F1472	RV4NAYSK254A	250K					
9F1474	RV4NAYSK105A	1 Meg					

Type RV4NAYSB. Same as above except with ¼" diameter, ½" long, slotted shaft, FMS.

9F1477	RV4NAYSB101A	100					
9F1480	RV4NAYSB102A	1000					
9F1482	RV4NAYSB502A	5000					
9F1485	RV4NAYSB503A	50K	1.95	1.60	1.50	1.25	.92
9F1486	RV4NAYSB104A	100K					
9F1488	RV4NAYSB504A	500K					
9F1489	RV4NAYSB105A	1 Meg					
9F1490	RV4NAYSB255B	2.5 Meg					

For tolerance see last letter in type number (A) ±10% (B) ±20%. Linear resistance taper. 1⅛" diameter. Shpg. wt. 7 oz.

Type RV4LAYSA: ½" long locking bushing. Slotted shaft ¼" dia., ⅝" lg. FMS.

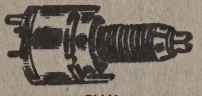
Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249	250-499
9F1431	RV4LAYSA500A	50					
8F715	RV4LAYSA101A	100					
8F716	RV4LAYSA251A	250					
9F1435	RV4LAYSA351A	350					
8F717	RV4LAYSA501A	500					
9F1437	RV4LAYSA751A	750					
8F718	RV4LAYSA102A	1000					
9F1439	RV4LAYSA152A	1500					
8F719	RV4LAYSA252A	2500					
8F720	RV4LAYSA502A	5000					
8F721	RV4LAYSA103A	10K					
9F1445	RV4LAYSA153A	15K	2.25	1.90	1.58	1.33	.99
8F722	RV4LAYSA253A	25K					
8F723	RV4LAYSA503A	50K					
8F724	RV4LAYSA104A	100K					
9F1451	RV4LAYSA154A	150K					
8F725	RV4LAYSA254A	250K					
9F1453	RV4LAYSA354A	350K					
8F726	RV4LAYSA504A	500K					
8F727	RV4LAYSA105A	1 Meg					
9F1458	RV4LAYSA205B	2 Meg					
8F728	RV4LAYSA255B	2.5 Meg					
8F729	RV4LAYSA505B	5 Meg					

Type RV4LAYSD. Carbon type "pots" with ½" locking type bushing. Shaft ¼" dia. ⅝" lg. FMS. Maximum temperature: 120°C.

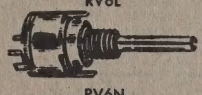
8F685	RV4LAYSD101A	100 ohms					
8F686	RV4LYASD251A	250 ohms					
8F687	RV4LAYSD501A	500 ohms					
8F688	RV4LAYSD102A	1000 ohms					
8F690	RV4LAYSD502A	5000 ohms					
8F691	RV4LAYSD103A	10K					
8F692	RV4LAYSD253A	25K					
8F693	RV4LAYSD503A	50K	2.25	1.90	1.58	1.33	.99
8F694	RV4LAYSD104A	100K					
8F695	RV4LAYSD254A	250K					
8F696	RV4LAYSD504A	500K					
8F697	RV4LAYSD105A	1 Meg					
8F698	RV4LAYSD255B	2.5 Meg					
8F699	RV4LAYSD505B	5 Meg					

THICK FILM CONDUCTIVE PLASTIC POTENTIOMETERS

MIL-R-94 STYLE RV6: High-resolution, highly stable for applications requiring miniaturization and reliability. Rated 0.5 W @ 70°C, derated to zero power @ 120°. Working voltage 350 VDC across end terminals. Mechanical and electrical rotation 295° ±3°. Voltage breakdown 750 VAC between terminals and ground for 1 minute. Available with standard or locking type bushing. RV6L Locking Bushing. RV6N Standard Bushing. Diameter: ½". Shipping weight, 5 oz.



RV6L



RV6N

SERIES RV6L

Stk. No.	RV6L/AYSA Type	Ohms
9F2000	101A	100
9F2001	251A	250
9F2002	501A	500
9F2003	102A	1000
9F2004	252A	2500
9F2005	502A	5000
9F2006	103A	10,000
9F2007	153A	15,000
9F2008	253A	25,000
9F2009	503A	50,000
9F2010	104A	100K
9F2011	154A	150K
9F2012	254A	250K
9F2013	504A	500K
9F2014	105A	1 Meg

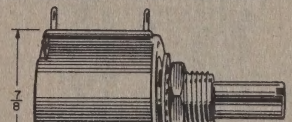
Price	1-9	10-49	50-99	100-249	250-499
	5.00	3.88	2.33	2.02	1.71

SERIES RV6N

Stk. No.	RV6N/AYSD Type	Ohms
9F2015	101A	100
9F2016	251A	250
9F2017	501A	500
9F2018	102A	1000
9F2019	252A	2500
9F2020	502A	5000
9F2021	103A	10,000
9F2023	253A	25,000
9F2024	503A	50,000
9F2025	104A	100K
9F2027	254A	250K
9F2028	504A	500K
9F2029	105A	1 Meg

Price	1-9	10-49	50-99	100-249	250-499
	5.00	3.65	2.19	1.90	1.61

NEW! SERIES 73JA 10-TURN POT



Specs. Electrical: Resis. Range: 25 to 200K ohms. Resis. Tol.: ±5%. Power Rating @ 20°C: 2 watts. Op. temp. range: −55°C to +105°C. T. Coeff.: ±20 ppm °C max. Insulation Resis.: 1000 megohms @ 500 VDC. Dielectric Strength: 1000 volts RMS. Mechanical: Torque: 1.5 oz. in. max. Environmental: Rotational Life: 500,000. Dimensions: ⅞" dia. x ¾" L.

Stk. No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249
9F1850	73JA-100	100					
9F1851	73JA-200	200					
9F1852	73JA-500	500					
9F1853	73JA-1K	1K					
9F1854	73JA-2K	2K					
9F1855	73JA-5K	5K	4.69	4.52	4.35	4.01	3.83
9F1856	73JA-10K	10K					
9F1857	73JA-20K	20K					
9F1858	73JA-25K	25K					
9F1859	73JA-50K	50K					
9F1860	73JA-100K	100K					

Potentiometers & Controls

CENTRALAB

MODEL B CONTROLS

½ watt, 1 5/16" diam., universal fluted shaft 3" long. Use KR switches. Less switch. C1. Lin. C2. Semi-log (audio) 10% ctr.

Stk. No.	Type	Ohms	Taper
9F600	B-2	200	C1
9F824	B-4	500	C1
9F800	B-5	1K	C1
9F825	B-6	2K	C1
9F826	B-7	2.5K	C1
9F801	B-10	5K	C1
9F828	B-11	5K	C2
9F802	B-14	10K	C1
9F835	B-15	10K	C2
9F840	B-22	20K	C1
9F804	B-26	25K	C1
9F805	B-31	50K	C1
9F806	B-32	50K	C2
9F807	B-40	100K	C1
9F808	B-41	100K	C2
9F847	B-50	250K	C1
9F810	B-59	.5 meg.	C1
9F811	B-60	.5 meg.	C2
9F853	B-69	1 meg.	C1
9F812	B-70	1 meg.	C2
9F857	B-75	2 megs	C1
9F860	B-84	3 megs	C1
9F814	B-87	5 megs	C1
9F815	B-98	10 megs	C1

1-9	10-24	25-49	50-99	100-249	250-499
1.12	1.01	.94	.89	.84	.75

1/10 WATT MINIATURE CONTROLS

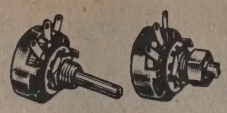
Type B16: Dielectric strength 900 VAC-RMS. Tol. ±20% except (†) ±30%. Audiotaper except (*) which is linear. Wt. 2 oz.

Plain Type Stud Mounted—260° Rotation

Stk. No.	Type	Ohms
9F621	B16-107*	500
9F622	B16-109*	1K
9F623	B16-111*	2.5K
9F624	B16-112	2.5K
9F625	B16-113*	5K
9F626	B16-114	5K
9F627	B16-115*	10K
9F628	B16-116	10K
9F629	B16-117	25K
9F630	B16-119*	50K
9F631	B16-121*	100K
9F632	B16-123*	250K
9F633	B16-118	500K
9F634	B16-120	1Meg.
9F635	B16-122	2Meg.
9F636	B16-124†	3Meg.
9F637	B16-128†	5Meg.

1-9	10-24	25-49	50-99	100-249
1.50	1.35	1.25	1.19	1.13

1/10 WATT MINIATURE CONTROLS



Linear taper. Tol: ± 10%. Dielectric strength: 900 VAC-RMS. Solder-dipped terminals. Locating lug—left only. Stainless steel screwdriver slotted shaft, ⅛" dia. Mech. rotation 260° ±3°. Bushing mtg. nut and lockwasher supplied. JMP. Shaft ⅞" long from mtg. surface. ¼"—32 NEF, 2A thd.
JML. Shaft ½" long from mtg. surface. ¼"—32 NEF, 2A thd. Lock bushings.

MODEL JMP

Stk. No.	Type	Ohms
9F1500	JMP-501	500
9F1501	JMP-102	1K
9F1502	JMP-252	2.5K
9F1503	JMP-502	5.0K
9F1504	JMP-103	10K
9F1505	JMP-253	25K
9F1506	JMP-503	50K
9F1507	JMP-104	100K
9F1508	JMP-254	250K
9F1509	JMP-504	500K
9F1510	JMP-105	1 Meg

1-9	10-24	25-49	50-99	100-249
3.60	3.24	3.00	2.85	2.70

MODEL JML

9F1511	JML-501	500
9F1512	JML-102	1K
9F1513	JML-252	2.5K
9F1514	JML-502	5K
9F1515	JML-103	10K
9F1516	JML-253	25K
9F1517	JML-503	50K
9F1518	JML-104	100K
9F1519	JML-254	250K
9F1520	JML-504	500K
9F1521	JML-105	1 Meg

1-9	10-24	25-49	50-99	100-249
3.90	3.51	3.25	3.09	2.93

TYPE KR FASTATCH SWITCHES FOR MODEL B CONTROLS

3 Amps—125 Volts AC

Stk. No.	Type	Circuit
9F466	KR-1	SPST
9F467	KR-2	DPST
9F468	KR-3	DP (1 on 1 off)

EACH 1-4. 60

15 Amps—10 Volts DC *With dummy lug.

9F469	KR-4	SPST
9F470	KR-6*	SPST
9F471	KR-7	DPST

EACH 1-4. 60

WW & WN WIREWOUND CONTROLS

Type WW Type WN

Rated full 5 watts—small as other 2 watt controls. 1 3/32" dia. 9/16" depth, WW shaft ¼" dia. full round, 2 5/8" lg. WN shaft fingertip knurl, screwdriver slotted, ⅜" lg. from end at bushing. Linear taper. Shpg. wt., 4 oz.

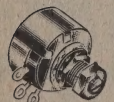
Stk. No.	Type WW	Stk. No.	Type WN	Ohms	Price Code
9F400	010	9F433	010	1	A
9F401	020	9F434	020	2	A
9F402	030	9F435	030	3	A
9F403	040	9F436	040	4	A
9F404	050	9F437	050	5	A
9F405	060	9F438	060	6	A
9F406	080	9F439	080	8	A
9F407	100	9F440	100	10	A
9F408	150	9F441	150	15	A
9F409	200	9F442	200	20	A
9F410	250	9F443	250	25	A
9F411	300	9F444	300	30	A
9F412	400	9F445	400	40	A
9F413	500	9F446	500	50	A
9F414	600	9F447	600	60	A
9F415	750	9F448	750	75	A
9F416	101	9F449	101	100	A
9F417	201	9F450	201	200	A
9F418	251	9F451	251	250	A
9F419	301	9F452	301	300	A
9F420	401	9F453	401	400	A
9F421	501	9F454	501	500	A
9F422	751	9F455	751	750	A
9F423	102	9F456	102	1K	A
9F424	152	9F457	152	1.5K	A
9F425	202	9F458	202	2K	A
9F426	252	9F459	252	2.5K	A
9F427	302	9F460	302	3K	A
9F428	402	9F461	402	4K	A
9F429	502	9F462	502	5K	A
9F430	752	9F463	752	7.5K	A
9F431	103	9F464	103	10K	B
9F432	153	9F465	153	15K	B
9F683	203	9F690	203	20K	B
9F684	253	9F691	253	25K	B
9F685	303	9F692	303	30K	B
9F686	403	9F693	403	40K	C
9F687	503	9F694	503	50K	C
9F688	753	9F695	753	75K	D
9F689	104	9F696	104	100K	D

PRICE CODE

Code	1-9	10-24	25-49	50-99	100-149
A	1.32	1.19	1.10	1.05	.99
B	1.59	1.43	1.33	1.26	1.19
C	2.01	1.81	1.68	1.59	1.51
D	2.46	2.22	2.05	1.95	1.85

CLAROSTAT

SERIES 38 IN—⅜" DIA. POT



1% dynamim noise and 5% independent linearity. 1 watt maximum continuous power rating for linear taper. Manufactured to MIL-R-94 specs. 350VDC across end terminals, but power not to exceed rating.

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
8F001	1000						
8F002	2500						
8F003	5K						
8F004	10K						
8F005	25K	2.66	2.00	1.71	1.24	1.14	1.05
8F006	50K						
8F007	100K						
8F008	500K						
8F009	1MEG						

SERIES 49M-9 WW MIN. CONTROLS

Wirewound pot rated 1.5W Low-loss ¾" housing; 1000VAC bkdn. volt. Linear taper thru 300° rot. ⅛" D shaft W/shaft locking bushing. Shpg. wt. 4 oz.

Stk. No.	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
9F542	5	6.06	4.55	3.90	3.25	2.82	2.59
9F543	10	5.16	3.87	3.32	2.77	2.39	2.21
9F544	20	5.16	3.87	3.32	2.77	2.39	2.21
9F545	25	5.16	3.87	3.32	2.77	2.39	2.21
9F546	50	5.16	3.87	3.32	2.77	2.39	2.21
9F547	100	5.16	3.87	3.32	2.77	2.39	2.21
9F550	500-	5.16	3.87	3.32	2.77	2.39	2.21
9F551	1K	5.16	3.87	3.32	2.77	2.39	2.21
9F555	5K	5.16	3.87	3.32	2.77	2.39	2.21
9F557	10K	5.16	3.87	3.32	2.77	2.39	2.21

TYPE 43 WIRE WOUND CONTROLS

Rated for work at 2 to 4 watts. Overall tolerance of 10%. Dimensions: 1⅛" dia., 9/16" deep, with ⅜" -32 bushing. Shaft 2"

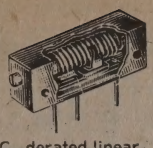
Stk. No.	Type	Ohms	Stk. No.	Type	Ohms
9F760	43-5	5	9F772	43-400	400
9F761	43-10	10	9F773	43-500	500
9F762	43-20	20	9F774	43-750	750
9F763	43-25	25	9F775	43-1,000	1K
9F764	43-30	30	9F776	43-1,500	1.5K
9F765	43-40	40	9F777	43-2,000	2K
9F766	43-50	50	9F778	43-2,500	2.5K
9F767	43-75	75	9F779	43-3,000	3K
9F768	43-100	100	9F780	43-4,000	4K
9F769	43-150	150	9F781	43-5,000	5K
9F770	43-200	200	9F782	43-7,500	7.5K
9F771	43-300	300	9F783	43-10K	10K

NET 1.31

Potentiometers

CLAROSTAT

SERIES 76-JA-3 PC TRIMMER

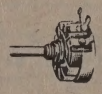


Super setability. 10 times the resolution. 15 times greater winding length. Mech. Travel: 14 turns. Eff. travel: 11 turns, ± ¼. Res. Range: 100-20,000 Ω. Res. Tol.: ±5%. Power: .75W @ 85°C - derated linearly to 0 power @ 150°C.

Stock No.	Res. (Ω)	Resolution
9F1389	100	0.1
9F1390	200	0.09
9F1392	1K	0.075
9F1393	2K	0.06
9F1394	5K	0.05
9F1395	10K	0.04
9F1396	20K	0.03

Prices	1-24	25-49	50-99	100-249	250-499
	8.42	7.49	7.02	6.55	5.86

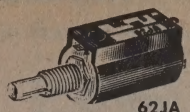
58C1 WIRE-WOUND POTENTIOMETERS



Standard bushings; wire-wound. Rated 4 watts. Electrical tolerance is ±5%. Shaft 2" FMS plain. Diam. $1^{23}/_{32}$x1" depth. Shpg. wt.: 4 oz.

Stk. No.	Type	Ohms	NET
8F434	58C1-10	10	
8F435	58C1-15	15	
8F439	58C1-50	50	
8F442	58C1-100	100	
8F443	58C1-200	200	
8F444	58C1-300	300	
8F445	58C1-400	400	2.36
8F446	58C1-500	500	
8F447	58C1-750	750	
8F448	58C1-1000	1 K	
8F449	58C1-1500	1.5K	
8F450	58C1-2000	2 K	
8F451	58C1-2500	2.5K	
8F452	58C1-3000	3 K	
8F453	58C1-5000	5 K	
8F455	58C1-10K	10 K	
8F457	58C1-20K	20 K	2.68
8F458	58C1-25K	25 K	
8F461	58C1-50K	50 K	3.15

10-TURN POTENTIOMETERS



62JA

Res. Tol.: ±5%. Linearity: ±25%. 500-100K Ω. Power dissipation: .2W @ 25°C. Rotation: 360° nom. Ins. Res: 100 megohms. Max. rotation speed: 60 RPM. Dielectric strgth: 1000 VAC.

Stk. No.	Res.	Stk. No.	Res.	Stk. No.	Res.
8F570	100	8F573	1K	8F577	20K
8F569	200	8F574	2K	8F578	30K
8F571	250	8F575	5K	8F579	50K
8F572	500	8F576	10K	8F580	100K

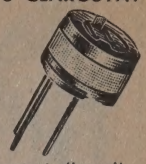
Prices	1-9	10-24	25-99	100-499
	7.50	6.50	6.00	5.50

43C 2-WATT WIRE WOUND

2 watt, wire wound control. Tolerance ±5%. ⅛ lg. screwdriver slotted shaft. Dia. $1^{5}/_{32}$x⅜" deep. Fabricated in accordance with MIL-R-19. Style RA20L. Shpg. wt., 4 oz.

Stk. No.	Type	Ohms	NET
8F400	43C2-5	5	
8F401	43C2-10	10	
8F402	43C2-20	20	
8F403	43C2-25	25	
8F404	43C2-30	30	
8F406	43C2-50	50	
8F407	43C2-75	75	
8F408	43C2-100	100	
8F409	43C2-150	150	
8F410	43C2-200	200	
8F411	43C2-300	300	2.63
8F413	43C2-500	500	
8F414	43C2-750	750	
8F415	43C2-1000	1 K	
8F416	43C2-1500	1.5K	
8F417	43C2-2000	2 K	
8F418	43C2-2500	2.5K	
8F419	43C2-3000	3 K	
8F420	43C2-4000	4 K	
8F421	43C2-5000	5 K	
8F423	43C2-10K	10 K	
8F424	43C2-15K	15 K	
8F425	43C2-20K	20 K	2.95
8F426	43C2-25K	25 K	
8F429	43C2-50K	50 K	3.47

• NEW! SERIES 382-5 CLAROSTAT

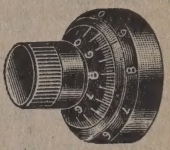


"Quiet One" Manufactured in a controlled environment. The process includes exclusive Clarostat Temp-Maturing to insure a reliable, homogeneous and stainfree resistance element with 3% dynamic noise and 5% independent linearity. Precision machine finishing of mechanical parts ensures smoother operation and outstanding mechanical life. Manufactured to MIL R-94 specifications. 0.25 watt thick film plastic printed circuit.

Stock No.	Resist.	Stock No.	Resist.
8F010	100	8F018	25K
8F011	250	8F019	50K
8F012	500	8F020	100K
8F013	1 K	8F021	150K
8F014	2.5K	8F022	200K
8F015	5 K	8F023	500K
8F016	10 K	8F024	1 Meg.
8F017	15 K		

Prices	1-9	10-49	50-99	100-249	250-499
	3.40	2.47	1.49	1.28	1.11

"CLARODIAL" 10 TURN SCALE DIALS



Calibrated dials designed for multiturn potentiometers up to 10 turns. Requires 1 inch of panel space. The knob attaches directly to the shaft and the body of the dial is mounted rigidly to the panel. Ratio of 1000 to 1 for 10 turns provided with zero backlash with reading error ¼" shaft. *With Lock

Stk. No.	Type	Color	1-9	10-24	25-99	100-249
8F585	412	*Black	8.95	8.50	8.05	7.60
8F586	411	Black	7.75	7.30	6.95	6.55
8F587	462	Clear	9.45	8.95	8.50	8.00
8F588	461	Clear	8.25	7.80	7.40	7.00

SERIES RA20—2 WATT WIRE WOUND Meets Mil. Spec.—MIL-R-19A

Linear resistance taper. ± 10% tolerance. $1^{17}/_{64}$" dia. Shpg. wt. 7 oz.

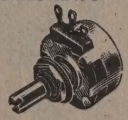
RA20NASD: Standard bushing ⅜" long. Slotted shaft ¼": diameter ⅞" long FMS. **RA20LASB:** Locking bushing ½" long. Slotted shaft ¼" diameter ⅝" long FMS.

Stock No.	Type	Ohms	Key
8F735	RA20NASD6R0A	6	A
8F736	RA20NASD8R0A	8	A
8F737	RA20NASD100A	10	A
8F738	RA20NASD150A	15	A
8F739	RA20NASD200A	20	A
8F740	RA20NASD250A	25	A
8F741	RA20NASD350A	35	A
8F742	RA20NASD500A	50	A
8F743	RA20NASD101A	100	A
8F744	RA20NASD151A	150	A
8F745	RA20NASD201A	200	A
8F746	RA20NASD251A	250	A
8F747	RA20NASD351A	350	A
8F749	RA20NASD751A	750	A
8F750	RA20NASD102A	1 K	A
8F751	RA20NASD152A	1.5K	A
8F752	RA20NASD202A	2 K	A
8F753	RA20NASD252A	2.5K	A
8F754	RA20NASD352A	3.5K	A
8F755	RA20NASD502A	5 K	A
8F756	RA20NASD103A	10 K	A
8F757	RA20NASD153A	15 K	A
8F758	RA20LASB3R0A	3	B
8F759	RA20LASB6R0A	6	B
8F760	RA20LASB8R0A	8	B
8F761	RA20LASB100 A	10	B
8F762	RA20LASB150 A	15	B
8F763	RA20LASB200 A	20	B
8F764	RA20LASB250A	25	B
8F765	RA20LASB350A	35	B
8F766	RA20LASB500A	50	B
8F767	RA20LASB101A	100	B
8F769	RA20LASB201A	200	B
8F770	RA20LASB251A	250	B
8F772	RA20LASB501A	500	B
8F773	RA20LASB751A	750	B
8F774	RA20LASB102A	1 K	B
8F777	RA20LASB252A	2.5K	B
8F778	RA20LASB352A	3.5K	B
8F779	RA20LASB502A	5 K	B
8F780	RA20LASB103A	10 K	B
8F781	RA20LASB153A	15 K	B

Code	1-9	10-49	50-99	100-249
A	3.00	2.01	1.41	1.16
B	3.00	2.09	1.49	1.24

SERIES RA30 — 4 WATT WIRE WOUND

Meets Mil. Spec.—MIL-R-19A



Linear resistance taper. ±10% tolerance. $1^{17}/_{32}$" dia. Shpg. wt. 7 oz.

TYPE RA30NASD: ⅜" long standard bushing. Slotted shaft ¼" diameter, ⅞" long FMS.

Stk. No.	Type	Ohms	Stk. No.	Type	Ohms
8F788	RA30NASD100A	10	8F796	RA30NASD151A	150
8F789	RA30NASD150A	15	8F797	RA30NASD251A	250
8F791	RA30NASD250A	25	8F798	RA30NASD351A	350
8F793	RA30NASD500A	50	8F799	RA30NASD501A	500
8F794	RA30NASD750A	75	8F800	RA30NASD102A	2K
8F795	RA30NASD101A	100	8F802	RA30NASD202A	1K

Prices	1-9	10-49	50-99	100-249
	3.00	2.19	1.59	1.34

Stk. No.	Type	Ohms	Stk. No.	Type	Ohms
8F803	RA30NASD252A	2.5K	8F807	RA30NASD103A	10K
8F804	RA30NASD352A	3.5K	8F808	RA30NASD203A	20K
8F805	RA30NASD502A	5 K	8F809	RA30NASD253A	25K
8F806	RA30NASD752A	7.5K	.....	.....	.....

Prices	1-9	10-49	50-99	100-249
	3.00	2.19	1.59	1.34

Type 30LASB: ½" locking bushing. Slotted shaft ¼" dia., ⅜" L FMS.

9F1493	RA30LASB3R0A	3	8F819	RA30LASB102A	1K
8F812	RA30LASB150A	15	8F821	RA30LASB202A	2K
8F814	RA30LASB350A	35	8F823	RA30LASB502A	5K
8F816	RA30LASB101A	100	8F824	RA30LASB103A	10K
8F817	RA30LASB151A	150			

Prices	1-9	10-49	50-99	100-249
	3.00	2.27	1.67	1.42

OHMITE Wire Wound Power Rheostats

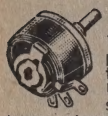
ALL RHEOSTATS SUPPLIED LESS KNOBS— SEE NEXT PAGE FOR KNOB LISTING

Model C—7½ WATT MINIATURE RHEOSTATS

Compact power rheostats for limited space applications. For high temperature applications; operates at maximum hot spot temperature of 340°C. Rugged ceramic and metal construction. Only .515 diameter ⅞" behind panel. Mounts with ¼-32 bushing, ⅛" dia. shaft, ⅝" long. Less knob. wt. 2¼ oz.

Stock No.	Type	Ohms ±10%	1-4	5-9	10-Up
11F201R	4908	10	9.50	8.08	5.70
11F202R	4909	15			
11F203R	4910	25			
11F204R	4912	50			
11F206R	4914	100			
11F207R	4916	200			
11F208R	4918	350			
11F234R	4919	500			

MODEL E—12½ WATT MINIATURE RHEOSTATS

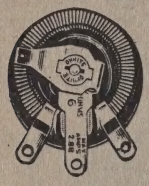


12½-Watt Miniature Rheostat. (Rating on metal panel.) Smaller than many 1- or 2-watt potentiometers. Rugged, all-ceramic and metal construction. Use where 12½ watts dissipation is needed but space is limited. Operation at a maximum hot spot temperature rise of 300°C at an ambient of 40°C, but also useful for operating at high military ambients, derated linearly to zero at 340°C. Specifications: Overall diam: ⅞". Shaft diam: ⅛". Resistance range: Up to 5000 ohms with vitreous enamel; higher values available with Ohmicone silicone-ceramic coating. Resistance tol: ±10%. Standard Mounting: for panels up to ⅛", ¼-32 threaded. Bushing. With non-turn washer. Rotation: 300 ±5%. Shpg. wt., 1½ oz. (†) Silicone-ceramic coating.

Stock No.	Type	Ohms	Max. Amps.	1-4	5-9	10-24	25-49	50-Up
9F965R	0101	1	3.53	6.30	5.36	4.22	3.47	2.65
9F966R	0102	2	2.50					
9F967R	0103	3	2.04					
9F968R	0104	6	1.44					
9F969R	0105	8	1.25					
9F970R	0106	10	1.12					
9F971R	0107	15	.91	5.50	4.68	3.69	3.03	2.31
9F972R	0108	25	.71					
9F973R	0109	35	.60					
9F974R	0110	50	.50					
9F975R	0111	75	.41					
9F976R	0112	100	.35					
9F977R	0113	125	.32					
9F978R	0114	175	.27					

Stock No.	Type	Ohms	Max. Amps.	1-4	5-9	10-24	25-49	50-Up
9F979R	0115	250	.22	5.50	4.68	3.69	3.03	2.31
9F980R	0116	350	.19					
9F981R	0117	500	.16					
9F982R	0118	750	.11					
9F983R	0119	1,000	.13	6.30	5.36	4.22	3.47	2.65
9F984R	0120	1,500	.091					
9F985R	0121	2,500	.060					
9F986R	0122	3,500	.071	7.60	6.46	5.09	4.18	3.19
9F987R	0123	5,000	.050	7.60	6.46	5.09	4.18	3.19
9F988R	4190†	7,500	.041	7.90	6.72	5.29	4.35	3.32
9F989R	4191†	10,000	.035	7.90	6.72	5.29	4.35	3.32
9F990R	4192†	12,500	.031	8.60	7.31	5.76	4.73	3.61
9F991R	4193†	15,000	.029	8.60	7.31	5.76	4.73	3.61

MODEL H—25 WATT UL LISTED

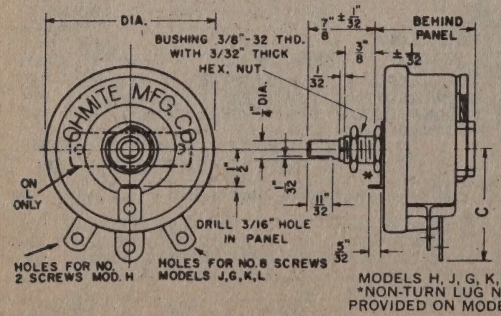


All ceramic vitreous enameled construction. Wire wound over ceramic core. Shunt pigtail carries current to slip-ring. High strength ceramic hub insulates the shaft and bushing. Tempered steel contact arm. Models H, J, K, L, N, when made without additional features are listed by UL and are marked series A except (†) Silicone Ceramic Coating are not UL listed. Aver. shpg. wt.: Models H, J, K: 8 oz. Models L, N: 3 lbs. —Model R: 4 lbs. Mounts on panels up to ¼" by ⅜"—32 Bushing with No. 5050 Non-turn washer. Shaft Dia. ¼". 300° rotation. Dia. 1⁹⁄₁₆".

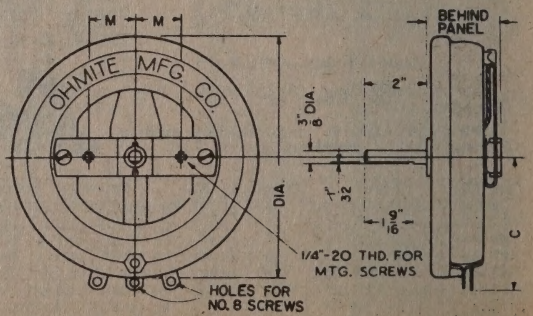
Stock No.	Type	Ohms	1-4	5-9	10-24	25-49	50-Up
11F000	0140	1	6.30	5.36	4.22	3.47	2.65
11F001	0141	2					
11F002	0142	3					
11F003	0143	6					
11F004	0144	8					
11F005	0145	10					

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-49	50-Up
11F006	0146	15	5.50	4.68	3.69	3.03	2.31
11F007	0147	25					
11F008	0148	35					
11F009	0149	50					
11F010	0150	75					
11F011	0151	100					
11F012	0152	125					
11F013	0153	175					
11F014	0154	250					
11F015	0155	350					
11F016	0156	500					
11F017	0157	750					
11F018	0158	1,000	6.30	5.36	4.22	3.47	2.65
11F019	0159	1,500					
11F020	0160	2,500					
11F021	0161	3,500	7.10	6.04	4.76	3.91	2.98
11F022	0162	5,000	7.10	6.04	4.76	3.91	2.98
11F027	†4201	10,000	7.40	6.29	4.96	4.07	3.11
11F029	†4203	20,000	8.40	7.14	5.63	4.62	3.53
11F030	†4204	25,000	9.20	7.82	6.16	5.06	3.86

dimensions: MODELS H, J, K, L*


DIA.
BUSHING 3/8"-32 THD. WITH 3/32" THICK HEX. NUT
BEHIND PANEL
OHMITE MFG. CO.
ON L ONLY
DRILL 3/16" HOLE IN PANEL
HOLES FOR NO. 2 SCREWS MOD. H
HOLES FOR NO.8 SCREWS MODELS J,G,K,L
MODELS H, J, G, K, L*
*NON-TURN LUG NOT PROVIDED ON MODEL L

MODELS N, R



Wire Wound Power Rheostats

OHMITE

Model J—50 WATT—UL LISTED

Mounts on panels up to ¼" by ⅜"-32 bushing with No. 5050 Non-turn washer. Shaft dia. ¼". 300° rotation. Dia. 2 5/16.

Stk. No	Type	Ohms	1-4	5-9	10-24	25-49	50-Up
11F040	0308	0.5					
11F041	0309	1.0					
11F042	0310	2.0					
11F043	0311	4.0	7.40	6.29	4.96	4.07	3.11
11F044	0312	6.0					
11F045	0313	8.0					
11F046	0314	12.0					
11F048	0315	16.0					
11F049	0316	22.0	6.60	5.61	4.42	3.63	2.77
11F047	0317	35.0					
11F050	0318	50.0					
11F051	0319	80.0					
11F052	0320	125.0					
11F053	0321	150.0	6.60	5.61	4.42	3.63	2.77
11F054	0322	225.0					
11F055	0323	300					
11F056	0324	500					
11F057	0325	800					
11F058	0326	1000	7.00	5.95	4.69	3.85	2.94
11F059	0327	1600					
11F060	0328	2500					
11F061	0329	3500					
11F062	0330	5000	7.40	6.29	4.96	4.07	3.11
11F064	0332	10000					
11F071	4215	50000	14.70	12.50	9.85	9.09	6.17

MODEL K—100 WATT—UL LISTED

Mounts on panels up to ¼" by ⅜"-32 Bushing with No. 5050 Non-turn washer Shaft Diameter ¼". 300° rotation. Rheostat diameter 3⅛".

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-Up
11F076	0440	0.5				
11F077	0441	1				
11F078	0442	2				
11F079	0443	3	10.60	9.01	7.10	5.83
11F080	0444	5				
11F081	0445	7.5				
11F082	0446	10				
11F083	0447	16				
11F084	0448	25	9.70	8.25	6.50	5.34
11F085	0449	50				
11F086	0450	75				
11F087	0451	100				
11F088	0452	200	9.70	8.25	6.50	5.34
11F089	0453	300				
11F090	0454	400				
11F091	0455	500	10.60	9.01	7.10	5.83
11F093	0457	1,000				

All ceramic vitreous enameled construction. High strength ceramic hub insulates the shaft and bushing. Mounts on panels up to ¼" by ⅜"—32 Bushing with non-turn washer. Shaft Dia. ¼". 300° rotation. Dia. 1 9/16" Avg. Shpg. wt. Models H, J, K: 8 oz. Models L, N: 3 lbs. — Model R: 4 lbs.

MODEL L—150 WATT—UL LISTED

Mounts on panels up to ¼", by two 10-32 screws. Shaft dia. ¼". 300° Rotation. Dia. 6".

Stk. No.	Type	Ohms	1-4	5-9	10-24	25-Up
11F100	0524	0.5				
11F101	0525	1				
11F102	0528	5	13.90	11.82	9.31	7.65
11F103	0530	10				
11F104	0532	25				
11F105	0534	50				
11F106	0536	100				
11F107	0537	150	12.90	10.97	8.64	7.10
11F108	0538	200				
11F109	0539	250				
11F110	0541	500				
11F111	0543	1,250	13.90	11.82	9.31	7.65
11F112	0545	2,250	14.90	12.67	9.98	8.20
11F113	0547	4,500	16.00	13.60	10.72	8.80
11F114	0549	10,000	21.75	18.49	14.57	11.96

MODEL N—300 WATT—UL LISTED

Mounts on panels up to 1"., by two ¼"—20 by 1½" flat head screws supplied. Shaft dia. ⅜". 300° Rotation. Dia. 6".

Stk. No.	Type	Ohms	1-2	3-Up
11F130	0650	1		
11F136	0656	10		
11F137	0657	15		
11F138	0658	25		
11F139	0659	50		
11F140	0660	75		
11F141	0661	100	23.25	19.76
11F145	0665	400		
11F146	0666	700		
11F147	0667	900		
11F148	0668	1,200		
11F149	0669	1,500		
11F151	0671	2,500		

MODEL R—500 WATT

Mounts on panels up to 1", by two ¼"—20 screws. Shaft diameter ⅜". 325° Rotation. Dia. 8"

Stk. No.	Type	Ohms	1-2	3-Up
11F176	0855	5		
11F177	0856	8		
11F178	0857	12.5		
11F179	0858	16	27.00	22.95
11F180	0859	25		
11F181	0860	40		
11F182	0872	50		
11F183	0861	80		

Stk. No.	Type	Ohms	1-2	3-Up
11F184	0862	125		
11F185	0863	175		
11F186	0864	250		
11F187	0865	325		
11F188	0866	500	27.00	22.95
11F189	0867	750		
11F190	0868	1,000		
11F191	0869	1,500		
11F193	0871	2,500		

KNOBS FOR OHMITE RHEOSTATS

5105 5104 5150 5151

5105—Handwheel without pointer. For models N & R. 5104-Same but with pointer. 5150 for models H, J, K, L "AB" pots, except CLU. Model 5151 for model E.

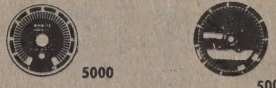
Stock No.	Type	1-9	10 49	50-Up
11F020	5105	1.35	1.15	.88
11F200	5104	1.60	1.36	1.04
11F024	5150	.33	.28	.21
11F025	5151	.33	.28	.21

TANDEM COUPLING KITS

Type 6532 for models H and J; couple models K, H, J, or L in rear position. Type 6533 for models K and L; couple models H, J, K, or L in rear position. Type 6591 for model E rheostats. Shpg. wt., 5 oz.

Stock No.	Type	1-4	5-9	10-24	25-49
11F196	6532	2.75	2.34	1.84	1.51
11F197	6533	3.45	2.93	2.31	1.90
11F195	6591	2.75	2.34	1.84	1.51

DIAL PLATES



5000 5001

Finished dials for rheostats and other apparatus. Bright figures and lines on etched black backgrounds. Divisions 0-100 indicate percentage of resistance in circuits. 5007 for use with C, E. 1¼" dial dia. 5000 for use with J, G, K, L 2⅛" dial dia. 5001 for use with P, R, N, T, U. Dial dia. 5½".

Stock No.	Type	1-9	10-49	50-Up
11F199	5000	.33	.28	.21
11F198	5001	.81	.69	.53
11F194	5007	.33	.28	.21

7

Mallory Controls

LAB SAMPLE KIT

MTC 15-1 Mallobin. Contains assortment of subminiature carbon trimmer controls designed for printed circuitry. MTC-1 for vertical mounting and MTC-4 for horizontal mounting. All are packed in compact, easy to stack case. "Mallobin" contains one each of the following values:

MTC-1				MTC-4			
22L1	12L1	153L1	14L1	22L4	12L4	153L4	14L4
152L1	13L1	184L1	124L1	152L4	13L4	184L4	124L4
682L1	63L1	26L1	16L1	682L4	63L4	26L4	16L4
15L1	54L1	751L1	52L1	15L4	54L4	751L4	52L4
55L1	454L1	53L1	33L1	55L4	454L4	53L4	33L4
32L1	251L1	253L1	24L1	32L4	251L4	253L4	254L4
252L1	23L1	3253L1	254L1	252L4	23L4	3253L4	355L4

60F2293. NET.....22.62

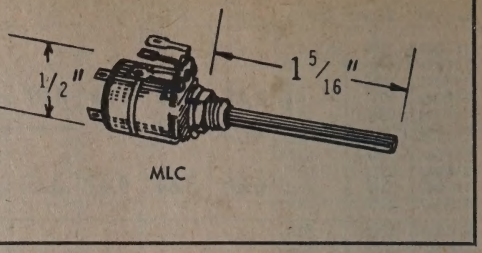
PRICE CODE						
Type	1-24	25-49	50-99	100-174	175-299	300-499
MTC	.39	.35	.33	.29	.29	.26

Resis. Ohms	Vertical Mount		PC Horizontal Mount	
	Stock No.	Type	Stock No.	Type
100	60F2187	MTC-12L1	60F2229	MTC-4-12L4
200	60F2188	MTC-22L1	60F2230	MTC-4-22L4
250	60F2189	MTC-251L1	60F2231	MTC-4-251L4
300	60F2190	MTC-32L1	60F2232	MTC-4-32L4
500	60F2191	MTC-52L1	60F2233	MTC-4-52L4
750	60F2192	MTC-751L1	60F2234	MTC-4-751L4
1K	60F2193	MTC-13L1	60F2235	MTC-4-13L4
1.5K	60F2194	MTC-152L1	60F2236	MTC-4-152L4
2K	60F2195	MTC-23L1	60F2237	MTC-4-23L4
3K	60F2196	MTC-33L1	60F2238	MTC-4-33L4
5K	60F2197	MTC-53L1	60F2239	MTC-4-53L4
6K	60F2198	MTC-63L1	60F2240	MTC-4-63L4
6.8K	60F2199	MTC-682L1	60F2241	MTC-4-682L4
10K	60F2200	MTC-14L1	60F2242	MTC-4-14L4
15K	60F2201	MTC-153L1	60F2215	MTC-4-153L4
20K	60F2202	MTC-24L1	60F2216	MTC-4-24L4
25K	60F2203	MTC-253L1	60F2217	MTC-4-253L4
50K	60F2204	MTC-54L1	60F2218	MTC-4-54L4
100K	60F2205	MTC-15L1	60F2219	MTC-4-15L4
120K	60F2206	MTC-124L1	60F2220	MTC-4-124L4
180K	60F2207	MTC-184L1	60F2221	MTC-4-184L4
250K	60F2208	MTC-254L1	60F2222	MTC-4-254L4
325K	60F2209	MTC-3253L1	60F2223	MTC-4-3253L4
450K	60F2210	MTC-454L1	60F2224	MTC-4-454L4
500K	60F2211	MTC-55L1	60F2225	MTC-4-55L4
1M	60F2212	MTC-16L1	60F2226	MTC-4-16L4
2M	60F2213	MTC-26L1	60F2227	MTC-4-26L4
3.5M	60F2214	MTC-355L1	60F2228	MTC-4-355L4

Type	1-24	25-49	50-99	100-174	175-299	300-499
MTC	.39	.35	.33	.29	.29	.26

SWITCHES FOR TYPE U CONTROLS

Stk. No.	Type	Description	1-24	25-49	50-99	100-174	175-299	300-499
9F246	US26	SPST 6 amp @ 125V	.45	.41	.37	.34	.32	.30
9F247	US26T	SPST w/dummy Term.	.55	.49	.46	.41	.38	.36
9F248	US27	DPST 6 amp @ 125V	.55	.49	.46	.41	.38	.36
9F249	US28	SPDT 3 amp @ 125V	.55	.49	.46	.41	.38	.36



MLC

SUBMINIATURE MINITROLS

Only ½" diameter. Rated ¼ watt linear; watt audio. ⅜" 32x¼" bushing with nut. Shaft: ⅛" diameter x 1⅞" FMS, MLC (steel); MLCN (nylon). (*) Indicates an SPST switch rated 2 amperes at 125VAC, UL approved. Printed ckt, MTC has open screwdriver slot. Standard linear taper.

Taper No. 1: Logarithmic used in audio circuits where percent of change is small at start of rotation.

Taper No. 2: Reverse logarithmic used where percent of change must be large at start of rotation.

Taper No. 4: Linear taper where percentage of resistance change is directly proportional to rotational change on a straight line.

BUSHING MOUNT

Stk. No.	Type MLC	Resis. Ohms	Taper	1-24	25-49	50-99	100-174	175-299	300-499
60F2164	13L	1K	4	1.23	1.11	1.02	.92	.87	.82
60F2165	222LS*	2.2K	4	2.01	1.80	1.67	1.51	1.44	1.34
60F2166	252A	2.5K	1	1.23	1.11	1.02	.92	.87	.82
60F2167	252AS*	2.5K	1	2.01	1.80	1.67	1.51	1.44	1.34
60F2168	53A	5K	1	1.23	1.11	1.02	.92	.87	.82
60F2169	53AS*	5K	1	2.01	1.80	1.67	1.51	1.44	1.34
60F2170	53L	5K	4	1.23	1.11	1.02	.92	.87	.82
60F2171	53LS*	5K	4	2.01	1.80	1.67	1.51	1.44	1.34
60F2172	14AS*	10K	1	2.01	1.80	1.67	1.51	1.44	1.34
60F2173	14L	10K	4	1.23	1.11	1.02	.92	.87	.82
60F2174	54L	50K	4	1.23	1.11	1.02	.92	.87	.82
60F2175	15A	100K	1	1.23	1.11	1.02	.92	.87	.82
60F2176	15L	100K	4	1.23	1.11	1.02	.92	.87	.82
60F2177	25L	200K	4	1.23	1.11	1.02	.92	.87	.82
60F2178	254L	250K	4	1.23	1.11	1.02	.92	.87	.82
60F2179	N55A	500K	1	1.23	1.11	1.02	.92	.87	.82
60F2180	55AS*	500K	1	2.01	1.80	1.67	1.51	1.44	1.34
60F2181	55LS*	500K	4	2.01	1.80	1.67	1.51	1.44	1.34
60F2182	N55L	500K	4	1.23	1.11	1.02	.92	.87	.82
60F2183	16AS*	1M	1	2.01	1.80	1.67	1.51	1.44	1.34
60F2184	16LS*	1M	4	2.01	1.80	1.67	1.51	1.44	1.34
60F2185	N16A	1M	1	1.23	1.11	1.02	.92	.87	.82
60F2186	N16L	1M	4	1.23	1.11	1.02	.92	.87	.82

TYPE U METAL SHAFT MIDGETROLS

Standard universal replacement 15/16" dia. carbon control. ¼" dia. round brass shaft with adapters for knurled, slotted or flatted knobs. Hex nut incl. ⅜" 32x⅜" bushing. 1 watt linear taper, ½ watt Audio taper.

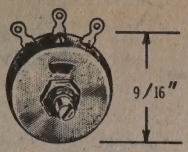
PRICE CODE						
Type	1-24	25-49	50-99	100-174	175-299	300-499
U	1.10	.99	.91	.83	.78	.73

Stk. No.	Type No.	Resist. Ohms	Taper
9F073	U1	100	4
9F074	U2	500	4
9F075	U52R	500	2
9F077	U3	1K	2
9F078	U4	1K	4
9F079	U5	1.5K	2
9F080	U5L	1.5K	4
9F081	U6	2K	4
9F082	U7	2.5K	2
9F083	U8	3K	4
9F084	U9	3K	2
9F085	U12	5K	1
9F086	U14	5K	4
9F087	U18	10K	1
9F088	U19	10K	2
9F089	U20	10K	4
9F090	U21	15K	1
9F091	U22	15K	2
9F092	U24	20K	1
9F094	U28	25K	2
9F095	U28A	25K	1
9F096	U29	25K	4
9F097	U30	30K	4
9F219	U35	50K	4
9F098	U33	50K	1
9F099	U34	50K	2
9F220	U36	75K	1
9F221	U39	100K	1
9F222	U40	100K	2
9F223	U41	100K	4
9F224	U415	125K	4
9F225	U42	150K	1
9F226	U43	200K	4
9F227	U44	250K	1
9F228	U45	250K	2
9F229	U46	250K	4
9F230	U48	500K	1
9F231	U50	500K	4
9F232	U51	750K	1
9F233	U52	1M	2
9F234	U53	1M	1
9F235	U54	1M	4
9F236	U155	1.5M	4
9F237	U55	2M	1
9F238	U56	2M	4
9F239	U255	2.5M	4
9F240	U57	3M	1
9F241	U59	3M	4
9F242	U63	5M	2
9F243	U65	5M	1
9F244	U67	5M	4
9F245	U82	10M	4

MALLORY

M AND MT WIRE WOUND POTENTIOMETERS

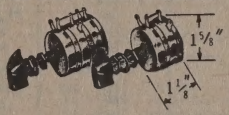
Used on bias control and voltage dividers; also for replacement of positioning, hold focus and other controls of TV sets. *MT are center tapped. Compact high wattage controls rated 4 watts. Arm insulated from shaft. 275° rotation. 1 5/8" dia. x 9/16"W. 1/4" shaft, slotted 3/4x1/16" deep, extended 3/8" from bush. bush. Mount in 3/8" hole. 4 oz.



Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249	250-499
9F300	M1PK	1					
9F337	M3PK	3					
9F303	M10PK	10					
9F304	M15PK	15					
9F329	MT20PK*	20					
9F306	M25PK	25	1.46	1.31	1.22	1.10	.97
9F307	M30PK	30					
9F309	M50PK	50					
9F310	M60PK	60					
9F312	M100PK	100					
9F313	M200PK	200					
9F331	M300PK	300					
9F314	M400PK	400					
9F315	M500PK	500					
9F317	M1MPK	1K					
9F332	M1.5MPK	1.5K					
9F318	M2MPK	2K	1.46	1.31	1.22	1.10	.97
9F333	M2.5MPK	2.5K					
9F319	M3MPK	3K					
9F338	M4MPK	4K					
9F321	M5MPK	5K					
9F322	M10MPK	10K					
9F323	M15MPK	15K					
9F324	M20MPK	20K	1.59	1.43	1.33	1.20	1.06
9F325	M25MPK	25K					
9F326	M50MPK	50K	1.88	1.69	1.57	1.41	1.25
9F327	M70MPK	70K	1.88	1.69	1.57	1.41	1.25
9F335	M100MPK	100K	2.66	2.30	2.22	2.00	1.77

T AND L LOW IMPEDANCE LEVEL CONTROLS

Control level of low impedance audio circuits DC rating, 4 w.; 15 watts audio. With bar knob, dial-plate, washer and nuts. "L" pad 1 5/8" dia. x 1 1/8" deep. "T" pad. 1 11/16" deep. Wt. 7 oz.



"T" PADS

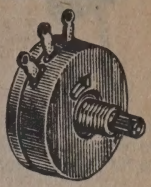
Stk. No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
9F251	T4	4						
95252	T6	6						
9F253	T8	8						
9F254	T15	15						
9F255	T50	50						
9F256	T100	100	3.82	3.63	3.45	3.19	2.87	2.55
9F258	T250	250						
9F259	T500	500						
9F260	T600	600						
9F261	T1000	1K						
9F262	T2000	2K						
9F263	T3000	3K						

"L" PADS

Stk. No.	Type	Ohms	1-9	10-24	25-49	50-99	100-249	250-499
9F281	L4	4						
9F282	L6	6						
9F283	L8	8						
9F284	L15	15						
9F285	L50	50						
9F287	L200	200	2.95	2.80	2.66	2.46	2.21	1.97
9F288	L250	250						
9F289	L500	500						
9F290	L600	600						
9F291	L1000	1K						
9F293	L3000	3K						

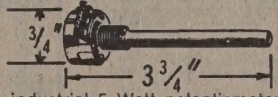
WIREWOUND MG CONTROLS 12½ WATT

MG controls have a continuous DC rating at 12.5 watts at 35°C (ambient). Volume is 1.1 cu. in. and outside control diameter is only slightly larger than standard knob rotation arc at 1 5/8". Mechanical rotation: 294°; electrical rotation: 275°; peak audio rating at 50 watts. Voltage breakdown at 900V RMS. Contact arm insulated.



Stk. No.	Ohms	1-9	10-49	50-99	100-249	250-499
9F1700	1					
9F1701	3					
9F1703	10	2.35	2.11	1.95	1.76	1.57
9F1704	15					
9F1706	25					
9F1708	50					
9F1709	100					
9F1710	200	2.35	2.11	1.95	1.76	1.57
9F1712	400					
9F1713	500					
9F1714	600	2.18	1.95	1.81	1.63	1.45
9F1715	1K					
9F1716	1.5K					
9F1717	2K	2.40	2.16	2.00	1.80	1.60
9F1719	3K					
9F1720	4K					
9F1721	5K					
9F1722	10K					
9F1723	15K	2.50	2.25	2.08	1.88	1.66
9F1724	20K					
9F1725	25K					
9F1726	50K	2.70	2.44	2.25	2.03	1.80
9F1727	100K	2.94	2.66	2.45	2.20	1.97

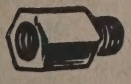
TYPE VW WIREWOUND CONTROLS 5 WATT



Subminiature industrial 5 Watt potentiometer. Ideal for limited space applications. Case size only 3/4 of an inch in diameter by 1/8" in depth. Bushing 3/8"x3/8" in diameter and length. Has 1/4" plain round shaft 2½" from mounting surface.

Stk. No.	Type	Ohms	1-9	10-49	50-99	100-249	250-499
9F033	VW-1	1					
9F034	VW-2	2					
9F035	VW-3	3					
9F036	VW-5	5					
9F039	VW-10	10	1.49	1.34	1.24	1.12	.99
9F040	VW-15	15					
9F041	VW-20	20					
9F042	VW-25	25					
9F043	VW-30	30					
9F044	VW-40	40					
9F045	VW-50	50					
9F048	VW-100	100					
9F049	VW-200	200					
9F055	VW-250	250	1.49	1.34	1.24	1.12	.99
9F056	VW-300	300					
9F058	VW-500	500					
9F059	VW-600	600					
9F061	VW-1K	1K					
9F062	VW-1P5K	1.5K					
9F063	VW-2K	2K					
9F064	VW2P5K	2.5K	1.56	1.40	1.30	1.17	1.04
9F066	VW-4K	4K					
9F067	VW-5K	5K					
9F069	VW-10K	10K	1.62	1.46	1.35	1.22	1.08
9F071	VW-20K	20K	1.68	1.51	1.40	1.26	1.13
9F072	VW-25K	25K	1.78	1.60	1.49	1.34	1.19

VOLUME CONTROL ACCESSORIES


A

B

D

E

COUPLERS AND BUSHINGS

Stk. No.	Type	Fig.	NET
9F206	EB247	D	.22
9F207	UB241	E	.20

HEX SHOULDER NUTS

Stk. No.	Type	Size	NET
9F208	255	1/4"	.13
9F209	A11260-12	1/2"	.13

RB MOUNTING BRACKETS

Skt. No.	Type	Fig.	Mtg.	NET
9F201	RB248	A	1 3/4"	
9F202	RB249	B	2½"	.05
9F218	RB254		Univ.	

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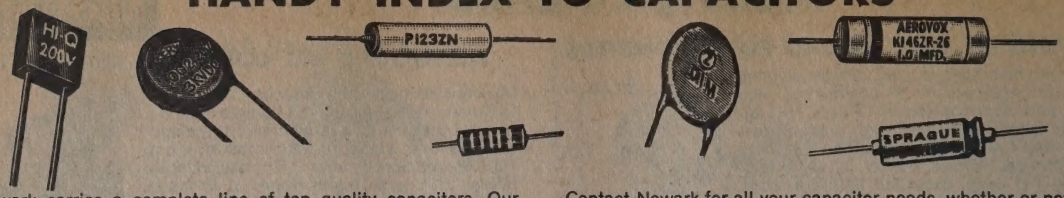
HANDY INDEX TO CAPACITORS



Newark carries a complete line of top quality capacitors. Our expert merchandising staff has carefully selected these capacitors to fill your electronic needs.

Contact Newark for all your capacitor needs, whether or not they are listed in this catalog.

MIL SPEC NUMBER AND TYPE NUMBER CONVERSIONS

FROM MILITARY SPEC NUMBER

Specification	Type
MIL-C-5	CD
MIL-C-5C	CM
MIL-C-20D	CC
MIL-C-81	CV
MIL-C-11015	CK
MIL-C-23183	CG
MIL-C-26655	CS
MIL-C-29003	CSR
MIL-F-15733	CDF

FROM TYPE NUMBER

Type	Specification
CC	MIL-C-20D
CD	MIL-C-5
CDF	MIL-F-15733
CG	MIL-C-23183
CK	MIL-C-11015C
CM	MIL-C-5C
CS	MIL-C-26655
CSR	MIL-C-39003
CV	MIL-C-81

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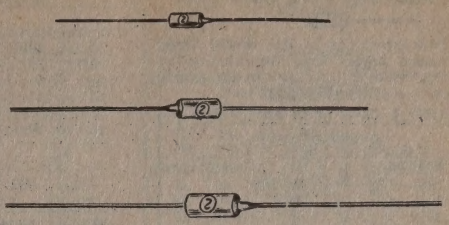
Type 150D and CS13 Solid Tantalums

SPRAGUE
THE MARK OF RELIABILITY

STANDARD SERIES 150D & MILITARY TYPE CS13

PRICE & SIZE LOCATOR -10%

Key	Sizes	1-24	25-49	50-99	100-499	500-999
A	.135" x .286"	1.00	.76	.64	.52	.46
B	.135" x .286"	.84	.64	.54	.44	.39
C	.135" x .286"	1.08	.82	.69	.56	.50
D	.185" x .474"	.92	.70	.59	.48	.43
E	.185" x .474"	1.08	.82	.69	.56	.50
F	.289" x .686"	1.84	1.39	1.17	.94	.82
G	.289" x .686"	2.60	1.96	1.64	1.32	1.16
H	.289" x .686"	2.76	2.08	1.74	1.40	1.23
J	.351" x .786"	3.60	2.71	2.27	1.82	1.60
K	.351" x .786"	5.36	4.03	3.37	2.70	2.37



- **Solid-Electrolyte Tantalex Capacitors**
- **Have plastic insulating sleeve**
- **Hermetically sealed**
- **High frequency performance**
- **Life test 2000 hours**

Type CS13. These are Solid-Electrolyte Fixed Tantalex Capacitors. These capacitors have plastic insulating sleeve. These sub-miniature axial-lead hermetically-sealed metal-encased tubular capacitors are furnished to meet all the requirements of Military Specification MIL-C-26655 Revision 2D. These capacitors have low leakage current and stability with both temperature and time. Life test 2000 hours. The operating temperature at full rated working voltage is -55° C to +85° C and with voltage derating, from -55° C to +125° C. They have high frequency performance; impedance remains low above 1 MHz. 2000 cycle vibration test and 50g shock test without any adverse effects. The capacitance tolerance is +10%. These capacitors are not intended to be mounted by their leads. For type CS13 capacitors, the case insulation shall extend 0.015 inch minimum beyond each end. However, when a shrink-fitted insulation is used, it shall lap over the ends of the capacitor body.

8

6 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2258	565X9006A2	BB565K	5.6	B
18F2259	685X9006A2	BB685K	6.8	B
18F2261	476X9006B2	BB476K	47	D
18F2263	566X9006B2	BB566K	56	D
18F2264	157X9006R2	BB157K	150	F
18F2266	187X9006R2	BB187K	180	F
18F2267	277X9006S2	BB277K	270	J
18F2268	337X9006S2	BB337K	330	J

10 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2270	395X9010A2	BC395K	3.9	B
18F2271	475X9010A2	BC475K	4.7	B
18F2273	276X9010B2	BC276K	27	D
18F2274	336X9010B2	BC336K	33	D
18F2276	396X9010B2	BC396K	39	D
18F2277	826X9010R2	BC826K	82	F
18F2278	107X9010R2	BC107K	100	F
18F2280	127X9010R2	BC127K	120	F
18F2281	187X9010S2	BC187K	180	J
18F2282	227X9010S2	BC227K	220	J

15 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2284	275X9015A2	BD275K	2.7	B
18F2285	335X9015A2	BD335K	3.3	B
18F2287	186X9015B2	BD186K	18	D
18F2288	226X9015B2	BD226K	22	D
18F2290	566X9015R2	BD566K	56	F
18F2291	686X9015R2	BD686K	68	F
18F2292	127X9015S2	BD127K	120	J
18F2293	157X9015S2	BD157K	150	J

20 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2296	125X9020A2	BE125K	1.2	B
18F2297	155X9020A2	BE155K	1.5	B
18F2299	185X9020A2	BE185K	1.8	B
18F2300	225X9020A2	BE225K	2.2	B
18F2302	825X9020B2	BE825K	8.2	D
18F2303	106X9020B2	BE106K	10	D
18F2305	126X9020B2	BE126K	12	D
18F2306	156X9020B2	BE156K	15	D
18F2308	276X9020R2	BE276K	27	F
18F2309	336X9020R2	BE336K	33	F
18F2311	396X9020R2	BE396K	39	F

20 WVDC ± 10% TOLERANCE (Cont'd)

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F2312	476X9020R2	BE476K	47	F
18F2314	566X9020S2	BE566K	56	J
18F2315	686X9020S2	BE686K	68	J
18F2317	826X9020S2	BE826K	82	J
18F2318	107X9020S2	BE107K	100	J

35 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
18F1840	472X9035A2	.....	.0047	A
18F1841	562X9035A2	.....	.0056	A
18F1842	682X9035A2	.....	.0068	A
18F1374	822X9035A2	.....	.0082	A
18F1375	103X9035A2	.....	.01	A
18F1376	123X9035A2	.....	.012	A
18F1377	153X9035A2	.....	.015	A
18F1378	183X9035A2	.....	.018	A
18F1379	223X9035A2	.....	.022	A
18F1380	273X9035A2	.....	.027	A
18F1381	333X9035A2	.....	.033	B
18F1382	393X9035A2	.....	.039	B
18F1383	473X9035A2	.....	.047	B
18F1384	563X9035A2	.....	.056	B
18F1385	683X9035A2	.....	.068	B
18F1386	823X9035A2	.....	.082	B
18F1387	104X9035A2	.....	.10	B
18F1388	124X9035A2	.....	.12	B
18F1389	154X9035A2	.....	.15	B
18F1390	184X9035A2	.....	.18	B
18F1391	224X9035A2	.....	.22	B
18F1392	274X9035A2	.....	.27	B
18F2320	334X9035A2	BF334K	.33	B
18F2322	394X9035A2	BF394K	.39	B
18F2323	474X9035A2	BF474K	.47	B
18F2325	564X9035A2	BF564K	.56	B
18F2326	684X9035A2	BF684K	.68	B
18F2328	824X9035A2	BF824K	.82	B
18F2329	105X9035A2	BF105K	1.0	B
18F2331	125X9035B2	BF125K	1.2	D
18F2332	155X9035B2	BF155K	1.5	D
18F2334	185X9035B2	BF185K	1.8	D
18F2335	225X9035B2	BF225K	2.2	D
18F2337	275X9035B2	BF275K	2.7	D
18F2338	335X9035B2	BF335K	3.3	D
18F2340	395X9035B2	BF395K	3.9	D
18F2341	475X9035B2	BF475K	4.7	D
18F2343	565X9035B2	BF565K	5.6	D
18F2344	685X9035B2	BF685K	6.8	D
18F2346	825X9035R2	BF825K	8.2	F
18F2347	106X9035R2	BF106K	10	F
18F2349	126X9035R2	BF126K	12	F
18F2350	156X9035R2	BF156K	15	F
18F2352	186X9035R2	BF186K	18	F

35 WVDC ± 10% TOLERANCE (Cont.)

Stk. No.	150 D	CS 13	Mfd	Price & Size Key
18F2353	226X9035R2	BF226K	22	F
18F2355	276X9035S2	BF276K	27	J
18F2356	336X9035S2	BF336K	33	J
18F2358	396X9035S2	BF396K	39	J
18F2359	476X9035S2	BF476K	47	J

50 WVDC ± 10% TOLERANCE

Stk. No.	150D	CS13	Mfd	Price & Size Key
47F198	472X9050A2	.....	.0047	C
47F199	562X9050A2	.....	.0056	C
47F200	682X9050A2	.....	.0068	C
47F201	822X9050A2	.....	.0082	C
18F1854	123X9050A2	.....	.012	C
47F203	153X9050A2	.....	.015	C
18F1855	183X9050A2	.....	.018	C
47F204	223X9050A2	.....	.022	C
18F1856	273X9050A2	.....	.027	C
47F205	333X9050A2	.....	.033	A
18F1857	393X9050A2	.....	.039	A
47F206	473X9050A2	.....	.047	A
18F1858	563X9050A2	.....	.056	A
47F207	683X9050A2	.....	.068	A
18F1859	823X9050A2	.....	.082	A
47F208	184X9050A2	.....	.1	A
18F1860	124X9050A2	.....	.12	A
47F209	154X9050A2	.....	.15	A
18F1861	184X9050A2	.....	.18	A
47F210	224X9050A2	.....	.22	A
18F1862	274X9050A2	.....	.27	A
47F211	334X9050A2	.....	.33	A
18F1863	390X9050A2	.....	.39	A
47F212	474X9050A2	.....	.47	A
18F1864	564X9050A2	.....	.56	A
47F213	684X9050A2	.....	.68	A
18F1865	824X9050A2	.....	.82	A
18F2957	105X9050A2	BG105K	1.0	A
18F2363	125X9050B2	BG125K	1.2	E
18F2958	155X9050B2	BG155K	1.5	E
18F2366	185X9050B2	BG185K	1.8	E
18F2959	225X9050B2	BG225K	2.2	E
18F2369	275X9050B2	BG275K	2.7	E
18F2960	335X9050B2	BG335K	3.3	E
18F2370	395X9050B2	BG395K	3.9	E
18F2961	475X9050B2	BG475K	4.7	E
18F2375	565X9050R2	BG565K	5.6	G
18F2962	685X9050R2	BG685K	6.8	G
18F2378	825X9050R2	BG825K	8.2	G
18F2963	106X9050R2	BG106K	10	G
18F2381	126X9050R2	BG126K	12	H
18F2954	156X9050R2	BG156K	15	H
18F2384	186X9050R2	BG186K	18	H
18F2965	226X9050S2	BG226K	22	K

150D, CS13 and CSR-13 Solid Tantalums

SPRAGUE
THE MARK OF RELIABILITY

COMMERCIAL SERIES 150D AND MILITARY TYPE CS13

Same characteristics as 10% model listed on previous page. True miniaturization with characteristics previously unobtainable in electrolytic capacitors.

150D & CS-13 Price and Size

Key	Sizes	1-24	25-49	50-99	100-499	500-999
A	.135x.286	.81	.61	.51	.41	.36
B	.185x.474	.89	.67	.56	.45	.40
C	.289x.686	1.81	1.36	1.14	.91	.79
D	.351x.786	3.57	2.68	2.24	1.79	1.57
E	.135x.286	.97	.73	.61	.49	.43
F	.135x.286	1.05	.79	.66	.53	.47
G	.185x.474	1.05	.79	.66	.53	.47
K	.289x.686	2.57	1.93	1.61	1.29	1.13
L	.289x.686	2.73	2.05	1.71	1.37	1.20
M	.351x.786	5.33	4.00	3.34	2.67	2.34

6 WVDC ±20% TOLERANCE

Stk.No.	150D	CS13	MFD	Price& SizeKey
18F2260	685X0006AS	BB685M	6.8	A
18F2262	476X0006B2	BB476M	47	B
18F2265	157X0006R2	BB157M	150	C
18F2269	337X0006S2	BB357M	330	D

10 WVDC ±20% TOLERANCE

18F2272	475X0010A2	BC475M	4.7	A
18F2275	336X0010B2	BC336M	33	B
18F2279	107X0010R2	BC107M	100	C
18F2283	227X0010S2	BC227M	220	D

15 WVDC ±20% TOLERANCE

18F2286	335X0015A2	BD335M	3.3	A
18F2289	226X0015B2	BD226M	22	B
18F2295	686X0015R2	BD686M	68	C
18F2294	157X0015S2	BD157M	150	D

35 WVDC ±20% TOLERANCE

18F787	472X0035A2	. . . .	.0047	E
18F788	682X0035A2	. . . .	.0068	E
18F789	103X0035A2	. . . .	.01	E
18F790	153X0035A2	. . . .	.015	E
18F791	223X0035A2	. . . .	.022	E
18F792	333X0035A2	. . . .	.033	A
18F793	473X0035A2	. . . .	.047	A
18F794	683X0035A2	. . . .	.068	A
18F795	104X0035A2	. . . .	.10	A
18F1222	154X0035A2	. . . .	.15	A
18F1223	224X0035A2	. . . .	.22	A
18F2321	334X0035A2	BF334M	2.33	A
18F2324	474X0035A2	BF374M	.47	A
18F2327	684X0035A2	BF684M	.68	A
18F2330	105X0035A2	BF105M	1.0	A
18F2333	155X0035B2	BF155M	1.5	B
18F2336	225X0035B2	BF225M	2.2	B
18F2339	335X0035B2	BF335M	3.3	B
18F2342	475X0035B2	BF475M	4.7	B
18F2345	685X0035B2	BF685M	6.8	B
18F2348	106X0035R2	BF106M	10	C
18F2351	156X0035R2	BF156M	15	C
18F2354	226X0035R2	BF226M	22	C
18F2357	336X0035S2	BF336M	33	D
18F2360	476X0035S2	BF476M	47	D

50 WVDC ±20% TOLERANCE

18F1800	103X0050A2	. . . .	.01	F
18F1801	153X0050A2	. . . .	.015	F
18F1802	223X0050A2	. . . .	.022	F
18F1803	333X0050A2	. . . .	.033	E
18F1804	473X0050A2	. . . .	.047	E
18F1805	683X0050A2	. . . .	.068	E
18F1806	104X0050A2	. . . .	.1	E
18F1807	154X0050A2	. . . .	.15	E
18F1809	224X0050A2	. . . .	.22	E
18F1808	334X0050A2	. . . .	.33	E
18F1810	474X0050A2	. . . .	.47	E
18F1811	684X0050A2	. . . .	.68	E
18F2362	105X0050A2	BG105M	1.0	E
18F2365	155X0050B2	BG155M	1.5	G
18F2368	225X0050B2	BG225M	2.2	G
18F2371	335X0050B2	BG335M	3.3	G
18F2374	475X0050B2	BG475M	4.7	G
18F2377	685X0050R2	BG685M	6.8	K
18F2380	106X0050R2	BG106M	10	K
18F2383	156X0050R2	BG156M	15	L
18F2386	226X0050S2	BG226M	22	M

TYPE CSR-13 2% "L" FAILURE RATE

Subminiature Hermetically sealed. Meet MIL-C 39003/1A. Low impendance above 1 MHz. 2000 cycle vibration test. 50g shock test. Temp. range -55°C to 125°C. Leads type M1 of MIL-STD-1276, tin coated .50 to 1.50 mil. Life test 10,000 hours. Plastic insulating sleeve. Weight 2 oz.

6 WVDC

Stk. No.	MILType CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F406	13B565KL	2001	5.6	A
47F407	13B685KL	2002	6.8	A
47F409	13B476KL	2004	47	B
47F411	13B566KL	2006	56	B
47F412	13B157KL	2007	150	C
47F414	13B187KL	2009	180	C
47F415	13B277KL	2010	270	D
47F416	13B337KL	2011	330	D

10 WVDC

47F418	13C395KL	2013	3.9	A
47F419	13C475KL	2014	4.7	A
47F421	13C276KL	2016	27	B
47F422	13C336KL	2017	33	B
47F424	13C396KL	2019	39	B
47F425	13C826KL	2020	82	C
47F426	13C107KL	2021	100	C
47F428	13C127KL	2023	120	C
47F429	13C187KL	2024	180	D
47F430	13C227KL	2025	220	D

15 WVDC

47F432	13D275KL	2027	2.7	A
47F433	13D335KL	2028	3.3	A
47F435	13D186KL	2030	18	B
47F436	13D226KL	2031	22	B
47F438	13D566KL	2033	56	C
47F439	13D686KL	2034	68	C
47F441	13D127KL	2036	120	D
47F442	13D157KL	2037	150	D

20 WVDC

47F444	13E125KL	2039	1.2	A
47F445	13E155KL	2040	1.5	A
47F447	13E185KL	2042	1.8	A
47F448	13E225KL	2043	2.2	A
47F450	13E825KL	2045	8.2	B
47F451	13E106KL	2046	10	B
47F453	13E126KL	2048	12	B
47F454	13E156KL	2049	15	B
47F456	13E276KL	2051	27	C
47F457	13E336KL	2052	33	C
47F459	13E396KL	2054	39	C
47F460	13E476KL	2055	47	C
47F462	13E566KL	2057	56	D
47F463	13E686KL	2058	68	D
47F465	13E826KL	2060	82	D
47F466	13E107KL	2061	100	D

35 WVDC

Stk. No.	MILType CSR-	M39003/ 01-	Mfd.	Size Code
47F468	13F565KL	2063	5.6	B
47F469	13F685KL	2064	6.8	B
47F471	13F226KL	2066	22	C
47F473	13F276KL	2068	27	D
47F474	13F336KL	2069	33	D
47F476	13F396KL	2071	39	D
47F477	13F476KL	2072	47	D

CSR-13 SIZE & PRICE CHART

Key	Size	1-24	25-49	50-99	100-499	500-999
A	.135 x .286	.84	.64	.54	.44	.39
B	.185 x .474	.92	.70	.59	.48	.43
C	.289 x .686	1.84	1.39	1.17	.94	.82
D	.351 x .786	3.60	2.71	2.27	1.82	1.60
H	.135 x .286	1.00	.76	.64	.52	.46
J	.185 x .474	1.08	.82	.69	.56	.50
L	.289 x .686	2.76	2.08	1.74	1.40	1.23
M	.351 x .786	5.36	4.03	3.37	2.70	2.37
N	.135 x .286	1.08	.82	.68	.56	.50
P	.135 x 2.86	1.08	.82	.69	.56	.50
R	.289 x .686	2.60	1.96	1.64	1.32	1.16

50 WVDC

Stk. No.	MILType CSR-	M39003/ 01-	Mfd.	Size Code
47F479	13G472KL	2074	.0047	N
47F481	13G562KL	2076	.0056	N
47F482	13G682KL	2077	.0068	N
47F484	13G822KL	2079	.0082	N
47F485	13G103KL	2080	.01	N
47F487	13G123KL	2082	.012	N
47F488	13G153KL	2083	.015	N
47F490	13G183KL	2085	.018	N
47F491	13G223KL	2086	.022	N
47F493	13G273KL	2088	.027	N
47F494	13G333KL	2089	.033	H
47F496	13G393KL	2091	.039	H
47F497	13G473KL	2092	.047	H
47F499	13G563KL	2094	.056	H
47F500	13G683KL	2095	.068	H
47F502	13G823KL	2097	.082	H
47F503	13G104KL	2098	.1	H
47F505	13G124KL	2100	.12	H
47F506	13G154KL	2101	.15	H
47F508	13G184KL	2103	.18	H
47F509	13G224KL	2104	.22	H
47F511	13G274KL	2106	.27	H
47F512	13G334KL	2107	.33	H
47F514	13G394KL	2109	.39	H
47F515	13G474KL	2110	.47	H
47F517	13G564KL	2112	.56	H
47F518	13G684KL	2113	.68	H
47F520	13G824KL	2115	.82	H
47F521	13G105KL	2116	1	H
47F523	13G125KL	2118	1.2	P
47F524	13G155KL	2119	1.5	J
47F526	13G185KL	2121	1.8	J
47F527	13G225KL	2122	2.2	J
47F529	13G275KL	2124	2.7	J
47F530	13G335KL	2125	3.3	J
47F532	13G395KL	2127	3.9	J
47F533	13G475KL	2128	4.7	J
47F535	13G565KL	2130	5.6	R
47F536	13G685KL	2131	6.8	R
47F538	13G825KL	2133	8.2	R
47F539	13G106KL	2134	10	R
47F541	13G126KL	2136	12	L
47F542	13G156KL	2137	15	L
47F544	13G186KL	2139	18	L
47F545	13G226KL	2140	22	M

NEWARK carries the complete line of quality Sprague capacitors. NEWARK can supply all your capacitor needs, whether or not they are listed in this catalog. Write or phone your nearest NEWARK facility.

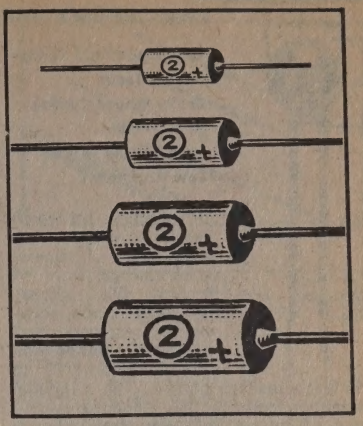
Type CSR-13 Solid Tantalum Capacitors

SPRAGUE
THE MARK OF RELIABILITY

1% FAILURE RATE MIL-39003

PRICE AND SIZE CHART

Key	Sizes	1-24	25-49	50-99	100-499	500-999
A	.135 x .286	.89	.69	.59	.49	.44
B	.135 x .286	.86	.66	.56	.46	.41
C	.185 x .474	.97	.75	.64	.53	.48
D	.185 x .474	.94	.72	.61	.50	.45
E	.289 x .686	1.89	1.44	1.22	.99	.87
F	.289 x .686	1.86	1.41	1.19	.96	.84
G	.351 x .786	3.65	2.76	2.31	1.87	1.65
H	.351 x .786	3.62	2.73	2.29	1.84	1.62
J	.135 x .286	1.13	.87	.73	.61	.55
K	.135 x .286	1.10	.84	.70	.58	.52
L	.135 x .286	1.05	.81	.69	.57	.51
M	.135 x .286	1.02	.78	.66	.54	.48
N	.185 x .474	1.13	.87	.74	.61	.55
P	.185 x .474	1.10	.84	.71	.58	.52
R	.289 x .686	2.65	2.01	1.69	1.37	1.21
S	.289 x .686	2.62	1.98	1.66	1.34	1.18
T	.289 x .686	2.81	2.13	1.79	1.45	1.28
U	.289 x .686	2.78	2.10	1.76	1.42	1.25
V	.351 x .786	5.41	4.08	3.42	2.75	2.42
W	.351 x .786	5.38	4.05	3.39	2.72	2.39



- Solid Electrolyte Tantalex
- 'M' Failure Rate
- 50g Shock Test

Hermetically sealed. Meets MIL-C-39003/1A specifications. Temp. range; -55°C to +125°C. Low imped. above 1 MHz 2000 cycle vibration test. Leads type M1 of MIL-STD-1276. tin coated 0.50 to 1.50 mil. Wt. 2 oz. Second From last letter in type No. indicates Tolerance K:±10%; M:±20%

8

6WVDC

Stk. No.	Miltype CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F547	13B565KM	2241	5.6	A
47F548	13B685KM	2242	6.8	A
47F549	13B685MM	2243	6.8	B
47F550	13B476KM	2244	47	C
47F551	13B476MM	2245	47	D
47F552	13B566KM	2246	56	C
47F553	13B157KM	2247	150	E
47F554	13B157MM	2248	150	F
47F555	13B187KM	2249	180	E
47F556	13B277KM	2250	270	G
47F557	13B337KM	2251	330	G
47F558	13B337MM	2252	330	H

10WVDC

Stk. No.	Mil Type CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F559	13C395KM	2253	3.9	A
47F560	13C475KM	2254	4.7	A
47F561	13C476MM	2255	4.7	B
47F562	13C276KM	2256	27	C
47F563	13C336KM	2257	33	C
47F564	13C336MM	2258	33	D
47F565	13C396KM	2259	39	C
47F566	13C826KM	2260	82	E
47F567	13C107KM	2261	100	E
47F568	13C107MM	2262	100	F
47F469	13C127KM	2263	120	E
47F570	13C187KM	2264	180	G
47F571	13C227KM	2265	220	G
47F572	13C227MM	2266	220	H

15 WVDC

Stk. No.	MIL Type CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F573	13D275KM	2267	2.7	A
47F574	13D335KM	2268	3.3	A
47F575	13D335MM	2269	3.3	B
47F576	13D186KM	2270	18	C
47F577	13D226KM	2271	22	C
47F578	13D226MM	2272	22	D
47F579	13D566KM	2273	56	E
47F580	13D686KM	2274	68	E
47F581	13D686MM	2275	68	F
47F582	13D127KM	2276	120	G
47F583	13D157KM	2277	150	G
47F584	13D157MM	2278	150	H

20 WVDC

Stk. No.	MILTYPE CSR-	M39003/ 01-	Mfd.	Price & Size Code
47F585	13E125KM	2279	1.2	A
47F586	13E155KM	2280	1.5	A

20 WVDC (con't)

Stk. No.	MIL Type CSR	M39003/ 01	Mfd.	Price & Size Code
47F587	13E155MM	2281	1.5	B
47F588	13E185KM	2282	1.8	A
47F589	13E225KM	2283	2.2	A
47F590	13E225MM	2284	2.2	B
47F591	13E825KM	2285	8.2	C
47F592	13E106KM	2286	10	C
47F593	13E106MM	2287	10	D
47F594	13E126KM	2288	12	C
47F595	13E156KM	2289	15	C
47F596	13E156MM	2290	15	D
47F597	13E276KM	2291	27	E
47F598	13E336KM	2292	33	E
47F599	13E336MM	2293	33	F
47F600	13E396KM	2294	39	E
47F601	13E476KM	2295	47	E
47F602	13E476MM	2296	47	F
47F603	13E566KM	2297	56	G
47F604	13E686KM	2298	68	G
47F605	13E686MM	2299	68	H
47F606	13E826KM	2300	82	G
47F607	13E107KM	2301	100	G
47F608	13E107MM	2302	100	H

35WVDC

Stk. No.	MILTYPE CSR-	M39003 01-	Mfd.	Price & Size code
47F609	13F565KM	2303	5.6	C
47F610	13F685KM	2304	6.8	C
47F611	13F685MM	2305	6.8	D
47F612	13F226KM	2306	22	E
47F613	13F226MM	2307	22	F
47F614	13F276KM	2308	27	G
47F615	13F336KM	2309	33	G
47F617	13F336MM	2310	33	H
47F618	13F396KM	2311	39	G
47F619	13F476KM	2312	47	G
47F620	13F476MM	2313	47	H

50WVDC

Stk. No.	Military Type CSR-	M39003 01-	Mfd.	Price & Size Code
47F621	13G472KM	2314	.0047	J
47F622	13G472MM	2315	.0047	K
47F623	13G562KM	2416	.0056	J
47F624	13G682KM	2317	.0068	J
47F625	13G682MM	2318	.0068	K
47F626	13G822KM	2319	.0082	J
47F090	13G103KM	2320	.01	J
47F627	13G103MM	2321	.01	K
47F628	13G123KM	2322	.012	J
47F629	13G153KM	2323	.015	J
47F630	13G153MM	2324	.015	K
47F631	13G183KM	2325	.018	J

Stk. No.	MIL Type CSR	M39003/ 01-	Mfd.	Price & Size Code
47F632	13G223KM	2326	.022	J
47F633	13G223MM	2327	.022	K
47F634	13G273KM	2328	.027	J
47F635	13G333KM	2329	.033	L
47F636	13G333MM	2330	.033	M
47F637	13G393KM	2331	.039	L
47F638	13G473KM	2332	.047	L
47F639	13G473MM	2333	.047	M
47F640	13G563KM	2334	.056	L
47F641	13G683KM	2335	.068	L
47F642	13G683MM	2336	.068	M
47F643	13G823KM	2337	.082	L
47F644	13G104KM	2338	.1	L
47F645	13G104MM	2339	.1	L
47F646	13G124KM	2340	.12	M
47F647	13G154KM	2341	.15	L
47F648	13G154MM	2342	.15	L
47F649	13G184KM	2343	.18	M
47F650	13G224KM	2344	.22	L
47F651	13G224MM	2345	.22	L
47F652	13G274KM	2346	.27	M
47F653	13G334KM	2347	.33	L
47F654	13G334MM	2348	.33	M
47F655	13G394KM	2349	.39	L
47F656	13G474KM	2350	.47	L
47F657	13G474MM	2351	.47	M
47F658	13G564KM	2352	.56	L
47F659	13G684KM	2353	.68	L
47F660	13G684MM	2354	.68	M
47F661	13G824KM	2355	.82	L
47F662	13G105KM	2356	1	L
47F663	13G105MM	2357	1	M
47F664	13G125KM	2358	1.2	N
47F665	13G155KM	2359	1.5	N
47F666	13G155MM	2360	1.5	P
47F667	13G185KM	2361	1.8	
47F668	13G225KM	2362	2.2	N
47F669	13G225MM	2363	2.2	P
47F670	13G275KM	2364	2.7	N
47F671	13G335KM	2365	3.3	N
47F672	13G335MM	2366	3.3	P
47F673	13G395KM	2367	3.9	N
47F674	13G475KM	2368	4.7	N
47F675	13G475MM	2369	4.7	P
47F676	13G565KM	2370	5.6	R
47F677	13G685KM	2371	6.8	R
47F678	13G685MM	2372	6.8	S
47F679	13G825KM	2373	8.2	R
47F680	13G106KM	2374	10	R
47F681	13G106MM	2375	10	S
47F682	13G126KM	2376	12	T
47F683	13G156KM	2377	15	T
47F684	13G156MM	2378	15	U
47F685	13G186KM	2379	18	T
47F686	13G226KM	2380	22	V
47F687	13G226MM	2381	22	W

SPRAGUE
THE MARK OF RELIABILITY

196D and 198D Tantalex Capacitors

196D EPOXY DIPPED SOLID ELECTROLYTE TANTALEX CAPACITORS

- Low Capacitance Change
- Radials Leads
- Epoxy Dipped Coating
- High Stability
- Long Straight Leads
- Low Dissipation

Furnished in sizes which permit coverage of a broad range of capacitance ratings, from 0.1 through 330μf. Standard capacitance tolerance of these capacitors is ±10%. Operating temperature range −55° to +85°C low leakage current. The maximum dissipation factor is 10%. Standard capacitors are furnished with long straight leads. Leads are electro-tinned nickel for ease in soldering. Solid-electrolyte tantalum pellet construction allow plug-in mtng. on printed wiring boards.

8

4 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F347	196D106X9004HA1	10	B
47F348	196D476X9004JA1	47	C
47F349	196D107X9004KA1	100	A
47F350	196D227X9004PE4	220	D

6 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F351	196D685X9006HA1	6.8	B
47F352	196D336X9006JA1	33	C
47F353	196D476X9006KA1	47	A
47F354	196D686X9006KA1	68	A
47F355	196D157X9006PE4	150	D
47F356	196D337X9006TE4	330	E

196D PRICE AND SIZE LOCATOR

Price Code	Height	Width	Depth	Lead Length	1-49	50-99	100-499	500-999	1000-4999
A	.450	.225	.225	.750	.660	.420	.340	.300	.220
B	.375	.175	.175	.750	.500	.320	.260	.230	.170
C	.425	.225	.225	.750	.580	.370	.300	.270	.200
D					1.300	.820	.660	.580	.410
E					2.260	1.420	1.140	1.000	.700
F	.375	.175	.175	.750	.700	.450	.360	.320	.230
G	.425	.225	.225	.750	.780	.500	.400	.350	.250
H	.450	.225	.225	.750	.860	.550	.440	.390	.280
J	.800	.600	.275	1.500	1.420	.900	.720	.630	.450

10 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F357	196D475X9010HA1	4.7	B
47F358	196D226X9010JA1	22	C
47F359	196D336X9010KA1	33	A
47F360	196D107X9010PE4	100	D
47F361	196D227X9010TE4	220	E

15 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F362	196D335X9015HA1	3.3	B
47F363	196D156X9015JA1	15	C
47F364	196D226X9015KA1	22	A
47F365	196D686X9015PE4	68	D
47F366	196D157X9015TE4	150	E

20 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F386	196D106X9020JA1	10	C
47F387	196D156X9020KA1	15	A
47F388	196D476X9020PE4	47	D
47F389	196D107X9020TE4	100	E

25 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F390	196D155X9025HA1	1.5	A
47F391	196D225X9025HA1	2.2	B
47F392	196D685X9025JA1	6.8	C
47F393	196D106X9025KA1	10	A
47F395	196D336X9025PE4	33	D
47F397	196D686X9025TE4	68	E

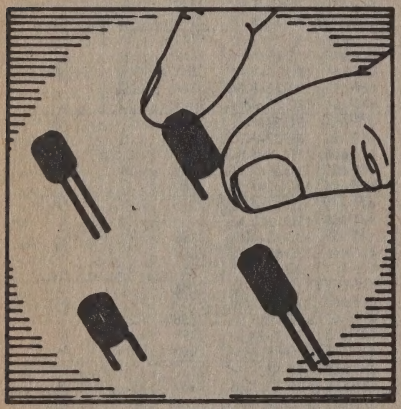
35 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F398	196D104X9035HA1	0.10	B
47F399	196D154X9035HA1	0.15	B
47F400	196D224X9035HA1	0.22	B
47F401	196D334X9035HA1	0.33	B
47F402	196D474X9035HA1	0.47	B
47F403	196D684X9035HA1	0.68	B
47F404	196D105X9035HA1	1.0	B
47F405	196D115X9035JA1	1.5	C
47F367	196D225X9035JA1	2.2	C
47F368	196D335X9035JA1	3.3	C
47F369	196D475X9035JA1	4.7	C
47F370	196D685X9035KA1	6.8	A
47F371	196D106X9035PE4	10	D
47F372	196D156X9035PE4	15	D
47F373	196D226X9035PE4	22	J
47F374	196D336X9035TE4	33	E

50 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F375	196D104X9050HA1	.01	F
47F376	196D154X9050HA1	0.15	F
47F377	196D224X9050HA1	0.22	F
47F378	196D334X9050HA1	0.33	F
47F379	196D474X9050HA1	0.47	F
47F380	196D684X9050HA1	0.68	F
47F381	196D105X9050HA1	1.0	F
47F382	196D155X9050JA1	1.5	G
47F383	196D225X9050JA1	2.2	G
47F384	196D335X9050JA1	3.3	G
47F385	196D475X9050KA1	4.7	H

198D VERTICAL MOUNTING, PLASTIC ENCASED ECONOLINE® SOLID TANTALEX® CAPACITORS



- For High Speed Automatic Insertion On Printed Circuit Board
- Completely Shock and Vibration Resistant
- Unique Body Shape

Solid electrolyte tantalum capacitors suitable for high speed automatic insertion on printed wiring boards. Unique body shape facilitates rapid visual inspection of inserted units for proper polarization. Encapsulated in a tough flame retardant plastic case with excellent dielectric properties. A high quality tantalum pellet with a solid electrolyte is used. Completed assembly is both electrically insulated and moisture resistant. Solid plastic encapsulation makes capacitors completely shock and vibration resistant. Temperature range: −55C to +85C without derating. Tolerance 10%. Leads are spaced 0.100" and are 0.65" long. Size: H1—.250 dia. x .375 H. K1—.250" dia. x .475" H.

198D PRICE CHART

Price Code	1-24	25-49	50-99	100-499	500-999
K	.510	.380	.320	.260	.230
L	.600	.440	.370	.300	.270
M	.690	.500	.420	.340	.300
N	.720	.530	.450	.360	.320
O	.810	.590	.500	.400	.350
P	.870	.650	.550	.440	.390

4 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F1300	198D106X9004H1	10	K
47F1301	198D107X9004K1	100	M

6 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F1302	198D685X9006H1	6.8	K
47F1303	198D686X9006K1	68	M

10 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F1304	198D475X9010H1	4.7	K
47F1305	198D336X9010K1	33	M

15 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F1306	198D335X9015H1	3.3	K
47F1307	198D226X9015K1	22	M

20 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F1308	198D156X9020K1	15	M

25 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F1309	198D225X9025H1	2.2	K
47F1310	198D106X9025K1	10	M

35 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F1311	198D104X9035H1	.10	K
47F1312	198D474X9035H1	.47	K
47F1313	198D684X9035H1	.68	K
47F1314	198D105X9035H1	1.0	K
47F1315	198D225X9035K1	2.2	L
47F1316	198D335X9035K1	3.3	L
47F1317	198D475X9035K1	4.7	L
47F1318	198D685X9035K1	6.8	M

50 WVDC

Stock No.	Type	Mfd.	Price & Size Code
47F1319	198D104X9050H1	.10	N
47F1320	198D154X9050H1	.15	N
47F1321	198D224X9050H1	.22	N
47F1322	198D334X9050H1	.33	N
47F1323	198D474X9050H1	.47	N
47F1324	198D105X9050H1	1.0	N
47F1325	198D225X9050K1	2.2	O
47F1326	198D335X9050K1	3.3	O
47F1327	198D475X9050K1	4.7	P

Miniature Tantalex Capacitors

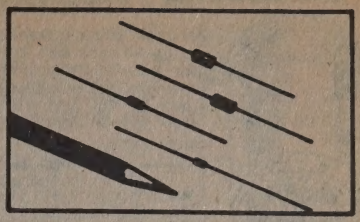
SPRAGUE
THE MARK OF RELIABILITY

TYPE 162D RED TOP SOLID ELECTROLYTE TANTALEX CAPACITORS

162D—PRICE AND SIZE CHART

Code	Dia. x Lgth.	1-24	25-49	50-99	100-499	500-999
A	.095 x .260	.57	.43	.36	.210	.175
B	.110 x .290	.61	.46	.39	.225	.185
C	.095 x .260	.65	.49	.41	.230	.195
D	.180 x .345	.65	.49	.41	.240	.200
E	.110 x .290	.69	.52	.44	.245	.205
F	.180 x .420	.71	.54	.45	.26	.21
G	.180 x .345	.73	.55	.46	.26	.22
H	.180 x .420	.79	.60	.50	.28	.24

Miniature commercial/industrial tantalum capacitors for use in applications where space is at a premium. Metal case is insulated with a heat shrunk polyester film. Leads are solder coated nickel 1.5" long x .02" dia. Tolerance: ±10%. Designed to operate over a temperature range of −55c to +85c with no voltage derating. Maximum operating voltage is for continuous duty at rated temperature.



2 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1400	162D106X9002BC2	10	A
47F1401	162D336X9002CD2	33	B
47F1402	162D686X9002DD2	68	D

4 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1403	162D685X9004BC2	6.8	A
47F1404	162D476X9004DD2	47	D
47F1405	162D686X9004EE2	68	F

6 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1406	162D475X9006BC2	4.7	A
47F1407	162D156X9006CD2	15	B
47F1408	162D336X9006DD2	33	D
47F1409	162D476X9006EE2	47	F

10 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1410	162D335X9010BC2	3.3	A
47F1411	162D106X9010CD2	10	B
47F1412	162D226X9010DD2	22	D
47F1413	162D336X9010EE2	33	F

15 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1414	162D225X9015BC2	2.2	A
47F1415	162D685X9015CD2	6.8	B
47F1416	162D156X9015DD2	15	D
47F1417	162D226X9015EE2	22	F

20 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1418	162D155X9020BC2	1.5	A
47F1419	162D475X9020CD2	4.7	B
47F1420	162D157X9020EE2	15	F

25 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1421	162D684X9025BC2	.68	A
47F1422	162D105X9025BC2	1	A
47F1423	162D225X9025CD2	2.2	B
47F1424	162D335X9025CD2	3.3	B
47F1425	162D685X9025DD2	6.8	D
47F1426	162D106X9025DD2	10	D

35 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1427	162D472X9035BC2	.0047	A
47F1428	162D682X9035BC2	.0068	A
47F1429	162D103X9035BC2	.01	A
47F1430	162D153X9035BC2	.015	A
47F1431	162D223X9035BC2	.022	A
47F1432	162D333X9035BC2	.033	A
47F1433	162D473X9035BC2	.047	A
47F1434	162D683X9035BC2	.068	A
47F1435	162D104X9035BC2	.1	A
47F1436	162D154X9035BC2	.15	A
47F1437	162D224X9035BC2	.22	A
47F1438	162D334X9035BC2	.33	A
47F1439	162D474X9035BC2	.47	A
47F1440	162D684X9035CD2	.68	B

35 WVDC (Con't.)

Stk. No.	Type	Mfd.	Price & Size Code
47F1441	162D105X9035CD2	1	B
47F1442	162D155X9035CD2	1.5	B
47F1443	162D225X9035DD2	2.2	D
47F1444	162D335X9035DD2	3.3	D
47F1445	162D475X9035DD2	4.7	D
47F1446	162D685X9035EE2	6.8	F

50 WVDC

Stk. No.	Type	Mfd.	Price & Size Code
47F1447	162D472X9050BC	.0047	C
47F1448	162D682X9050BC2	.0068	C
47F1449	162D103X9050BC2	.01	C
47F1450	162D153X9050BC2	.015	C
47F1451	162D223X9050BC2	.022	C
47F1452	162D333X9050BC2	.033	C
47F1453	162D473X9050BC2	.047	C
47F1454	162D683X9050BC2	.068	C
47F1455	162D104X9050BC2	.1	C
47F1456	162D154X9050BC2	.15	C
47F1457	162D224X9050BC2	.22	C
47F1458	162D334X9050CD2	.33	E
47F1459	162D474X9050CD2	.47	E
47F1460	162D684X9050CD2	.68	E
47F1461	162D105X9050CD2	1	E
47F1462	162D155X9050DD2	1.5	G
47F1463	162D225X9050DD2	2.2	G
47F1464	162D335X9050EE2	3.3	H
47F1465	162D475X9050EE2	4.7	H

8

ULTRA-MINIATURE SOLID-ELECTROLYTE TANTALEX CAPACITORS

Type 182D—cylindrical. **Type 183D**—rectangular. Housed in polyester-film sleeving with epoxy resin end seals. Higher volumetric efficiency than metal encased or molded tantalum designs. **XO** in type number indicates ±20% tol. **D4** indicates +40%, −20% tol.

TYPE 183D—SIZE AND PRICE CHART

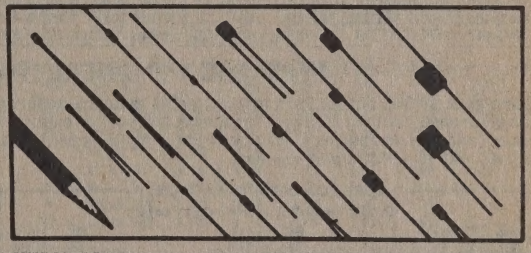
Price & Size Code	Ht.	Lgth.	Thickness	1-24	25-49	50-99	100-499	500-999
B	.165	.120	.070	.64	.50	.44	.370	.340
C	.225	.185	.075	.80	.63	.55	.460	.420
D	.290	.220	.110	.90	.71	.62	.520	.480
E	.310	.230	.130	.90	.71	.62	.520	.480

AXIAL LEAD

Stk. No.	Type	MFD	WV DC	Price & Size Code
47F1368	183DA106X0006C	10	6	C
47F1369	183DA476X0006E	47	6	E
47F1370	183DA225X0010B	2.2	10	B
47F1371	183DA226X0015E	22	15	E
47F1372	183DA105X0020B	1	20	B
47F1373	183DA475X0020C	4.7	20	C
47F1374	183DA106X0020D	10	20	D
47F1375	183DA156X0020E	15	20	E
47F1376	183DA685X0025D	6.8	25	D
47F1377	183DA474X0035B	.47	35	B
47F1378	183DA684X0035C	.68	35	C
47F1379	183DA105X0035C	1.0	35	C

RADIAL LEAD

47F1380	183DR106X0006C	10	6	C
47F1381	183DR476X0006E	47	6	E
47F1382	183DR225X0010B	2.2	10	B
47F1383	183DR226X0015E	22	15	E
47F1384	183DR105X0020B	1.0	20	B
47F1385	183DR475X0020C	4.7	20	C
47F1386	183DR106X0020D	10	20	D
47F1387	183DR156X0020E	15	20	E
47F1388	183DR685X0025D	6.8	25	D
47F1389	183DR474X0035B	.47	35	B
47F1390	183DR684X0035C	.68	35	C
47F1391	183DR105X0035C	1.0	35	C



TYPE 182D—SIZE AND PRICE CHART

Price & Size Code	Ht.	Diameter	1-24	25-49	50-99	100-499	500-999
G	.125	.070	.64	.50	.44	.370	.340
H	.160	.070	.64	.50	.44	.370	.340
K	.225	.100	.69	.55	.47	.400	.360
L	.250	.150	.88	.69	.60	.510	.460

AXIAL LEAD

Stk. No.	Type	MFD	WV DC	Price & Size Code
47F1350	182DA155D4006H	1.5	6	H
47F1351	182DA156X0010L	15	10	L
47F1352	182DA106X0015L	10	15	L
47F1353	182DA103D4020G	.01	20	G
47F1354	182DA475X0020L	4.7	20	L
47F1355	182DA104D4035H	.10	35	H
47F1356	182DA684X0035K	.68	35	K
47F1357	182DA105X0035K	1.0	35	K
47F1358	182DA155X0035L	1.5	35	L

RADIAL LEAD

47F1359	182DR155D4006H	1.5	6	H
47F1360	182DR156X0010L	15	10	L
47F1361	182DR106X0015L	10	15	L
47F1362	182DR103D4020G	.01	20	G
47F1363	182DR475X0020L	4.7	20	L
47F1364	182DR104D4035H	.10	35	H
47F1365	182DR684X0035K	.68	35	K
47F1366	182DR105X0035K	1.0	35	K
47F1367	182DR155X0035L	1.5	35	L

SPRAGUE
THE MARK OF RELIABILITY

Powerlytic Capacitors

TYPE 36D POWERLYTIC ALUMINUM ELECTROLYTICS

For applications requiring maximum capacitance in a given case size. Low ESR and leakage current; extremely long shelf life. Withstands military environmental conditions including −55°C storage tests. Tol. 3-50 WV, +75% to −10%; 75-450 WV, +50% to −10%. Av. shpg. wt. 4 oz. Pressure safety vents.

SIZES FOR 36D CAPACITORS
D. x L. Including plastic outer case

AA, 1 3/32 x 2 3/16	**BC,** 2 3/32 x 4 3/16	**DC,** 3 1/32 x 4 3/16
AB, 1 3/32 x 3 3/16	**CB,** 2 1/32 x 3 3/16	**DD,** 3 1/16 x 4 1 1/16
AC, 1 3/32 x 4 3/16	**CC,** 2 1/32 x 4 3/16	**DF,** 3 1/32 x 5 1 1/16
BB, 2 1/32 x 3 3/16	**CD,** 2 1/32 x 4 1 7/16	

Stk. No.	Type 36D-	Mfd.	WVDC	Size	1-24	25-49	50-99	100-249
18F2434	124G006DC2A	120,000	6	DC	10.88	8.70	7.61	5.87
18F2435	194G006DF2A	190,000	6	DF	14.95	11.96	10.47	8.07
18F2436	602G010AA2A	6,000	10	AA	2.45	1.96	1.72	1.32
18F2437	123G010AB2A	12,000	10	AB	2.98	2.38	2.08	1.61
18F2438	183G010AC2A	18,000	10	AC	3.43	2.74	2.40	1.85
18F2439	283G010BB2A	28,000	10	BB	4.55	3.64	3.19	2.46
18F2440	423G010BC2A	42,000	10	BC	5.60	4.48	3.92	3.02
18F2441	483G010CB2A	48,000	10	CB	6.50	5.20	4.55	3.51
18F2442	104G010DC2A	100,000	10	DC	10.88	8.70	7.61	5.87
18F2443	164G010DF2A	160,000	10	DF	14.95	11.96	10.47	8.07
18F2444	462G015AA2A	4,600	15	AA	2.45	1.96	1.72	1.32
18F2445	922G015AB2A	9,200	15	AB	2.98	2.38	2.08	1.61
18F2446	133G015AC2A	13,000	15	AC	3.43	2.74	2.40	1.85
18F2447	213G015BB2A	21,000	15	BB	4.55	3.64	3.19	2.46
18F2448	313G015BC2A	31,000	15	CB	5.60	4.48	3.92	3.02
18F2449	363G015CB2A	36,000	15	CB	6.50	5.20	4.55	3.51
18F2450	543G015CC2A	54,000	15	CC	8.18	6.54	5.72	4.42
18F2451	633G015CD2A	63,000	15	CD	9.03	7.22	6.32	4.87
18F2452	803G015DC2A	80,000	15	DC	10.88	8.70	7.61	5.87
18F2453	272G025AA2A	2,700	25	AA	2.45	1.96	1.72	1.32
18F2454	552G025AB2A	5,500	25	AB	2.98	2.38	2.08	1.61
18F2455	822G025AC2A	8,200	25	AC	3.43	2.74	2.40	1.85
18F2456	183G025BC2A	18,000	25	BC	5.60	4.48	3.92	3.02
18F2457	323G025CC2A	32,000	25	CC	8.18	6.54	5.72	4.42
18F2460	713G025DF2A	71,000	25	DF	14.95	11.96	10.47	8.07
18F2461	363G030DC2A	36,000	30	DC	10.88	8.70	7.61	5.87
18F2462	423G030DD2A	42,000	30	DD	12.20	9.76	8.54	6.59
18F2463	552G040AC2A	5,500	40	AC	3.43	2.74	2.40	1.85
18F2464	842G040BB2A	8,400	40	BB	4.55	3.64	3.19	2.46
18F2465	123G040BC2A	12,000	40	BC	5.60	4.48	3.92	3.02
18F2466	213G040CC2A	21,000	40	CC	8.18	6.54	5.72	4.42
18F2467	253G040CD2A	25,000	40	CD	9.03	7.22	6.32	4.87
18F2468	132G050AA2A	1,300	50	AA	2.45	1.96	1.72	1.32
18F2469	262G050AB2A	2,600	50	AB	2.98	2.38	2.08	1.61
18F2470	392G050AC2A	3,900	50	AC	3.43	2.74	2.40	1.85
18F2471	602G050BB2A	6,000	50	BB	4.55	3.64	3.19	2.46
18F2472	902G050BC2A	9,000	50	BC	5.60	4.48	3.92	3.02
18F2473	153G050CC2A	15,000	50	CC	8.18	6.54	5.72	4.42
18F2475	252F075AC2A	2,500	75	AC	3.43	2.74	2.40	1.85
18F2476	392F075BB2A	3,900	75	BB	4.55	3.64	3.19	2.46
18F2477	592F075BC2A	5,900	75	BC	5.60	4.48	3.92	3.02
18F2478	113F075CD2A	11,000	75	CD	9.03	7.22	6.32	4.87
18F2480	223F075DF2A	22,000	75	DF	14.95	11.96	10.47	8.07
18F2481	451F100AA2A	450	100	AA	2.45	1.96	1.72	1.32
18F2482	132F100A32A	1,300	100	AC	3.43	2.74	2.40	1.85
18F2483	302F100BC2A	3,000	100	BC	5.60	4.48	3.92	3.02
18F2484	532F100CC2A	5,300	100	CC	8.18	6.54	5.72	4.42
18F2485	782F100DC2A	7,800	100	DC	10.88	8.70	7.61	5.87
18F2486	301F150A-A2A	300	150	AA	2.45	1.96	1.72	1.32
18F2487	901F150AC2A	900	150	AC	3.43	2.74	2.40	1.85
18F2488	142F150BB2A	1,400	150	BB	4.55	3.64	3.19	2.46
18F2489	212F150BC2A	2,100	150	BC	5.60	4.48	3.92	3.02
18F2490	362F150CC2A	3,600	150	CC	8.18	6.54	5.72	4.42
18F2491	532F150DC2A	5,300	150	DC	10.88	8.70	7.61	5.87
18F2492	782F150DF2A	7,800	150	DF	14.95	11.96	10.47	8.07
18F2493	251F200AA2A	250	200	AA	2.45	1.96	1.72	1.32
18F2494	431F200AB2A	430	200	AB	2.98	2.38	2.08	1.61
18F2495	641F200AC2A	640	200	AC	3.43	2.74	2.40	1.85
18F2496	142F200BC2A	1,400	200	BC	5.60	4.48	3.92	3.02
18F2497	162F200CB2A	1,600	200	CB	6.50	5.20	4.55	3.51
18F2498	372F200DC2A	3,700	200	DC	10.88	8.70	7.61	5.87
18F2499	552F200DF2A	5,500	200	DF	14.95	11.96	10.47	8.07
18F2500	531F250AC2A	530	250	AC	3.43	2.74	2.40	1.85
18F2501	122F250BC2A	1,200	250	BC	5.60	4.48	3.92	3.02
18F2502	302F250DC2A	3,000	250	DC	10.88	8.70	7.61	5.87
18F2503	452F250DF2A	4,500	250	DF	14.95	11.96	10.47	8.07
18F2504	241F300AB2A	240	300	AB	2.98	2.38	2.08	1.61
18F2506	212F300DC2A	2,100	300	DC	10.88	8.70	7.61	5.87
18F2507	950F350AA2A	95	350	AA	2.45	1.96	1.72	1.32
18F2511	112F350CC2A	1,100	350	CC	8.18	6.54	5.72	4.42
18F2512	162F350DC2A	1,600	350	DC	10.88	8.70	7.61	5.87
18F2513	252F350DF2A	2,500	350	DF	14.95	11.96	10.47	8.07
18F2514	421F400BC2A	420	400	BC	5.60	4.48	3.92	3.02
18F2515	500F450AA2A	50	450	AA	2.45	1.96	1.72	1.32
18F2516	141F450AC2A	140	450	AC	3.43	2.74	2.40	1.85
18F2517	221F450BB2A	220	450	BB	4.55	3.64	3.19	2.46
18F2518	331F4505BC2A	330	450	BC	5.60	4.48	3.92	3.02
18F2519	861F450DC2A	860	450	DC	10.88	8.20	7.61	5.87

TYPE 36DX POWERLYTIC ALUMINUM ELECTROLYTICS

Same spec as 36D but for uses requiring 50% more capacitance in a given case size than the above capacitors. Available in extended capacitance range designs at voltages from 10 to 450 volts. Temp. range: −40° to +85°C up to 30 amps.

SIZES FOR 36DX CAPACITORS
D. x L. including plastic outer case

AA, 1 3/8 x 2 1/8	**BC,** 2 x 4 1/8	**DC,** 3 x 4 1/8
AB, 1 3/8 x 3 1/8	**BF,** 2 x 5 5/8	**DF,** 3 x 5 5/8
AC, 1 3/8 x 4 1/8	**CC,** 2 1/2 x 4 1/8	**DJ,** 3 x 8 5/8
AF, 1 3/8 x 5 5/8	**CF,** 2 1/2 x 5 5/8	

15 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F1970	752G015AA2A	7500	AA	3.08	2.46	2.15	1.66
47F1971	153G015AB2A	15000	AB	3.73	2.98	2.61	2.01
47F1972	223G015AC2A	22000	AC	4.28	3.42	2.99	2.31
47F1973	343G015AF2A	34000	AF	5.25	4.20	3.68	2.84
47F1974	503G015BC2A	50000	BC	7.55	6.04	5.29	4.08
47F1975	753G015BF2A	75000	BF	9.70	7.76	6.79	5.24
47F1976	833G015CC2A	83000	CC	11.45	9.16	8.02	6.18
47F1977	124G015CF2A	120000	CF	14.95	11.96	10.47	8.07
47F1978	124G015DC2A	120000	DC	16.33	13.06	11.43	8.82
47F1979	184G015DF2A	180000	DF	22.40	17.92	15.68	12.10
47F1980	304G015DJ2A	300000	DJ	34.50	27.60	24.15	18.63

25 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F1981	452G025AA2A	4500	AA	3.08	2.46	2.15	1.66
47F1982	902G025AB2A	9000	AB	3.73	2.98	2.61	2.01
47F1983	133G025AC2A	13000	AC	4.28	3.42	2.99	2.31
47F1984	203G025AF2A	20000	AF	5.25	4.20	3.68	2.84
47F1985	303G025BC2A	30000	BC	7.55	6.04	5.29	4.08
47F1986	453G025BF2A	45000	BF	9.70	7.76	6.79	5.24
47F1987	503G025CC2A	50000	CC	11.45	9.16	8.02	6.18
47F1988	753G025CF2A	75000	CF	14.95	11.96	10.47	8.07
47F1989	753G025DC2A	75000	DC	16.33	13.06	11.43	8.82
47F1990	114G025DF2A	110000	DF	22.40	17.92	15.68	12.10
47F1991	194G025DJ2A	190000	DJ	34.50	27.60	24.15	18.63

30 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F2030	402G030AA2A	4000	AA	3.08	2.46	2.15	1.66
47F2031	802G030AB2A	8000	AB	3.73	2.98	2.61	2.01
47F2032	123G030AC2A	12000	AC	4.28	3.42	2.99	2.31
47F2033	183G030AF2A	18000	AF	5.25	4.20	3.68	2.84
47F2034	263G030BC2A	26000	BC	7.55	6.04	5.29	4.08
47F2035	393G030BF2A	39000	BF	9.20	7.76	6.79	5.24
47F2036	443G030CC2A	44000	CC	11.45	9.16	8.02	6.18
47F2037	663G030CF2A	66000	CF	14.95	11.96	10.47	8.07
47F2038	663G030DC2A	66000	DC	16.33	13.06	11.43	8.82
47F2039	973G030DF2A	97000	DF	22.40	17.92	15.68	12.10
47F2040	164G030DJ2A	160000	DJ	34.50	27.60	24.15	18.63

40 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F2050	292G040AA2A	2900	AA	3.08	2.46	2.15	1.66
47F2051	582G040AB2A	5800	AB	3.73	2.98	2.61	2.01
47F2052	872G040AC2A	8700	AC	4.28	3.42	2.99	2.31
47F2053	133G040AF2A	13000	AF	5.25	4.20	3.68	2.84
47F2054	203G040BC2A	20000	BC	7.55	6.04	5.29	4.08
47F2055	303G040BF2A	30000	BF	9.70	7.76	6.79	5.24
47F2056	343G040CC2A	34000	CC	11.45	9.16	8.02	6.18
47F2057	513G040CF2A	51000	CF	14.95	11.96	10.47	8.07
47F2058	513G040DC2A	51000	DC	16.33	13.06	11.43	8.82
47F2059	763G040DF2A	76000	DF	22.40	17.92	15.68	12.10
47F2060	124G040DJ2A	120000	DJ	34.50	27.60	24.15	18.63

50 WORKING VOLTS D-C

Stk. No.	Type 36DX-	Mfd.	Size	1-24	25-49	50-99	100-249
47F2061	242G050AA2A	2400	AA	3.08	2.46	2.15	1.66
47F2062	482G050AB2A	4800	AB	3.73	2.98	2.61	2.01
47F2063	722G050AC2A	7200	AC	4.28	3.42	2.99	2.31
47F2064	113G050AF2A	11000	AF	5.25	4.20	3.68	2.84
47F2065	163G050BC2A	16000	BC	7.55	6.04	5.29	4.08
47F2066	243G050BF2A	24000	BF	9.70	7.76	6.79	5.24
47F2067	273G050CC2A	27000	CC	11.45	9.16	8.02	6.18
47F2068	403G050CF2A	40000	CF	14.95	11.96	10.47	8.07
47F2069	413G050DC2A	41000	DC	16.33	13.06	11.43	8.82
47F2070	613G050DF2A	61000	DF	22.40	17.92	15.68	12.10
47F2071	104G050DJ2A	100000	DJ	34.50	27.60	24.15	18.63

8

Electrolytic Capacitors

SPRAGUE
THE MARK OF RELIABILITY

SIZE CHART FOR TYPE 39D

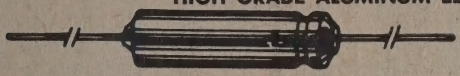
EE .562x1.25	GE .812x1.25	HS .937x3.25
EJ .562x1.75	GJ .812x1.75	JE 1.062x1.25
EL .562x2.25	GL .812x2.75	JL 1.062x2.25
FJ .687x1.75	GP .812x2.75	JP 1.062x2.75
FL .687x2.25	HE .937x1.25	JS 1.062x3.25
FP .687x2.75	HL .937x2.25	JT 1.062x3.75
	HP .937x2.75	

39D POWERLYTIC ALUMINUM ELECTROLYTICS

Welds at all critical anode and cathode terminals. End-seals are improved molded phenolic for unusually long life. Insulated case of flexible plastic. Low effective series resistance and leakage current. Oper. temp: -20°C to 85°C. Tol. -10+75% through 75 WVDC and -10 +50% for 100 WVDC and up.

Stk. No	Type	Mfd.	Size	1-24	25-49	50-99	100-499
3 WVDC							
18F2613	39D138G003EL4	1,300	EL	1.38	.81	.62	.60
18F2614	39D218G003HE4	2,100	HE	1.50	.90	.70	.60
18F2615	39D308G003JE4	3,000	JE	1.61	.94	.72	.64
18F2616	39D578G003GP4	5,700	GP	1.74	1.01	.80	.70
18F2617	39D109G003HS4	10,000	HS	2.10	1.23	.94	.84
18F2618	39D189G003JT4	18,000	JT	2.60	1.50	1.20	1.03
6WVDC							
18F2619	39D607G006EJ4	600	EJ	1.34	.80	.60	.33
18F2620	39D108G006GE4	1,000	GE	1.43	.83	.64	.60
18F2621	39D208G006GJ4	2,000	GJ	1.53	.90	.70	.61
18F2622	39D408G006GP4	4,000	GP	1.74	1.015	.80	.70
18F2623	39D608G006HP4	6,000	HP	1.95	1.14	.90	.80
18F2624	39D109G006JS4	10,000	JS	2.40	1.40	1.06	.94
10 WVDC							
18F2625	39D507G010EJ4	500	EJ	1.34	.78	.60	.53
18F2626	39D108G010FJ4	1,000	FJ	1.43	.84	.64	.60
18F2627	39D168G010FL4	1,600	FL	1.50	.90	.70	.60
18F2628	39D258G010GL4	2,500	GL	1.64	.95	.74	.70
18F2629	39D508G010HP4	5,000	HP	1.95	1.14	.90	.80
18F2630	39D109G010JT4	10,000	JT	2.60	1.50	1.16	1.03
15 WVDC							
18F2631	39D607G015EL4	600	EL	1.38	.80	.62	.60
18F2632	39D128G015FL4	1,200	FL	1.50	.90	.70	.61
18F2633	39D258G015GP4	2,500	GP	1.74	1.01	.80	.70
18F2634	39D408G015JL4	4,000	JL	2.00	1.20	.90	.80
18F2635	39D808G015JT4	8,000	JT	2.60	1.50	1.60	1.03
25 WVDC							
18F2636	39D207G025EJ4	200	EJ	1.34	.78	.60	.53
18F2637	39D507G025HE4	500	HE	1.50	.90	.70	.60
18F2638	39D108G025GL4	1,000	GL	1.64	.95	.74	.70
18F2639	39D228G025HP4	2,200	HP	1.95	1.14	.90	.80
18F2640	39D408G025JS4	4,000	JS	2.40	1.40	1.07	.94
30 WVDC							
18F2641	39D756G030EE4	75	EE	1.30	.80	.60	.51
18F2642	39D157G030EJ4	150	EJ	1.34	.80	.60	.53
30 WVDC (con't)							
18F2643	39D257G030EL4	250	EL	1.40	.80	.62	.60
18F2644	39D507G030FL4	500	FL	1.50	.90	.70	.60
18F2645	39D118G030GP4	1,100	GP	1.70	1.02	.80	.70
18F2646	39D218G030HS4	2,100	HS	2.10	1.23	.95	.84
18F031	39D308G030JS4	3,100	JS	2.40	1.40	1.06	.94
50 WVDC							
18F2647	39D506G050EE4	50	EE	1.30	.75	.60	.51
18F2648	39D107G050EJ4	100	EJ	1.34	.80	.60	.53
18F2649	39D157G050EL4	150	EL	1.40	.80	.62	.55
18F2650	39D257G050HE4	250	HE	1.50	.90	.70	.60
18F2651	39D507G050GL4	500	GL	1.64	.95	.74	.70
18F2652	39D118G050HP4	1,100	HP	1.95	1.14	.90	.80
18F2653	39D238G050JT4	2,300	JT	2.60	1.50	1.16	1.03
150 WVDC							
18F2654	39D256F150EJ4	25	EJ	1.34	.80	.60	.54
18F2655	39D506F150FJ4	50	FJ	1.43	.84	.64	.60
18F2656	39D107F150FP4	100	FP	1.60	.92	.71	.63
18F2657	39D257F150HP4	250	HP	1.95	1.14	.90	.80
18F2658	39D537F150JT4	530	JT	2.60	1.50	1.60	1.03
250 WVDC							
18F2659	39D206F250EL4	20	EL	1.38	.80	.61	.55
18F2660	39D506F250JE4	50	JE	1.61	.93	.72	.64
18F2661	39D107F250HL4	100	HL	1.80	1.05	.80	.72
18F2662	39D207F250JP4	200	JP	2.16	1.26	.97	.86
18F2663	39D307F250JT4	300	JT	2.58	1.50	1.57	1.03
350 WVDC							
18F2664	39D206F350FL4	20	FL	1.50	.87	.67	.60
18F2665	39D306F350FP4	30	FP	1.58	.91	.70	.63
18F2666	39D406F350GL4	40	GL	1.64	.95	.73	.65
18F2667	39D506F350GP4	50	GP	1.74	1.01	.78	.69
18F2668	39D107F350HS4	100	HS	2.10	1.22	.94	.84
18F2669	39D167F350JT4	160	JT	2.58	1.50	1.15	1.03
450 WVDC							
18F2670	39D505F450EL4	5	EL	1.38	.80	.61	.55
18F2671	39D106F450FL4	10	FL	1.50	.87	.67	.60
18F2672	39D206F450GL4	20	GL	1.64	.95	.73	.65
18F2673	39D506F450JP4	50	JP	2.16	1.26	.97	.86
18F2674	39D756F450JT4	75	JT	2.58	1.50	1.15	1.03

HIGH GRADE ALUMINUM ELECTROLYTICS-125° C OPERATING-TEMP



Type 600D—2000 hr. life test at either temp. and corresponding working voltage. Features excellent capacitance stability dissipation factor and DC leakage current after high temp. shelf testing. Closely approximate requirements of MIL-C3965 aluminum foil capacitors. Tolerance is -10 +75% up to 75 WVDC; -10 +50% for 100 WVDC Up. Insulated case of flexable plastic. Average shipping wt. 3 oz.

600D-PRICE AND SIZE LOCATOR CHART

Key Code	Dia. X.L. Inches	1-9	10-24	25-49	50-99	100-499	500-999
A	.296x1.000	2.62	1.96	1.31	1.14	.82	.76
B	.390x1.000	2.62	1.96	1.31	1.14	.82	.76
C	.390x1.187	2.98	2.23	1.49	1.30	.94	.86
D	.390x1.437	3.46	2.59	1.73	1.51	1.08	1.00
E	.390x1.687	3.98	2.98	1.99	1.74	1.25	1.15
F	.390x2.249	5.06	3.79	2.53	2.21	1.58	1.46
G	.390x2.749	6.06	4.54	3.03	2.65	1.90	1.75

Stock No.	Mfr's Type 600D-	µF	WVDC@ 85° C	WVDC@ 125° C	Key
18F2834	127G007KD4	120	7	5	A
18F2835	227Goo7DD4	220	7	5	B
18F2836	277G007DE4	270	7	5	C
18F2837	397G007DG4	390	7	5	D
18F2769	567G007DJ4	560	7	5	E
18F2838	827G007DL4	820	7	5	F
18F2839	108G007DX4	1000	7	5	G
18F2840	107G010KD4	100	10	7	A
18F2841	187G010DD4	180	10	7	B
18F2842	227G010DE4	220	10	7	C
18F2843	337G010DG4	330	10	7	D
18F2844	477G010DJ4	470	10	7	E
18F2845	687G010DL4	680	10	7	F
18F2846	827G010DX4	820	10	7	G
18F2847	686G015KD4	68	15	10	A
18F2848	826G015KD4	82	15	10	A
18F2849	157G015DD4	150	15	10	B
18F2850	187G015DE4	180	15	10	C
18F2851	277G015DG4	270	15	10	D
18F2775	397G015DJ4	390	15	10	E
18F2852	567G015DL4	560	15	10	F
18F2853	687G015DX4	680	15	10	G
18F2854	686G020KD4	68	20	15	A
18F2778	107G020DD4	100	20	15	B
18F2779	147G020DE4	140	20	15	C
18F2780	227G020DG4	220	20	15	D
18F2781	297G020DJ4	290	20	15	E
18F2782	447G020DL4	440	20	15	F
18F2855	607G020DX4	600	20	15	G
18F2856	336G030KD4	33	30	20	A
18F2857	476G030KD4	47	30	20	A
18F2858	826G030DD4	82	30	20	B
18F2859	107G030DE4	100	30	20	C
18F2860	127G030DG4	120	30	20	D
18F2861	157G030DG4	150	30	20	D
18F2862	227G030DJ4	220	30	20	E
18F2863	337G030DL4	330	30	20	F
18F2864	397G030DX4	390	30	20	G
18F2865	306G040KD4	30	40	30	A
18F2790	506G040DD4	50	40	30	B
18F2791	706G040DE4	70	40	30	C
18F2792	107G040DG4	100	40	30	D
18F2793	147G040DJ4	140	40	30	E
18F2794	217G040DL4	210	40	30	F
18F2866	287C040DX4	280	40	30	G
18F2867	226G050KD4	22	50	40	A
18F2868	336G050DD4	33	50	40	B
18F2869	476G050DE4	47	50	40	C
18F2870	566G050DG4	56	50	40	D
18F2871	686G050DG4	68	50	40	D
18F2799	107G050DJ4	100	50	40	E
18F2800	157G050DL4	150	50	40	F
18F2872	187G050DX4	180	50	40	G
18F2873	176G060KD4	17	60	50	A
18F2802	256G060DD4	25	60	50	B
18F2803	406G060DE4	40	60	50	C
18F2804	606G060EG4	60	60	50	D
18F2805	806G060DJ4	80	60	50	E
18F2806	127G060DL4	120	60	50	F
18F2874	167G060DX4	160	60	50	G
18F2875	126F075KD4	12	75	60	A
18F2876	226F075DD4	22	75	60	B
18F2877	336F075DE4	33	75	60	C
18F2878	476F075DG4	47	75	60	D
18F2879	686F075DJ4	68	75	60	E
18F2880	107F075DL4	100	75	60	F
18F2881	127F075DX4	120	75	60	G
18F2882	825F100KD4	8.2	100	75	A
18F2883	126F100DD4	12	100	75	B
18F2884	156F100DE4	15	100	75	C
18F2885	226F100DG4	22	100	75	D
18F2886	336F100DJ4	33	100	75	E
18F2887	476F100DL4	47	100	75	F
18F2888	686F100DX4	68	100	75	G
18F2889	475F150KD4	4.7	150	100	A
18F2890	565F150KD4	5.6	150	100	A
18F2891	825F150DD4	8.2	150	100	B
18F2821	126F150DE4	12	150	100	C
18F2822	186F150DG4	18	150	100	D
18F2892	226F150DJ4	22	150	100	E
18F2893	336F150DL4	33	150	100	F
18F2894	566F150DX4	56	150	100	G
18F2895	405F200KD4	4	200	150	A
18F2826	605F200DD4	6	200	150	B
18F2827	805F200DE4	8	200	150	C
18F2828	136F200DG4	13	200	150	D
18F2829	176F200DJ4	17	200	150	E
18F2830	266F200DL4	26	200	150	F
18F2896	396F200DX4	39	200	150	G
18F2897	335F250KD4	3.3	250	200	A
18F2898	565F250DD4	5.6	250	200	B
18F2899	685F250DE4	6.8	250	200	C
18F2900	106F250DG4	10	250	200	D
18F2901	126F250DJ4	12	250	200	E
18F2902	226F250DL4	22	250	200	F
18F2903	276F250DX4	27	250	200	G

Miniature Capacitors

TYPE TE LITTL-LYTICS

Ultra-small electrolytic capacitors made for transistor circuitry and other sub-min. applications. Temp. Range:—20°C to +85°C. Ultra-low leakage current. Clear Plastic Sleeves. Life Test to 1000 hrs.

Tolerance:—10 +75% except (*) —10 +50%

CASE SIZES

Key	Size	Key	Size	Key	Size
BA	.260x.536	CC	.322x.848	DD	.385x.873
BB	.260x.723	DB	.358x.723	DF	.385x1.286
CB	.322x.723	DC	.385x.848	DG	.385x1.536

Stock No.	Type	Mfd.	WV DC	DxL	1-24	25-49	50-99	100-249	250-499
18F532	TE1050	1	3	BA					
18F533	TE1052	3	3	BA					
18F534	TE1052.1	4	3	BA					
18F535	TE1052.2	5	3	BA					
18F536	TE1052.3	6	3	BA					
18F537	TE1052.5	8	3	BA					
18F2929	TE1053	10	3	BA					
18F538	TE1053.5	15	3	BA					
18F539	TE1054	20	3	BA	.57	.39	.31	.233	.194
18F501	TE1055	25	3	BA					
18F000	TE1055.5	30	3	BA					
18F542	TE1058	50	3	BB					
18F001	TE1058.5	65	3	BB					
18F544	TE1059.5	100	3	CB	.63	.44	.35	.26	.22
18F2930	TE1060.1	130	3	CB	.63	.44	.35	.26	.22
18F545	TE1061	150	3	CC	.81	.55	.44	.33	.28
18F546	TE1065	250	3	DC	.84	.58	.46	.35	.29
18F2928	TE1064	200	3	CC	.81	.55	.44	.33	.28
17F1900	TE1066	300	3	DC	.84	.58	.46	.35	.29
17F1901	TE1067	400	3	DD	.87	.60	.48	.36	.30
18F548	TE1068	500	3	DF	.90	.63	.50	.38	.31
18F002	TE1069	590	3	DF	.90	.63	.50	.38	.31
17F1902	TE1070.1	800	3	DG	.96	.65	.52	.39	.33
18F503	TE1080	1	6	BA	.57	.39	.31	.23	.19
18F504	TE1081	2	6	BA	.57	.39	.31	.23	.19
18F505	TE1082	3	6	BA					
18F506	TE1083	4	6	BA					
18F507	TE1084	5	6	BA					
18F549	TE1085	6	6	BA					
18F508	TE1086	8	6	BA	.57	.39	.31	.23	.19
18F509	TE1087	10	6	BA					
18F510	TE1089	15	6	BA					
18F807	TE1090	20	6	BA					
18F511	TE1091	25	6	BB					
18F808	TE1093	35	6	BB					
18F004	TE1101.7	90	6	CB	.63	.44	.35	.26	.22
18F2933	TE1102	100	6	CC	.81	.55	.44	.33	.28
18F005	TE1102.5	140	6	CC	.81	.55	.44	.33	.28
18F810	TE1103	150	6	DC	.84	.58	.46	.35	.29
18F811	TE1104	200	6	DC	.84	.58	.46	.35	.29
18F812	TE1105	250	6	DD	.87	.60	.48	.36	.30
18F006	TE1105.5	280	6	DD	.87	.60	.48	.36	.30
18F813	TE1106	300	6	DF	.87	.60	.48	.36	.30
18F007	TE1107	400	6	DF	.90	.63	.50	.38	.31
17F1904	TE1107.5	500	6	DG	.96	.65	.52	.39	.33
17F1903	TE1108.5	600	6	DG	.96	.65	.52	.39	.33
18F817	TE1120	1	12	BA					
18F818	TE1121	2	12	BA					
18F819	TE1122	3	12	BA					
18F820	TE1123	4	12	BA					
18F821	TE1127.1	6	12	BA					
18F822	TE1127.3	8	12	BA	.57	.39	.31	.23	.19
18F2934	TE1128	10	12	BA					
18F823	TE1129	15	12	BB					
18F824	TE1130	20	12	BA					
18F825	TE1131	25	12	BB					
18F2935	TE1132.1	30	12	BB					
18F827	TE1133	50	12	CB	.63	.44	.35	.26	.22
18F009	TE1133.5	60	12	CB	.63	.44	.35	.26	.22
18F828	TE1134	75	12	CC	.81	.55	.44	.33	.28
18F010	TE1134.5	90	12	DB	.81	.56	.45	.34	.28
18F829	TE1135	100	12	CC	.84	.58	.46	.35	.29

Stock No.	Type	Mfd.	WV DC	DxL	1-24	25-49	50-99	100-249	250-499
18F011	TE1135.5	140	12	DC	.84	.58	.46	.35	.29
18F830	TE1136	150	12	DD	.87	.60	.48	.36	.30
18F012	TE1136.5	190	12	DD	.87	.60	.48	.36	.30
18F831	TE1137	200	12	DF	.90	.63	.50	.38	.31
18F832	TE1138	250	12	DH	.90	.63	.50	.38	.31
18F013	TE1139	290	12	DF	.90	.63	.50	.38	.31
18F014	TE1140	390	12	DG	.96	.65	.52	.39	.33
18F833	TE1148	1	15	BA	.57	.39	.31	.23	.19
18F834	TE1149	2	15	BA	.57	.39	.31	.23	.19
18F835	TE1150	3	15	BA	.57	.39	.31	.23	.19
18F520	TE1151	4	15	BA	.57	.39	.31	.23	.19
18F836	TE1152	5	15	BA	.57	.39	.31	.23	.19
18F837	TE1153	6	15	BA	.57	.39	.31	.23	.19
18F838	TE1154	8	15	BA	.57	.39	.31	.23	.19
18F521	TE1155	10	15	BA	.57	.39	.31	.23	.19
18F839	TE1156	15	15	BB	.57	.39	.31	.23	.19
18F522	TE1157	20	15	BB	.57	.39	.31	.23	.19
18F840	TE1157.1	25	15	BB	.57	.39	.31	.23	.19
18F523	TE1158	30	15	CB	.63	.44	.35	.26	.22
18F841	TE1159	35	15	CB	.63	.44	.35	.26	.22
18F842	TE1160	50	15	CB	.63	.44	.35	.26	.22
18F843	TE1161	75	15	CC	.81	.55	.44	.33	.28
18F015	TE1161.5	85	15	DB	.81	.56	.45	.34	.28
18F016	TE1161.7	90	15	CC	.84	.58	.46	.35	.29
18F844	TE1162	100	15	DC	.84	.58	.46	.35	.29
18F017	TE1162.5	130	15	DC	.84	.58	.46	.35	.29
18F845	TE1163	150	15	DD	.87	.60	.48	.36	.30
17F1905	TE1163.7	180	15	DD	.87	.60	.48	.36	.30
18F846	TE1164	200	15	DF	.90	.63	.50	.38	.31
17F1906	TE1164.5	250	15	DF	.90	.63	.50	.38	.31
18F020	TE1166	350	15	DG	.96	.65	.52	.39	.33
18F847	TE1200	1	25	BA	.57	.39	.31	.23	.19
18F848	TE1201	2	25	BA	.57	.39	.31	.23	.19
18F849	TE1201.1	3	25	BA	.57	.39	.31	.23	.19
18F850	TE1201.2	4	25	BA	.57	.39	.31	.23	.19
18F524	TE1202	5	25	BA	.57	.39	.31	.23	.19
18F525	TE1203	6	25	BA	.57	.39	.31	.23	.19
18F851	TE1203.5	8	25	BA	.57	.39	.31	.23	.19
18F526	TE1204	10	25	BB	.57	.39	.31	.23	.19
18F527	TE1205	15	25	BB	.57	.39	.31	.23	.19
17F1907	TE1206	20	20	CB	.63	.44	.35	.263	.219
18F852	TE1207	25	25	CB	.63	.44	.35	.26	.22
18F021	TE1207.5	30	25	CB	.63	.44	.35	.26	.22
18F853	TE1208	35	25	CB	.63	.44	.35	.26	.22
18F854	TE1209	50	25	CC	.81	.55	.44	.33	.28
18F855	TE1210	75	25	DC	.84	.58	.46	.35	.29
18F856	TE1211	100	25	DD	.87	.60	.48	.36	.30
18F022	TE1212	150	25	DF	.90	.63	.50	.38	.31
18F023	TE1213	200	25	DG	.96	.65	.52	.39	.33
18F857	TE1300	1	50	BA	.57	.39	.31	.23	.19
18F858	TE1301	2	50	BA	.57	.39	.31	.23	.19
18F859	TE1302	3	50	BA	.57	.39	.31	.23	.19
18F860	TE1302.1	4	50	BA	.57	.39	.31	.23	.19
18F529	TE1303	5	50	BB	.57	.39	.31	.23	.19
18F861	TE1303.1	6	50	BB	.57	.39	.31	.23	.19
18F862	TE1303.3	8	50	BB	.57	.39	.31	.23	.19
18F530	TE1304	10	50	CB	.63	.44	.35	.26	.22
18F863	TE1304.2	15	50	CB	.63	.44	.35	.26	.22
18F531	TE1305	20	50	CC	.81	.55	.44	.33	.28
18F024	TE1305.5	25	50	CC	.81	.55	.44	.33	.28
18F864	TE1306	35	50	DC	.84	.58	.46	.35	.29
18F865	TE1307	50	50	DD	.87	.60	.48	.36	.30
18F025	TE1308	75	50	DF	.90	.63	.50	.38	.31
18F026	TE1309	100	50	DG	.96	.65	.52	.39	.33
18F866	TE1400	1	100	BA	.63	.43	.34	.26	.21
18F867	TE1401	2	100	BB	.63	.44	.35	.26	.22
18F868	TE1402	3	100	CB	.72	.49	.39	.29	.24
18F869	TE1403	4	100	CB	.72	.49	.39	.29	.24
18F870	TE1404	5	100	CC	.81	.55	.44	.33	.28
18F871	TE1405	6	100	CC	.81	.55	.44	.33	.28
18F872	TE1406	8	100	DC	.84	.58	.46	.35	.29
18F873	TE1407	10	100	DC	.84	.58	.46	.35	.29
18F874	TE1408	15	100	DD	.87	.60	.48	.36	.31
18F875	TE1409	20	100	DF	.90	.63	.50	.38	.33
18F027	TE1410*	25	100	DG	.96	.65	.52	.39	.31
18F028	TE1411*	30	100	DG	.96	.65	.52	.39	.33
18F876	TE1500	1	150	BA	.63	.43	.34	.26	.21
18F877	TE1501	2	150	BB	.63	.44	.35	.26	.22
18F878	TE1502	3	150	CB	.72	.49	.39	.29	.24
18F879	TE1503	4	150	CC	.81	.55	.44	.33	.28
18F880	TE1504	5	150	CC	.81	.55	.44	.33	.28
18F881	TE1505	6	150	DC	.84	.58	.46	.35	.29
18F029	TE1505.5*	7	150	DC	.84	.58	.46	.35	.29
18F882	TE1506	8	150	DC	.84	.58	.46	.35	.29
18F883	TE1507	10	150	DD	.87	.60	.48	.36	.30
18F2936	TE1508.1*	15	150	DF	.90	.63	.50	.38	.31
18F030	TE1509*	20	150	DG	.96	.65	.52	.39	.33

Electrolytic Capacitors

SPRAGUE
THE MARK OF RELIABILITY

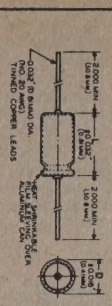
WH11D—ECONOMY MINIATURE METAL ENCASED ALUMINUM ELECTROLYTIC CAPACITORS

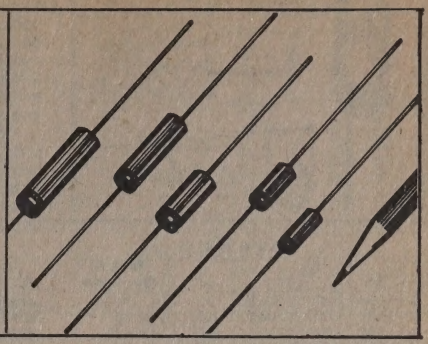
- **All Welded Construction**
- **Temp. Range: −20 to +85°C**
- **Low Leakage Current**
- **High Capacitance Voltage**
- **Miniature Tubular Metal Case**
- **Excellent Circuit Performance**

Low cost. All welded construction eliminates possibility of open or intermittent contacts occasionally encountered in pressure joints of conventional capacitors. Oper. temp: −20 to +85°C. Low leakage current means minimum drain and longer battery life when used in bypass applications and excellent circuit performance when used as coupling capacitors. Tolerance: up to 99 WVDC −10 +75%, 100 to 150 WVDC −10 +50%.

SIZE TABLE

Size Code	Size D. x L.
A	.260 x .723
C	.385 x .723
E	.385 x .973
F	.385 x 1.286
G	.385 x 1.536
K	.465 x 1.286
M	.465 x 1.536
P	.510 x 1.286
R	.510 x 1.536
S	.510 x 1.786
X	.322 x .723
Y	.260 x .536





3 WVDC

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1734	WH11D107G003X	100	X	.20	.20	.144	.128
47F1736	WH11D157G003C	150	C	.24	.20	.180	.160
47F1737	WH11D207G003C	200	C	.24	.20	.180	.160
47F1740	WH11D507G003F	500	F	.31	.30	.230	.204
47F1722	WH11D258G003S	2500	S	.70	.55	.493	.438

6 WVDC

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1723	WH11D206G006Y	20	Y	.20	.14	.126	.112
47F1724	WH11D506G006A	50	A	.20	.15	.133	.118
47F1725	WH11D756G006X	75	X	.20	.20	.144	.128
47F1727	WH11D257G006E	250	E	.30	.23	.205	.182
47F1728	WH11D307G006E	300	E	.30	.23	.205	.182
47F1731	WH11D507G006G	500	G	.33	.30	.250	.222
47F1708	WH11D607G006G	600	G	.41	.34	.306	.272
47F1714	WH11D208G006S	2000	S	.66	.55	.493	.438

12 WVDC

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1715	WH11D156G012Y	15	Y	.20	.14	.126	.112
47F1718	WH11D107G012C	100	C	.24	.20	.180	.160
47F1719	WH11D207G012E	200	E	.30	.23	.205	.182
47F1698	WH11D507G012K	500	K	.41	.34	.306	.272
47F1702	WH11D128G012S	1200	S	.70	.54	.493	.438

16 WVDC

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1703	WH11D106G016Y	10	Y	.20	.14	.126	.112
47F1704	WH11D206G016A	20	A	.20	.15	.133	.118
47F1705	WH11D256G016A	25	A	.20	.15	.133	.118
47F1706	WH11D506G016X	50	X	.20	.20	.144	.128
47F1684	WH11D756G016C	75	C	.24	.20	.180	.160
47F1686	WH11D157G016E	150	E	.30	.23	.205	.182
47F1687	WH11D207G016F	200	F	.31	.30	.230	.204
47F1688	WH11D257G016F	250	F	.31	.30	.230	.204
47F1689	WH11D307G016G	300	G	.33	.30	.250	.222
47F1690	WH11D357G016G	350	G	.33	.30	.250	.222
47F1691	WH11D407G016K	400	K	.41	.34	.306	.272
47F1693	WH11D507G016M	500	M	.50	.40	.353	.314
47F1694	WH11D607G016M	600	M	.50	.40	.353	.314
47F1673	WH11D108G016S	1000	S	.70	.55	.493	.438

25 WVDC

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1674	WH11D105G025Y	1	Y	.20	.14	.126	.112
47F1675	WH11D205G025Y	2	Y	.20	.14	.126	.112
47F1676	WH11D305G025Y	3	Y	.20	.14	.126	.112
47F1678	WH11D505G025Y	5	Y	.20	.14	.126	.112
47F1679	WH11D605G025Y	6	Y	.20	.14	.126	.112
47F1680	WH11D805G025Y	8	Y	.20	.14	.126	.112
47F1681	WH11D106G025A	10	A	.20	.15	.133	.118
47F1682	WH11D156G025A	15	A	.20	.15	.133	.118
47F1683	WH11D206G025X	20	X	.20	.16	.144	.128
47F1660	WH11D256G025X	25	X	.20	.16	.144	.128
47F1661	WH11D356G025X	35	X	.20	.16	.144	.128

25 WVDC (Con't)

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1662	WH11D506G025C	50	C	.24	.20	.180	.160
47F1664	WH11D756G025E	75	E	.30	.23	.205	.182
47F1665	WH11D107G025E	100	E	.30	.23	.205	.182
47F1667	WH11D157G025F	150	F	.31	.30	.230	.204
47F1668	WH11D207G025G	200	G	.33	.30	.250	.222
47F1669	WH11D257G025K	250	K	.41	.34	.306	.272
47F1648	WH11D407G025P	400	P	.54	.50	.407	.362
47F1650	WH11D507G025R	500	R	.24	.20	.180	.160
47F1651	WH11D607G025S	600	S	.70	.55	.493	.438

50 WVDC

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1652	WH11D105G050Y	1	Y	.20	.14	.126	.112
47F1653	WH11D205G050Y	2	Y	.20	.14	.126	.112
47F1654	WH11D305G050Y	3	Y	.20	.14	.126	.112
47F1655	WH11D405G050Y	4	Y	.20	.14	.126	.112
47F1656	WH11D505G050A	5	A	.20	.15	.133	.118
47F1657	WH11D605G050A	6	A	.20	.15	.133	.118
47F1658	WH11D805G050A	8	A	.20	.15	.133	.118
47F1659	WH11D106G050X	10	X	.20	.20	.144	.128
47F1636	WH11D156G050X	15	X	.20	.20	.144	.128
47F1638	WH11D256G050C	25	C	.24	.20	.180	.160
47F1639	WH11D356G050E	35	E	.30	.23	.205	.182
47F1640	WH11D506G050E	50	E	.30	.23	.205	.182
47F1642	WH11D756G050F	75	F	.31	.30	.230	.204
47F1643	WH11D107G050G	100	G	.33	.30	.250	.222
47F1645	WH11D157G050M	150	M	.50	.40	.353	.314
47F1646	WH11D207G050P	200	P	.54	.45	.407	.362
47F1647	WH11D257G050P	250	P	.54	.50	.407	.362

100 WVDC

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1627	WH11D105F100Y	1	Y	.20	.14	.126	.112
47F1628	WH11D205F100A	2	A	.20	.15	.133	.118
47F1630	WH11D405F100X	4	X	.20	.16	.144	.128
47F1631	WH11D505F100C	5	C	.24	.20	.180	.160
47F1633	WH11D805F100E	8	E	.30	.23	.205	.182
47F1634	WH11D106F100E	10	E	.30	.23	.205	.182
47F1635	WH11D156F100E	15	E	.30	.23	.205	.182
47F1612	WH11D206F100F	20	F	.31	.30	.230	.204
47F1613	WH11D256100G	25	G	.33	.30	.250	.222
47F1615	WH11D506F100R	50	R	.24	.20	.180	.160

150 WVDC

Stk. No.	Type	Mfd.	Size	1-299	300-499	500-999	1000 Up
47F1618	WH11D105F150Y	1	Y	.20	.14	.126	.112
47F1619	WH11D205F150X	2	X	.20	.20	.144	.128
47F1620	WH11D305F150C	3	C	.24	.20	.180	.160
47F1621	WH11D405F150C	4	C	.24	.20	.180	.160
47F1622	WH11D505F150C	5	C	.24	.20	.180	.160
47F1601	WH11D106F150F	10	F	.31	.30	.230	.204
47F1602	WH11D156F150F	15	F	.31	.30	.230	.204
47F1603	WH11D206F150G	20	G	.33	.30	.250	.222
47F1604	WH11D256F150M	25	M	.50	.40	.353	.314
47F1606	WH11D506F150S	50	S	.70	.55	.493	.438

8

MAKE NEWARK ELECTRONICS YOUR ONE STOP SOURCE FOR INDUSTRIAL ELECTRONICS EQUIPMENT

- **Phone, Write or Wire for Price Quotations on Larger Quantities**
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- **Complete Stocks of All Industrial and Military Types**
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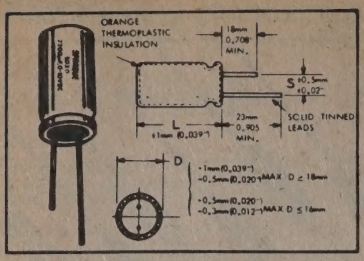
SPRAGUE
THE MARK OF RELIABILITY

Sprague Miniature Electrolytic Capacitors



VERTI-LYTIC MINIATURE ELECTROLYTICS

Model 503D. Single ended aluminum capacitors for vertical installation on high-density printed wiring boards. Designed for use in coupling, decoupling, bypass and filtering circuits in radio receivers, automobile receivers, portable tape recorders and similar applications. Oper. temp. range ——20°C to +85°C. Displays excellent stability of capacitance (+20%, −15% maximum change), equivalent series resistance, and low leakage current. Welds at all critical anode and cathode terminations.

Size And Price Chart

Code	Size in Inches D	L	S	1-299	300-499	500-999	1000-up
HS	.197	0.433	.079	.12	.10	.088	.078
AS	.236	0.433	.098	.12	.10	.092	.082
BB	.315	0.492	.138	.14	.12	.108	.096
CB	.394	0.492	.197	.18	.15	.135	.120
CD	.394	0.630	.197	.20	.17	.151	.134
CG	.394	0.787	.197	.23	.19	.173	.154
DG	.512	0.787	.197	.31	.26	.230	.204
DK	.512	0.984	.197	.38	.31	.281	.250
EK	.630	0.984	.295	.47	.39	.349	.310
ER	.630	1.240	.295	.53	.44	.396	.352
EU	.630	1.437	.295	.60	.50	.450	.400
ET	.630	1.614	.295	.72	.60	.540	.480

6.3 WVDC

Stk. No.	Type	µF	Price & Size Code
47F1900	503D476G6R3	47	AS
47F1901	503D107G6R3	100	BB
47F1902	503D477G6R3	470	CG
47F1903	503D687G6R3	680	DG
47F1904	503D108G6R3	1000	DK

10 WVDC

Stk. No.	Type	µF	Price & Size Code
47F1905	503D336G010	33	AS
47F1906	503D686G010	68	BB
47F1907	503D107G010	100	CB
47F1908	503D227G010	220	CD
47F1909	503D337G010	330	CG
47F1910	503D477G010	470	DG
47F1911	503D687G010	680	DK
47F1912	503D108G010	1000	EK

16 WVDC

Stk. No.	Type	µF	Price & Size Code
47F1913	503D685G016	6.8	HS
47F1914	503D106G016	10	HS
47F1915	503D226G016	22	AS
47F1916	503D476G016	47	BB
47F1917	503D686G016	68	CB
47F1918	503D107G016	100	CD
47F1919	503D227G016	220	CG
47F1920	503D337G016	330	DG
47F1921	503D477G016	470	DK
47F1922	503D687G016	680	EK
47F1923	503D108G016	1000	ER

25 WVDC

Stk. No.	Type	µF	Price & Size Code
47F1924	503D474G025	.47	HS
47F1925	503D684G025	.68	HS
47F1926	503D105G025	1.0	HS
47F1927	503D225G025	2.2	HS
47F1928	503D335G025	3.3	HS
47F1929	503D475G025	4.7	HS
47F1930	503D685G025	6.8	AS
47F1931	503D106G025	10	AS
47F1932	503D226G025	22	BB
47F1933	503D336G025	33	BB
47F1934	503D476G025	47	CB
47F1935	503D686G025	68	CD
47F1936	503D107G025	100	CG
47F1937	503D227G025	220	DG
47F1938	503D337G025	330	DK
47F1939	503D477G025	470	EK
47F1940	503D687G025	680	ER
47F1941	503D108G025	1000	EU

35 WVDC

Stk. No.	Type	µF	Price & Size Code
47F1942	503D685G035	6.8	AS
47F1943	503D336G035	33	CB
47F1944	503D476G035	47	CD
47F1945	503D227G035	220	DK
47F1946	503D337G035	330	EK
47F1947	503D477G035	470	ER
47F1948	503D687G035	680	EU

50 WVDC

Stk. No.	Type	µF	Price & Size Code
47F1949	503D225G050	2.2	HS
47F1950	503D475G050	4.7	AS
47F1951	503D336G050	33	CD
47F1952	503D686G050	68	CG
47F1953	503D107G050	100	DG
47F1954	503D227G050	220	EK
47F1955	503D337G050	330	ER
47F1956	503D477G050	470	ET

63 WVDC

Stk. No.	Type	µF	Price & Size Code
47F1957	503D474G063	.47	HS
47F1958	503D684G063	.68	HS
47F1959	503D105G063	1.0	HS
47F1960	503D225G063	2.2	AS
47F1961	503D335G063	3.3	AS
47F1962	503D475G063	4.7	BB
47F1963	503D685G063	6.8	BB
47F1964	503D106G063	10	BB
47F1965	503D226G063	22	CB
47F1966	503D336G063	33	CG
47F1967	503D478G063	47	CG
47F1968	503D686G063	68	DG
47F1969	503D107G063	100	DK

TYPE 500D MINIATURE METAL-CASE ALUMINUM ELECTROLYTICS

Ultra-small 500D series electrolytic capacitors. All welded construction, no pressure joints to cause open or intermittent circuits. Effective in temperatures up to 85°C (185°F) without derating. Leakage current extremely low. Capacitance tolerance is −10 +75% through 50V and −10 +50% for 100V and up. Lead length is 1.5". Case has a film insulation. Average shipping weight is 2 ounces.

SIZE CHART

Size	DxL	Size	DxL	Size	DxL
BA7	.260x.536	DC7	.385x.848	DF7	.385x1.286
CB7	.322x.723	DD7	.385x.973	BB7	.260x.723
CC7	.322x.848	DH7	.385x1.536	DB7	.385x.723

PRICE CHART

Key	1-24	25-49	50-99	100-249	250-499	500-999
A	.45	.30	.24	.18	.150	.132
B	.72	.50	.40	.30	.248	.218
C	.48	.33	.26	.20	.165	.146
D	.57	.39	.31	.23	.195	.172
E	.63	.43	.34	.25	.210	.185
F	.51	.35	.28	.21	.173	.152
G	.60	.41	.32	.24	.203	.179
H	.66	.45	.36	.27	.225	.198
J	.69	.47	.37	.28	.233	.205
K	.78	.53	.42	.32	.263	.231
L	.75	.51	.41	.31	.255	.225
M	.54	.38	.30	.23	.188	.165
N	.48	.34	.25	.19	.158	.139
P	.54	.36	.29	.22	.180	.159
R	.63	.44	.35	.26	.218	.192
S	.60	.41	.33	.25	.206	.182
T	.72	.48	.38	.29	.240	.212

3 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F307	106G003 BA7	A	10
47F308	256G003 BA7	C	25
47F309	506G003 BB7	C	50
47F310	756G003 CB7	F	75
47F311	107G003 CB7	M	100
47F312	157G003 CC7	D	150
47F313	207G003 CC7	M	200
47F314	507G003 DF7	J	500

6 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F315	156G006 BA7	C	15
47F316	256G006 BB7	F	25
47F317	506G006 BB7	F	50
47F318	756G006 CB7	M	75
47F319	107G006 CC7	D	100
47F320	157G006 DC7	G	150
47F321	207G006 DC7	D	200
47F322	307G006 DD7	J	300
47F323	507G006 DH7	B	500

16 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F324	505G016 BA7	A	5
47F325	106G016 BA7	N	10
47F326	206G016 BB7	C	20
47F287	256G016 BB7	P	25
47F288	306G016 CB7	F	30
47F289	356G016 CB7	M	35

16 WVDC (Cont.)

Stk. No.	Type 500D	Price Key	Mfd.
47F290	506G016 CB7	P	50
47F291	107G016 DC7	D	100
47F292	157G016 DD7	G	150
47F293	207G016 DF7	H	200
47F294	307G016 DH7	B	300
47F295	357G016 DH7	K	350

25 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F296	205G025 BA7	A	2
47F297	405G025 BA7	C	4
47F298	505G025 BA7	C	5
47F299	605G025 BA7	N	6
47F300	805G025 BA7	F	8
47F301	106G025 BB7	C	10
47F302	156G025 BB7	F	15
47F303	256G025 CB7	P	25
47F304	306G025 CB7	D	30
47F305	356G025 CB7	D	35
47F306	506G025 CC7	G	50
47F327	756G025 DC7	R	75
47F328	107G025 DD7	E	100
47F329	157G025 DF7	H	150
47F330	207G025 DH7	B	200

50 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F331	105G050 BA7	A	1
47F332	205G050 BA7	C	2
47F333	305G050 BA7	N	3

50 WVDC (Cont.)

Stk. No.	Type 500D	Price Key	Mfd.
47F334	405G050 BA7	F	4
47F335	505G050 BB7	F	5
47F336	805G050 BB7	F	8
47F337	106G050 CB7	M	10
47F338	156G050 CB7	P	15
47F339	206G050 CC7	M	20
47F340	256G050 CC7	G	25
47F341	356G050 DC7	D	35
47F342	506G050 DD7	E	50
47F343	756G050 DF7	H	75
47F344	107G050 DH7	B	100

100 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F345	405F100 CB7	R	4
47F346	605F100 CC7	J	6
47F275	106F100 DC7	B	10
47F276	206F100 DF7	K	20
47F278	256F100 DH7	K	25

150 WVDC

Stk. No.	Type 500D	Price Key	Mfd.
47F278	105F150 BA7	P	1
47F279	205F150 BB7	M	2
47F280	305F150 CB7	D	3
47F281	405F150 CC7	S	4
47F282	505F150 CC7	R	5
48F283	805F150 DC7	J	8
47F284	106F150 DD7	T	10
47F285	156F150 DF7	B	15
47F286	206F150 DH7	L	20

8

TVA Atom Electrolytics

SPRAGUE
THE MARK OF RELIABILITY

- Withstand High Temperature,
- High Ripple Current and
- High Surge Voltage

The only small size electrolytic especially designed for 85°C (185°F) operation on voltages to 450 working volts D.C. Unit is engineered to withstand extra high temperature, high ripple current, plus high surge voltages. Metal case construction with outer insulating tube. Wt., 3 oz.

SINGLE UNITS 6 WVDC

Stock No.	TVA No.	Mfd.	D. x L.	1-24	25-49	50-99	100-249	250-Up
18F955	1100	50	3/8" x 1 3/16"	.57	.45	.362	.272	.226
18F957	1102	250	9/16" x 1 5/16"	.81	.64	.564	.423	.353
18F958	1103	500	5/8" x 1 9/16"	.93	.73	.644	.483	.403
18F959	1104	1000	3/4" x 1 13/16"	1.14	.90	.791	.593	.494
18F960	1104	1500	13/16" x 2 11/16"	1.26	.99	.631	.650	.541
18F151	1106	2000	13/16" x 2 15/16"	1.38	1.09	.958	.719	.599

12 WVDC

18F961	1130	100	9/16" x 1 5/16"	.72	.57	.45	.341	.284
18F962	1131	250	5/8" x 1 9/16"	.87	.69	.60	.452	.376
18F153	1132	500	3/4" x 1 11/16"	1.02	.80	.70	.525	.438
18F963	1133	1000	13/16" x 1 13/16"	1.35	1.07	.93	.701	.584

15 WVDC

18F964	1160	100	9/16" x 1 5/16"	.75	.58	.46	.345	.288
18F965	1161	250	5/8" x 1 9/16"	.93	.74	.65	.489	.408
18F966	1162	500	11/16" x 1 13/16"	1.05	.83	.73	.548	.456
18F228	1163	1000	13/16" x 1 13/16"	1.38	1.09	.95	.713	.594
18F2132	1170	2000	1 5/16" x 2 13/16"	1.92	1.43	1.14	.858	.715
18F2904	1175	3000	1 1/16" x 4 1/16"	1.02	.79	.68	.510	.425

25 WVDC

18F967	1201	2	5/16" x 5/8"	.54	.43	.35	.260	.216
18F968	1203	5	5/16" x 5/8"	.60	.46	.37	.275	.229
18F154	1204	10	5/16" x 13/16"	.60	.47	.37	.281	.234
18F2133	1204.5	20	3/8" x 13/16"	.60	.48	.38	.287	.239
18F155	1205	25	3/8" x 13/16"	.60	.46	.39	.293	.244
18F156	1206	50	9/16" x 15/16"	.66	.52	.42	.312	.260
18F157	1207	100	9/16" x 1 11/16"	.81	.64	.51	.381	.318
18F2905	1207.5	150	13/16" x 1 9/16"	.87	.69	.55	.416	.346
18F969	1208	250	11/16" x 1 9/16"	1.02	.80	.70	.524	.436
18F159	1209	500	3/4" x 1 13/16"	1.38	1.09	.95	.713	.594
18F2134	1211	1000	13/16" x 1 11/16	1.98	.60	.48	.362	.301

50 WVDC

18F970	1300	1	5/16" x 5/8"	.54	.43	.35	.260	.216
18F971	1301	2	5/16" x 5/8"	.54	.43	.35	.260	.216
18F972	1303	5	5/16" x 13/16"	.60	.46	.37	.275	.229
18F163	1304	10	3/8" x 13/16"	.60	.47	.37	.281	.234
18F2136	1305	15	3/8" x 13/16"	.60	.48	.38	.285	.238
18F973	1305.5	20	3/8" x 15/16"	.60	.48	.38	.287	.239
18F164	1306	25	3/8" x 15/16"	.63	.49	.39	.293	.244
18F165	1308	50	5/8" x 15/16"	.72	.57	.46	.342	.285
18F166	1310	100	5/8" x 15/16"	.84	.66	.53	.396	.330
18F974	1311	150	3/4" x 19/16"	.93	.73	.58	.437	.364
18F229	1312	250	15/16" x 1 11/16"	1.05	.83	.73	.549	.458
18F975	1315	500	1 x 1 15/16"	1.44	1.13	.98	.738	.615
18F2966	1316	1000	15/16" x 1 29/32"	2.34	1.82	1.56	1.170	.976
18F2967	1318	1500	1 5/16" x 2 5/32"	2.28	1.02	.81	.609	.508

150 WVDC

18F2137	1400	1	5/16" x 5/8"	.57	.45	.36	.270	.225
18F976	1402	4	3/8" x 15/16"	.60	.47	.38	.282	.235
18F977	1403	5	3/8" x 15/16"	.60	.48	.38	.285	.238
18F978	1405	8	7/16" x 17/8"	.63	.49	.39	.296	.246
18F222	1406	10	9/16" x 1 15/16"	.63	.48	.41	.305	.254
18F979	1407	12	9/16" x 1 15/16"	.66	.52	.41	.311	.259
18F980	1409	16	9/16" x 1 15/16"	.69	.54	.43	.326	.271
18F175	1410	20	5/8" x 1 9/16"	.72	.56	.44	.333	.278
18F981	1411	25	3/4" x 1 9/16"	.75	.59	.47	.353	.294
18F167	1412	30	13/16" x 1 5/16"	.78	.61	.49	.366	.305
18F176	1413	40	13/16" x 1 9/16"	.81	.64	.51	.386	.321
18F230	1414	50	13/16" x 1 13/16"	.84	.66	.53	.398	.331
18F223	1415	60	15/16" x 1 9/16"	.90	.70	.56	.420	.350
18F168	1418	80	15/16" x 1 9/16"	.96	.76	.61	.456	.380
18F231	1420	100	15/16" x 2 1/16"	1.05	.83	.66	.495	.413
18F224	1422	150	1 1/16" x 2 1/16"	1.14	.90	.72	.542	.451
18F982	1423	200	1 1/16" x 2 9/16"	1.32	1.03	.82	.615	.513
18F2138	1424	250	1 1/8" x 4 3/8"	2.16	1.67	1.42	1.068	.890
18F983	1425	300	1 1/16" x 3 5/16"	1.68	1.30	1.11	.830	.691

175 WVDC

18F2906	1430	80	1 1/16" x 2 1/16"	.99	.76	.61	.456	.380

200 WVDC

18F984	1447	150	13/8" x 3 3/8"	1.68	1.30	1.12	.84	.70
18F985	1480	200	13/8" c 3 3/8"	1.89	1.47	1.26	9.45	.88

250 WVDC

Stock No.	TVA No.	Mfd.	D. x L.	1-24	24-49	50-99	100-249	250-Up
18F2968	1500	1	5/16" x 23/32"	.60	.47	.41	.306	.254
18F986	1501	4	9/16" x 1 5/16"	.66	.52	.42	.317	.264
18F987	1503	8	9/16" x 1 9/16"	.69	.54	.47	.356	.296
18F232	1504	10	5/8" x 1 9/16"	.72	.57	.49	.369	.308
18F988	1505	12	5/8" x 1 9/16"	.75	.59	.51	.380	.316
18F989	1507	16	13/16" x 1 5/16"	.78	.61	.53	.401	.334
18F233	1508	20	13/16" x 1 5/16"	.81	.64	.57	.425	.354
18F990	1510	30	13/16" x 1 13/16"	.87	.69	.60	.453	.378
18F234	1511	40	13/16" x 2 1/16"	.93	.74	.65	.488	.406
18F991	1512	50	15/16" x 1 13/16"	1.02	.81	.71	.534	.445
18F992	1513	60	1" x 1 13/16"	1.08	.85	.75	.560	.446
18F2139	1522	100	1 1/16" x 2 5/16"	1.47	1.06	.85	.636	.530
18F2907	1528	200	13/8" x 3 1/8"	2.10	1.49	1.19	.896	.746

300 WVDC

18F2969	1575	140	1" x 3 5/32"	2.19	1.70	1.45	1.091	.909
18F2908	1576	150	13/8" x 3 3/8"	1.95	1.50	1.20	.900	.750
18F2142	1578	200	13/8" x 4 5/8"	2.70	1.67	1.33	.999	.833

350 WVDC

18F994	1601	4	11/16" x 1 9/16"	.63	.50	.43	.323	.269
18F995	1603	8	11/16" x 1 5/16"	.72	.56	.49	.366	.305
18F996	1604	10	3/4" x 1 9/16"	.75	.60	.52	.392	.326
18F998	1607	16	13/16" x 1 9/16"	.84	.67	.58	.438	.365
18F999	1608	20	13/16" x 1 13/16"	.87	.69	.60	.450	.375
18F1529	1610	30	13/16" x 2 1/16"	.99	.78	.68	.512	.426
18F1530	1611	40	15/16" x 2 5/16"	1.05	.82	.71	.530	.441
18F1531	1613	60	1 1/16" x 2 1/16"	1.17	.93	.81	.608	.506
18F2144	1620	100	1 1/16" x 2 13/16"	1.86	1.11	.86	.6	.57
18F2909	1622	150	13/8" x 3 3/8"	2.22	1.62	1.29	.97	.81
18F2910	1624	200	13/8" x 4 1/8"	3.12	1.85	1.48	1.11	.92

400 WVDC (Nonpolarized)

18F1532	1650	10	1 1/16 x 2 1/16"	.99	.68	.54	.411	.343
18F2143	1652	20	1 1/16 x 2 5/16"	1.08	.75	.59	.449	.374

450 WVDC

18F1533	1700	1	9/16 x 1 5/16"	.66	.52	.45	.338	.281
18F1534	1701	2	9/16 x 1 5/16"	.66	.53	.46	.344	.286
18F1535	1702	4	11/16 x 1 5/16"	.69	.54	.47	.356	.296
18F2146	1703	5	11/16 x 1 9/16"	.72	.62	.49	.371	.309
18F225	1704	8	3/4 x 1 9/16"	.75	.60	.53	.395	.329
18F169	1705	10	13/16 x 1 9/16"	.78	.61	.53	.396	.330
18F1536	1706	12	13/16 x 1 13/16"	.81	.65	.57	.426	.355
18F187	1708	16	13/16 x 1 13/16"	.84	.66	.58	.450	.375
18F170	1709	20	15/16 x 2 1/16"	.93	.74	.64	.483	.403
18F171	1711	30	15/16 x 2 1/16"	1.02	.81	.71	.533	.444
18F172	1712	40	1 1/16 x 2 1/16"	1.08	.85	.74	.552	.460
18F226	1713	50	1 1/16 x 2 1/16"	1.26	.99	.86	.648	.540
18F227	1714	60	1 1/16 x 2 13/16"	1.41	1.12	.99	.770	.641
18F235	1716	80	1 1/16 x 3 1/16"	1.95	1.51	1.30	.974	.811
18F1537	1718	100	1 1/16 x 4 1/16"	1.92	1.53	1.49	1.121	.934
18F2911	1719	150	1 3/8 x 3 3/8"	2.85	2.24	1.79	1.344	1.120
18F2912	1720	200	1 1/2 x 4 3/8"	3.00	2.33	2.00	1.499	1.249

500 WVDC

18F236	1902	8	15/16" x 1 13/16"	.78	.62	.54	.405	.338
18F238	1906	20	1 1/16" x 2 5/16"	.96	.83	.66	.497	.414
18F2147	1908	40	1 1/16" x 3 1/16"	1.35	.85	.68	.510	.425

600 WVDC

18F240	1962	8	1 1/16" x 3 3/16"	1.83	1.42	1.21	.911	.759
18F241	1963	10	1 1/16" x 3 3/16"	2.19	1.70	1.45	1.245	.909
18F242	1965	16	1 1/16" x 4 3/16"	2.49	1.93	1.66	1.245	1.038
18F243	1966	20	1 1/16" x 4 3/16"	2.58	2.00	1.71	1.283	1.069

DUAL UNITS (COMMON NEGATIVE) 150-150 WVDC

18F173	2428	20-20	13/16" x 1 9/16"	1.05	.81	.70	.524	.436
18F188	2434	30-30	15/16" x 1 9/16"	1.08	.86	.75	.563	.469
18F1546	2438	40-20	15/16" x 1 15/16"	1.14	.88	.74	.558	.465
18F178	2445	40-40	15/16" x 2 1/16"	1.11	.88	.78	.587	.489
18F185	2450	50-30	15/16" x 2 1/16"	1.17	.91	.78	.587	.489
18F1548	2453	50-50	15/16" x 2 1/16"	1.26	.96	.81	.611	.509
18F1549	2460	80-30	15/16" x 2 9/16"	1.32	1.05	.84	.627	.523
18F1550	2461	80-40	15/16" x 2 9/16"	1.32	1.01	.85	.639	.533
18F1551	2462	80-50	15/16" x 2 9/16"	1.41	1.09	.87	.651	.543
18F036	2463	100-50	1 1/16" x 2 13/16"	1.59	1.17	.94	.704	.586

450-450 WVDC

18F179	2720	8-8	15/16" x 1 13/16"	1.17	.91	.78	.587	.489
18F174	2722	10-10	15/16" x 2 1/16"	1.23	.98	.81	.611	.509
18F180	2730	20-20	15/16" x 2 13/16"	1.50	1.18	1.03	.770	.641
18F038	2735	30-30	1 1/16" x 3 5/16"	1.95	1.51	1.29	.969	.808
18F181	2740	40-40	1 1/16" x 4 1/16"	2.25	1.75	1.50	1.124	.936

TRIPLE UNITS 150-150-150 WVDC

18F039	3440	20-20-20	15/16 x 1 13/16"	1.77	1.37	1.17	.878	.731
18F041	3448	40-30-20	15/16 x 2 5/16"	1.86	1.44	1.23	.923	.769
18F042	3450	40-40-20	15/16 x 2 9/16"	1.86	1.45	1.25	.935	.779
18F045	3455	80-40-20	1 1/16 x 3 1/16"	1.98	1.54	1.32	.990	.825
18F046	3456	80-40-40	1 1/16 x 3 1/16"	2.04	1.58	1.35	1.016	.846

QUAD UNITS 450-450-450-450 WVDC

18F047	4748	40-20-20-10	13/8 x 4 3/8"	3.18	2.46	2.11	1.583	1.319
18F048	4750	40-40-20-20	1 1/2 x 4 1/4"	3.27	2.60	2.08	1.559	1.299

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SPRAGUE
THE MARK OF RELIABILITY

Capacitors

TVL TWIST LOK ELECTROLYTIC

Withstand extremely high temperatures, ripple current and surge voltages. Self-mounting with twist prong tabs that go through chassis or connect to washer for above-chassis mounting. For 85°C operation up to 450 Working Volts DC. Hermetically sealed in aluminum cans for long life and dependable performance in TV, radio, and Hi-Fi. Furnished complete with both phenolic and metal mounting plated on 1" and 1⅜" dia. cans only. Shpg. wt. 6 ounces.

CASE SIZES

A—1⅜x2"	E—1x2"	J—1⅜x4"	N—1x4"
B—¾x2"	F—1x2½"	K—1⅜x3½"	P—1x1½"
C—¾x2½"	G—1x3"	L—1x3½"	R—1⅜x4¼"
D—1⅜x2½"	H—1⅜x3"	M—1⅜x4"	

SINGLE UNITS

Stock No.	TVL No.	MF	WVDC	Size	1-24	25-49	50-99	100-249
18F550	1168	2000	15	A	2.37	1.60	1.28	.96
18F1603	1220	500	25	P	1.77	.96	.77	.58
18F552	1230	1000	25	A	2.46	1.44	1.15	.87
18F554	1330	500	50	A	1.83	1.20	.96	.72
18F2970	1338	1000	50	D	2.58	1.61	1.29	.97
18F2971	1341	1500	50	D	3.03	2.01	1.61	1.21
18F557	1415	50	150	P	1.14	.73	.59	.44
18F559	1423	100	150	P	1.38	.82	.66	.49
18F1780	1426	120	150	D	1.50	1.01	.81	.61
18F561	1431	200	150	A	1.68	1.15	.92	.69
18F562	1434	300	150	A	1.95	1.33	1.06	.80
18F668	1509	20	250	E	1.11	.71	.57	.43
18F684	1519	40	250	E	1.26	.78	.62	.47
18F1782	1535	100	250	G	1.86	.98	.79	.59
18F1783	1540	150	250	D	2.13	1.29	1.04	.78
18F2973	1541	160	250	D	2.13	1.41	1.13	.85
18F2974	1541.1	160	250	L	2.13	1.19	.95	.72
18F690	1547	200	250	D	2.52	1.46	1.17	.88
18F566	1584	150	300	K	2.43	1.49	1.19	.90
18F692	1590	250	300	J	3.84	1.89	1.51	1.14
18F669	1617	30	350	E	1.32	.80	.64	.48
18F567	1621	40	350	E	1.38	.86	.69	.51
18F568	1638	125	350	D	2.73	1.46	1.17	.88
18F693	1642	150	350	D	2.73	1.60	1.28	.96
18F569	1705	10	450	P	1.02	.72	.58	.44
18F570	1714	20	450	E	1.26	.80	.64	.48
18F571	1720	30	450	F	1.35	.89	.71	.54
18F572	1725	40	450	F	1.41	.97	.78	.58
18F573	1735	80	450	D	2.10	1.45	1.16	.87

MINIATURIZED DISC CERAMIC

Tiny ceramic capacitors for by-pass and coupling application. Low self inductance and flat plate construction permits higher self-resonant frequency and high by-pass efficiency in all TV and transistorized circuitry. Designed for continuous operation at 85°C. Dia. .275 to .655. Tol. ±20%.

Stock No.	Type	Volts	Mfd.	1-99	100-249	250-499	500-999
18F932	TG-D50	100	.005	.15	.058	.051	.039
18F933	TG-S10	100	.01	.15	.072	.064	.048
18F934	TG-S20	100	.02	.15	.086	.076	.057
18F935	TG-S25	100	.025	.15	.093	.082	.062
18F936	TG-S30	100	.03	.15	.099	.088	.066
18F937	TG-S50	100	.05	.30	.212	.188	.141
18F938	TG-P10	100	.1	.39	.282	.25	.188

TYPE 2DF METALLIZED ORANGE DROP-CAPACITORS

Ideal for color TV replacement. Fits easily into tight spots because of their small size. Extremely high insulation resistance insures peak performance at temps. up to +85. Radial leads are extra long for point-to-point wiring and crimped for printed board insertion. Double dipped in orange epoxy resin for protection against heat and humidity. Tolerance ±10%.

TYPE 2DF-200 WVDC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-499
18F2914	.22	$^{3}/_{8}$x$^{7}/_{16}$x$^{13}/_{16}$	2DF-P22	.54	.39	.30	.24
18F2916	.47	$^{13}/_{16}$x$^{9}/_{16}$x$^{13}/_{16}$	2DF-P47	.69	.52	.401	.321
18F2918	1.0	$^{13}/_{16}$x$^{9}/_{16}$x1¼	2DF-M1	.96	.71	.552	.441
18F2919	1.5	$^{7}/_{8}$x$^{5}/_{8}$x1¼	2DF-M1.5	1.14	.84	.651	.521
18F2920	2.0	$^{15}/_{16}$x$^{11}/_{16}$x1¼	2DF-M2	1.35	1.00	.779	.623
18F2921	2.5	$^{11}/_{16}$x$^{13}/_{16}$x1¼	2DF-M2.5	1.50	1.11	.863	.691
18F2922	3.0	$^{15}/_{16}$x$^{11}/_{16}$x1⅝	2DF-M3	1.62	1.22	.945	.756
18F2924	4.0	$^{11}/_{16}$x$^{13}/_{16}$x1⅝	2DF-M4	2.01	1.51	1.17	.938
18F2925	4.5	$^{11}/_{8}$x$^{7}/_{8}$x1⅝	2DF-M4.5	2.13	1.59	1.23	.987
18F2926	5.0	$^{11}/_{8}$x$^{7}/_{8}$x1⅝	2DF-M5	2.31	1.72	1.34	1.07
18F2927	5.5	$^{13}/_{16}$x$^{15}/_{16}$x1⅝	2DF-M5.5	2.43	1.81	1.41	1.13

SINGLE UNITS (Cont.)

Stock No.	TVL No.	MF	WVDC	Size	1-24	25-49	50-99	100-249
18F574	1760	125	450	J	2.64	1.83	1.47	1.10
18F578	1940	10	500	P	1.17	.75	.60	.45
18F670	1947	30	500	F	1.38	.98	.78	.59
18F1604	1950	40	500	F	1.71	1.09	.87	.66
18F694	1958	80	500	D	2.49	1.69	1.35	1.01
18F687	1960	90	500	H	2.40	1.80	1.44	1.08

DUAL UNITS

18F1605	2160	1000-1000	15-15	F	3.03	1.54	1.23	.93
18F584	2432	50-30	150-150	P	1.38	.88	.70	.53
18F585	2435	50-50	150-150	P	1.50	.91	.73	.55
18F685	2628	30-30	350-350	F	2.01	1.06	.85	.64
18F1786	2641	100-100	350-350	H	4.23	1.99	1.60	1.20
18F2975	2738.5	80-2	450-350	D	2.31	1.57	1.26	.94
18F598	2750	10-10	450-450	E	1.32	.90	.72	.54
18F600	2755	20-20	450-450	F	1.77	1.06	.85	.64
18F601	2759	30-30	450-450	A	2.10	1.38	1.11	.83
18F602	2764	40-40	450-450	D	2.37	1.56	1.25	.94
18F2976	2808	80-160	475-250	R	3.84	2.26	1.81	1.36

TRIPLE UNITS

18F1788	3437	40-20-20	150-150-150	P	1.65	.96	.77	.58
18F613	3440	40-40-40	150-150-150	E	1.80	1.03	.83	.62
18F614	3442	50-50-50	150-150-150	G	2.07	1.09	.87	.65
18F631	3642	80-60-60	350-350-350	K	3.84	2.10	1.69	1.26
18F2979	3652	80-80-100	400-200-50	H	3.33	1.87	1.50	1.12
18F1790	3689.3	100-10-80	400-400-350	K	4.20	2.25	1.80	1.35
18F634	3731	10-10-20	450-450-25	E	1.65	.99	.80	.60
18F635	3739	20-20-20	450-450-25	G	2.10	1.17	.94	.70
18F642	3776	10-10-10	450-450-450	E	1.80	1.06	.85	.64
18F644	3780	20-20-20	450-450-450	A	2.49	1.48	1.18	.89
18F1791	3784	40-30-20	450-450-450	D	2.97	1.73	1.39	1.04
18F646	3785	40-40-10	450-450-450	D	2.85	1.73	1.39	1.04
18F647	3786	40-40-20	450-450-450	D	3.06	1.81	1.45	1.09
18F648	3787	40-40-40	450-450-450	H	3.39	1.99	1.59	1.20
18F649	3789	60-20-20	450-450-450	H	3.18	1.83	1.46	1.10
18F681	3793	80-40-20	450-450-450	H	3.72	2.15	1.72	1.29
18F682	3952	10-10-10	500-500-500	F	1.86	1.16	.93	.70

QUADRUPLE UNITS

18F2982	4714.4	30-20 160-40	450-450 250-150	M	4.08	2.15	1.72	1.29
18F664	4760	10-10-10-10	4x450	A	2.31	1.39	1.10	.84
18F665	4763	20-20-20-20	4x450	D	3.24	1.73	1.39	1.04
18F1792	4773	40-40-20-20	4x450	D	3.84	2.04	1.63	1.22
18F699	4775	40-40-40-40	4x450	K	4.44	2.41	1.93	1.45

121P METALIZED PAPER CAPACITORS

Designed to operate at 125°C without voltage derating. High insulation resistance—at 85°C minimum product of insulation resistance and capacitance is 20 megohms microfarads. Tol. ±10%. 150 WVDC.

CASE SIZE*

(J)	.562x1⅛	(Q)	.670x1⅞	(W)	1.000x1⅞
(K)	.562x1⅜	(T)	.750x1⅞	(X)	1.000x2⅛
(M)	.562x1⅝	(U)	.750x2⅜	(Y)	1.000x2⅜
(N)	.670x1⅜	(V)	.750x2⅝	(Z)	1.000x2⅝
		(P)	.670x1⅝		

Stk. No.	Type	Mfd.	*Size	1-9	10-24	25-49	50-99	100-499	500-999
18F1410	121P15591R5S2	1.5	J	4.15	3.11	2.33	1.56	1.24	1.15
8F1411	121P20591R5S2	2.0	K	4.42	3.32	2.49	1.66	1.33	1.22
18F1413	121P30591R5S2	3.0	N	5.40	4.05	3.04	2.03	1.62	1.49
18F1415	121P40591R5S2	4.0	P	6.00	4.50	3.38	2.25	1.80	1.65
18F1416	121P50591R5S2	5.0	Q	7.12	5.34	4.01	2.67	2.14	1.96
18F1417	121P60591R5S2	6.0	T	7.64	5.73	4.30	2.87	2.29	2.11
18F1418	121P80591R5S2	8.0	U	9.04	6.78	5.09	3.39	2.71	2.49
18F1419	121P10691R5S2	10	V	10.68	8.01	6.01	4.01	3.20	2.94
18F1420	121P12691R5S2	12	W	12.24	9.18	6.89	4.59	3.67	3.37
18F1422	121P16691R5S2	16	Y	15.28	11.46	8.60	5.73	4.58	4.21

HIGH-VOLTAGE DOORKNOB CERAMICS

Female threads for interchangeable screw-in terminals. Molded plastic, guard rings lengthen surface creepage path.

Type 20DK-T5. Complete with 7 terminals. 1" dia. x $^{31}/_{32}$".

Type 30DK-T5. Complete with 2 terminals. $^{1}/_{16}$" dia. 1¼".

Stk. No.	Type	Term	Size	μμf	KV	NET
18F2762	20DK-T5	7	1x$^{31}/_{32}$"	500	20	3.56
18F2763	30DK-T5	2	$^{15}/_{16}$x1¼"	500	30	3.78

Sprague Ceramic Capacitors

SPRAGUE
THE MARK OF RELIABILITY

SERIES 5GA CERAMIC CAPACITORS

Low self-inductance of silvered flat-plate design means very high by-pass efficiency in all TV circuits. Designed for 85°C (185°F) continuous operation. Higher self-resonant frequency than tubular ceramic or molded mica capacitors. Moisture proof coating. Tol. ±20%. 1000 WVDC, except (*) 500 WVDC. †Mmfd.

SERIES 5GA PRICES

Mfd.	1-99	100-249	250-499	500-999	1000-9999
.001-.004	.15	.055	.049	.037	.025
.0047	.15	.061	.054	.041	.027
.005	.15	.061	.054	.041	.027
.01	.15	.072	.064	.048	.032
.015	.15	.097	.086	.065	.043
.02	.15	.112	.099	.074	.050
.025	.15	.082	.082	.062	.041
.04	.30	.210	.082	.140	.093
.05	.39	.282	.186	.188	.125
.1	.60	.450	.400	.300	.200
5 thru 820	.15	.055	.49	.037	.025

Stk. No.	Type	Mfd.	Stk. No.	Type	Mmfd.
18F2711	5GA-D10	.001	18F2682	5GA-Q25	25
18F2712	5GA-D12	.0012	18F2683	5GA-Q27	27
18F2714	5GA-D15	.0015	18F2684	5GA-Q30	30
18F2715	5GA-D18	.0018	18F2685	5GA-Q33	33
18F2716	5GA-D20	.002	18F2686	5GA-Q39	39
18F2717	5GA-D22	.0022	18F2687	5GA-Q47	47
18F2718	5GA-D25	.0025	18F2688	5GA-Q50	50
18F2719	5GA-D27	.0027	18F2689	5GA-Q56	56
18F2720	5GA-D30	.003	18F2690	5GA-Q68	68
18F2721	5GA-D33	.0033	17F2691	5GA-Q75	75
18F2722	5GA-D39	.0039	18F2692	5GA-Q82	82
18F2723	5GA-D40	.004	18F2693	5GA-T10	100
18F2725	5GA-D47	.0047	18F2694	5GA-T12	120
18F2726	5GA-D50	.005	18F2695	5GA-T15	150
18F2727	5GA-S10	.01	18F2696	5GA-T18	180
18F2728	5GA-S15	.015	18F2697	5GA-T20	200
18F2729	5GA-S20	.02	18F2698	5GA-T22	220
18F2730	5GA-S25*	.025	18F2699	5GA-T25	250
18F2731	5GA-S40*	.04	18F2700	5GA-T27	270
18F2732	5GA-S50*	.05	18F2701	5GA-T30	300
18F2733	5GA-P10*	.1	18F2702	5GA-T33	330
18F2675	5GA-V50	5†	18F2703	5GA-T36	360
18F2676	5GA-V75	7.5†	18F2704	5GA-T39	390
18F2677	5GA-Q10	10†	18F2705	5GA-T47	470
18F2678	5GA-Q12	12†	18F2706	5GA-T50	500
18F2679	5GA-Q15	15†	18F2707	5GA-T56	560
18F2680	5GA-Q20	20†	18F2708	5GA-T68	680
18F2681	5GA-Q22	22†	18F2709	5GA-T75	750
			18F2710	5GA-T82	820

HYPERCON CERAMIC DISCS

Ultra-miniature ceramic discs ideal for use in transistorized circuitry. Designed for by-pass and coupling applications but particularly well-suited for any low voltage use where high capacitance and low power factor are important considerations. Superior to electrolytic capacitors of similar capacitance value because of the very low power factor of Hypercon Capacitors, Capacitance Tolerance: GMV.

12 VOLTS DC

Stock No.	Type	Mfd.	Sze Diam.	EACH 1-99	100-249	250-499	500-999
47F099	HY-340	.022	.25	.15	.086	.076	.057
47F100	HY-345	.033	.30	.15	.086	.076	.057
47F101	HY-350	.047	.365	.15	.102	.09	.068
47F102	HY-355	.068	.365	.15	.106	.094	.071
47F103	HY-360	.1	.43	.18	.12	.106	.08
47F104	HY-365	.15	.57	.24	.169	.15	.113
47F105	HY-370	.22	.625	.27	.189	.168	.126
47F106	HY-375	.33	.75	.33	.248	.22	.165
47F107	HY-380	.47	.875	.45	.318	.282	.212

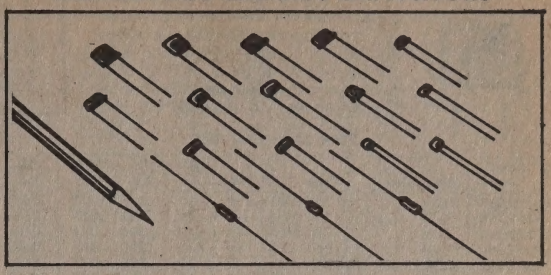
16 VOLTS DC

Stock No.	Type	Mfd.	Sze Diam.	Each 1-99	100-499	500-999	1000-9999
18F032	HY-420	.01	.30	.15	.086	.076	.057
47F108	HY-425	.022	.365	.15	.108	.096	.072
47F109	HY-430	.033	.430	.15	.108	.096	.072
18F033	HY-435	.047	.49	.21	.146	.13	.098
47F110	HY-440	.068	.625	.21	.146	.13	.098
18F034	HY-450	.1	.675	.21	.151	.13	.101
47F111	HY-470	.2	.875	.27	.21	.192	.17

25 VOLTS DC

47F112	HY-510	.0047	.25	.15	.09	.08	.06
18F1987	HY-520	.01	.365	.18	.117	.104	.078
18F1988	HY-525	.022	.430	.18	.135	.120	.09
18F1989	HY-530	.033	.490	.18	.135	.120	.09
18F1990	HY-535	.047	.570	.21	.153	.136	.102
47F113	HY-540	.068	.675	.18	.135	.120	.09
18F1991	HY-550	.1	.750	.21	.147	.13	.098

FORMULATION C-023 MONOLYTHIC CERAMIC CAPACITORS



For transistorized circuitry. Provide high capacitance in small physical size. Solid homogeneous blocks are protected against moisture and mechanical damage by a tough resin coating. Well suited for use in the HF, VHF and UHF ranges thrugh 1000 MHz. Radial leads. ±20% tolerance.

SIZE CHART

A. .390" x .200"	C. .500" x .200"	E. .500" x .400"
B. .400" x .400"	D. .500" x .296"	F. .500" x .500"

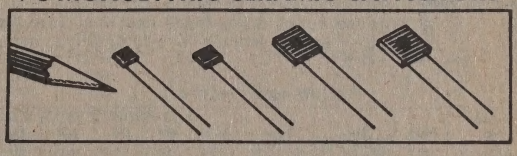
TYPE 3C 50 WVDC

Stk. No.	Type	Size Code	Mfd.	1-49	50-99	100-499	500-999
47F2009	3C023103X0500C5	A	.01	.777	.583	.389	.292
47F2010	3C023223X0500C5	A	.022	.777	.583	.389	.292
47F2011	3C023333X0500C5	A	.033	.777	.583	.389	.292
47F2012	3C023473X0500C5	A	.047	.777	.583	.389	.292
47F2013	3C023104X0500C5	A	.1	.777	.583	.389	.292
47F2014	3C023154X0500C5	A	.15	.961	.721	.481	.361
47F2015	3C023224X0500C5	A	.22	1.008	.756	.504	.378
47F2016	3C023334X0500C5	A	.33	1.159	.869	.580	.435
47F2017	3C023474X0500C5	A	.47	1.159	.869	.580	.435
47F2018	3C023684X0500C5	B	.68	.777	.583	.389	.292

TYPE 5C 50 WVDC

Stk. No.	Type	Size Code	Mfd.	1-49	50-99	100-499	500-999
47F2019	5C023104X0500C5	C	.1	.777	.583	.389	.292
47F2020	5C023224X0500C5	C	.22	1.159	.869	.580	.435
47F2021	5C023334X0500C5	C	.33	1.159	.869	.580	.435
47F2022	5C023474X0500C5	C	.47	1.159	.869	.580	.435
47F2023	5C023684X0500C5	C	.68	1.633	1.225	.817	.618
47F2024	5C023105X0500C5	D	1.0	1.978	1.484	.989	.742
47F2025	5C023155X0500C5	E	1.5	1.207	1.580	1.053	.790
47F2026	5C023225X0500C5	F	2.2	4.122	3.091	2.061	1.546

7C MONOLYTHIC CERAMIC CAPACITORS



The radial lead style is especially designed for printed wiring board mounting and the complete unit is provided with stand off "feet" for this purpose. Units are dipped in an insulating phenolic resin which provides moisture protection. Temp. range −55C to +85°C. 50 WVDC. ±20% tolerance.

SIZE .390x.275x.160

Stock No.	Mfgr's Type	µF	1-49	50-99	100-499	500-999
47F120	7C023103X0500 D	.01	.80	.60	.412	.315
47F2027	7C023153X0500 D	.015	.80	.60	.412	.315
47F121	7C023223X0500 D	.022	.80	.60	.412	.315
47F122	7C023333X0500 D	.033	.80	.60	.412	.315
47F123	7C023473X0500 D	.047	.80	.60	.412	.315
47F124	7C023683X0500 D	.068	.80	.60	.412	.315
47F125	7C023104X0500 D	0.1	.80	.60	.412	.315
47F2028	7C023154X0500 D	.15	.80	.60	.412	.315
47F126	7C023224X0500 D	.22	1.182	.892	.603	.458

SIZE .535x550x160 except (*) .535x.550x.260

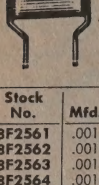
Stock No.	Mfgrs Type	µF	1-49	50-99	100-499	500-999
47F127	7C023334X0500E	.33	1.182	.892	.603	.458
47F128	7C023474X0500E	.47	1.182	.892	.603	.458
47F129	7C023684X0500E	.68	1.650	1.242	.834	.630
47F130	7C023105X0500E	1.0	1.995	1.501	1.006	.759
47F131	7C023155X0500E	1.5	2.124	1.597	1.071	.807
47F132	7C023225X0500F	2.2*	4.139	3.108	2.078	1.563

8

SPRAGUE
THE MARK OF RELIABILITY

Orange Drop Capacitors

FIL-MITE "E" ORANGE DROP CAPACITORS



Capacitors are wound from polyester film and thin gauge foil and are coated with epoxy. Capacitance tolerance is ±10%. Temp. range −40°C to 85°C. Insulation res 25000 megohm-microfarads. Life test 250 hrs. at 85°C.

SIZE CHART

A 9/16 x 3/8 x 3/4	K 21/64 x 1 5/64 x 45/64	U 2 3/32 x 3/8 x 1 3/16	CC 2 1/32 x 2 7/64 x 1 3/16
B 2 1/32 x 7/16 x 3/4	L 1 1/32 x 1/4 x 45/64	V 3/4 x 2 7/64 x 1 3/16	DD 1 3/16 x 3 1/64 x 1 3/16
C 47/64 x 3 1/64 x 3/4	M 3/8 x 3 2/32 x 45/64	W 2 5/32 x 1 5/32 x 1 3/16	EE 1 x 47/64 x 1 3/16
D 1 3/16 x 3 5/64 x 3/4	N 1 7/32 x 2 1/64 x 45/64	X 2 3/32 x 2 7/64 x 1 3/16	FF 6/64 x 2 1/32 x 1 3/16
E 57/64 x 9/16 x 1 3/16	P 9/16 x 1 5/64 x 1 3/16	Y 2 7/32 x 1/2 x 1 3/16	GG 1 9/32 x 9/16 x 1 3/16
F 2 9/32 x 1 9/32 x 1 3/16	R 1 3/32 x 1/4 x 1 3/16	Z 1 13/64 x 2 7/32 x 1 3/16	HH 2 7/32 x 1 7/32 x 1 3/16
G 5 3/64 x 2 1/32 x 1 3/16	S 5/8 x 9/32 x 1 3/16	AA 1 9/32 x 9/32 x 1 3/16	JJ 1 3/16 x 3 1/64 x 1 1/16
H 6 3/64 x 4 7/64 x 1 3/16	T 4 1/64 x 9/16 x 1 3/16	BB 2 1/32 x 1 1/32 x 1 3/16	KK 57/64 x 9/16 x 1 1/16
J 5/16 x 1 3/16 x 45/64			

TYPE 225P—100 VDC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F2561	.001	J	225P10291WD3	.18	.12	.096	.077	.063
18F2562	.0012	J	225P12291WD3	.18	.12	.096	.077	.063
18F2563	.0015	J	225P15291WD3	.18	.12	.096	.077	.063
18F2564	.0018	J	225P18291WD3	.18	.12	.096	.077	.063
18F2565	.0022	J	225P22291WD3	.18	.12	.096	.077	.063
18F2566	.0027	J	225P27291WD3	.18	.12	.096	.077	.063
18F2567	.0033	J	225P33291WD3	.18	.12	.096	.077	.063
18F2568	.0039	J	225P39291WD3	.18	.12	.096	.077	.063
18F2569	.0047	J	225P47291WD3	.18	.12	.096	.077	.063
18F2570	.0056	J	225P56291WD3	.18	.12	.096	.077	.063
18F2571	.0068	J	225P68291WD3	.18	.12	.096	.077	.063
18F2572	.0082	J	225P82291WD3	.18	.12	.096	.077	.063
18F2573	.01	J	225P10391WD3	.18	.12	.096	.077	.063
18F2574	.012	J	225P12391WD3	.18	.12	.096	.077	.063
18F2575	.015	J	225P15391WD3	.18	.12	.096	.077	.063
18F2576	.018	J	225P18391WD3	.18	.13	.10	.082	.067
18F2577	.022	J	225P22391WD3	.18	.13	.10	.082	.067
18F2578	.027	K	225P27391WD3	.21	.14	.11	.088	.072
18F2579	.033	K	225P33391WD3	.21	.14	.11	.088	.072
18F2580	.039	L	225P39391WD3	.21	.15	.11	.095	.078
18F2581	.047	L	225P47391WD3	.21	.15	.11	.095	.078
18F2582	.056	M	225P56391WD3	.24	.16	.13	.105	.086
18F2583	.068	M	225P68391WD3	.24	.16	.13	.105	.086
18F2584	.082	N	225P82391WD3	.24	.18	.14	.111	.091
18F2585	.1	N	225P10491WD3	.24	.18	.14	.111	.091
47F2000	.12	A	225P12491XD3	.270	.190	.154	.123	.101
47F2001	.15	A	225P15491XD3	.270	.190	.154	.123	.101
47F2002	.18	B	225P18491XD3	.330	.230	.179	.143	.118
47F2003	.22	B	225P22491XD3	.330	.230	.179	.143	.118
47F2004	.27	C	225P27491XD3	.390	.287	.223	.179	.147
47F2005	.33	C	225P33491XD3	.390	.287	.223	.179	.147
47F2006	.39	D	225P39491XD3	.540	.396	.308	.246	.202
47F2007	.47	D	225P47491XD3	.540	.396	.308	.246	.202
47F152	.56	E	225P56491YD3	.75	.56	.43	.347	.285
47F153	.68	F	225P68491YD3	.75	.56	.43	.347	.285
47F154	.82	FF	225P82491YD3	.84	.63	.49	.393	.323
47F155	1.0	H	225P10591YD3	.84	.63	.49	.393	.323

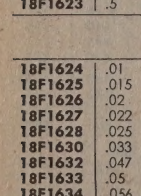
TYPE 225P 200 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
47F156	.001	P	225P10292XD3	.18	.12	.096	.077	.063
47F157	.0015	P	225P15292XD3	.18	.12	.096	.077	.063
47F158	.0022	P	225P22292XD3	.18	.12	.096	.077	.063
47F159	.0033	P	225P33292XD3	.18	.12	.096	.077	.063
47F160	.0047	P	225P47292XD3	.18	.12	.096	.077	.063
47F161	.0068	R	225P68292XD3	.18	.12	.096	.077	.063
47F162	.01	R	225P10392XD3	.18	.12	.096	.077	.063
47F163	.015	R	225P15392XD3	.18	.12	.096	.077	.063
47F164	.022	R	225P22392XD3	.18	.13	.10	.082	.067
47F165	.033	S	225P33392XD3	.21	.14	.11	.088	.072
47F166	.047	S	225P47392XD3	.21	.15	.11	.095	.078
47F167	.068	T	225P68392XD3	.24	.16	.13	.105	.086
47F168	.1	U	225P10492XD3	.24	.18	.14	.111	.091
47F169	.15	V	225P15492XD3	.27	.20	.15	.123	.101
47F170	.22	W	225P22492XD3	.33	.23	.18	.143	.118
47F171	.33	X	225P33492XD3	.40	.29	.22	.179	.147
47F133	.47	Y	225P47492XD3	.54	.40	.31	.246	.202
47F134	.68	Z	225P68492XD3	.75	.56	.43	.347	.285

TYPE 225P 400 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
47F135	.001	P	225P10294XD3	.18	.12	.096	.077	.063
47F136	.0015	P	225P15294XD3	.18	.12	.096	.077	.063
47F137	.0022	P	225P22294XD3	.18	.12	.096	.077	.063
47F138	.0033	P	225P33294XD3	.18	.12	.096	.077	.063
47F139	.0047	P	225P47294XD3	.18	.12	.096	.077	.063
47F140	.0068	R	225P68294XD3	.18	.12	.096	.077	.063
47F141	.01	R	225P10394XD3	.18	.12	.096	.077	.063
47F142	.015	R	225P15394XD3	.18	.13	.10	.082	.067
47F143	.022	AA	225P22394XD3	.21	.14	.11	.088	.072
47F144	.033	GG	225P33394XD3	.21	.15	.11	.095	.078
47F145	.047	BB	225P47394XD3	.24	.17	.13	.105	.086
47F146	.068	CC	225P68394XD3	.24	.18	.14	.111	.091
47F147	.1	DD	225P10494XD3	.27	.20	.15	.123	.101
47F148	.15	HH	225P15494YD3	.33	.25	.19	.154	.127
47F149	.22	KK	225P22494YD3	.72	.53	.41	.330	.271
47F150	.33	EE	225P33494YD3	.84	.63	.50	.393	.323
47F151	.47	Z	225P47494YD3	1.65	1.24	.96	.770	.633

ORANGE DROP DIFILM DIPPED TUBULARS



Uses dual-dielectric which incorporates both polyester-film and Kraft capacitor tissue impregnated with HCX® hydrocarbon resin to form a rock hard section. Double dipped in a bright orange epoxy resin—beats heat and humidity. Capacitance tolerance is ±10%. Temp. range −40°C to +85°C.

TYPE 2PS—200 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F1612	.02	3/8 x 7/8	2PS-S20	.21	.14	.11	.088	.072
18F1613	.022	2 5/64 x 7/8	2PS-S22	.21	.14	.11	.088	.072
18F1614	.047	2 9/64 x 7/8	2PS-S47	.21	.15	.11	.095	.078
18F1615	.05	1 59/32 x 7/8	2PS-S50	.21	.15	.11	.095	.078
18F1616	.1	3 1/64 x 1 3/16	2PS-P10	.24	.18	.14	.111	.091
18F1617	.15	9/16 x 1 3/16	2PS-P15	.33	.23	.18	.14	.118
18F1618	.2	1 9/32 x 1 5/16	2PS-P20	.40	.30	.22	.177	.145
18F1619	.22	3 9/64 x 1 3/16	2PS-P22	.40	.30	.22	.177	.145
18F1620	.25	5/8 x 1 5/16	2PS-P25	.54	.40	.30	.246	.202
18F1621	.33	5/8 x 1 5/8	2PS-P33	.54	.40	.30	.246	.202
18F1622	.47	4 5/64 x 1 5/8	2PS-P47	.72	.53	.41	.330	.271
18F1623	.5	2 3/32 x 1 5/8	2PS-P50	.72	.53	.41	.330	.271

TYPE 4PS—400 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F1624	.01	1 3/32 x 1 1/16	4PS-S10	.18	.12	.10	.077	.063
18F1625	.015	2 9/64 x 1 1/16	4PS-S15	.21	.14	.11	.088	.072
18F1626	.02	1 3/32 x 7/8	4PS-S20	.21	.15	.12	.095	.078
18F1627	.022	2 7/64 x 7/8	4PS-S22	.21	.15	.12	.095	.078
18F1628	.025	7/16 x 7/8	4PS-S25	.24	.16	.13	.100	.082
18F1630	.033	1 5/32 x 7/8	4PS-S33	.24	.16	.13	.100	.082
18F1632	.047	2 9/64 x 1 3/16	4PS-S47	.24	.16	.13	.100	.082
18F1633	.05	2 9/64 x 1 3/16	4PS-S50	.24	.16	.13	.100	.082
18F1634	.056	3 1/64 x 1 3/16	4PS-S56	.24	.18	.14	.111	.091
18F1635	.068	3 3/64 x 1 3/16	4PS-S68	.24	.18	.14	.111	.091
18F1637	.1	3 7/64 x 1 3/16	4PS-P10	.33	.23	.18	.143	.118
18F1638	.15	3 9/64 x 1 5/16	4PS-P15	.40	.30	.22	.177	.145
18F1639	.2	1 9/32 x 1 5/8	4PS-P20	.54	.40	.30	.246	.202
18F1640	.22	3 9/64 x 1 5/8	4PS-P22	.54	.40	.30	.246	.202
18F1641	.25	4 1/64 x 1 5/8	4PS-P25	.72	.53	.41	.330	.271

TYPE 6PS—600 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F1642	.001	2 1/64 x 1 1/16	6PS-D10	.18	.12	.090	.072	.059
18F1644	.0015	2 1/64 x 1 1/16	6PS-D15	.18	.12	.090	.072	.059
18F1646	.002	2 1/64 x 1 1/16	6PS-D20	.18	.12	.090	.072	.059
18F1647	.0022	2 1/64 x 1 1/16	6PS-D22	.18	.12	.090	.072	.059
18F1648	.0025	2 1/64 x 1 1/16	6PS-D25	.18	.12	.090	.072	.059
18F1649	.0027	1 1/32 x 1 1/16	6PS-D27	.18	.12	.090	.072	.059
18F1651	.0033	2 3/64 x 1 1/16	6PS-D33	.18	.12	.090	.072	.059
18F1652	.0039	3/8 x 1 1/16	6PS-D39	.18	.12	.090	.072	.059
18F1654	.0047	2 5/64 x 1 1/16	6PS-D47	.18	.12	.090	.072	.059
18F1655	.005	2 5/64 x 1 1/16	6PS-D50	.18	.12	.090	.072	.059
18F1656	.0056	2 5/64 x 1 1/16	6PS-D56	.18	.12	.096	.077	.063
18F1658	.0068	1 3/32 x 1 1/16	6PS-D68	.18	.12	.096	.077	.063
18F1659	.0075	2 3/64 x 7/8	6PS-D75	.18	.12	.096	.077	.063
18F1661	.0082	3/8 x 7/8	6PS-D82	.18	.12	.096	.077	.063
18F1662	.01	2 5/64 x 7/8	6PS-S10	.18	.12	.096	.077	.063
18F1664	.015	2 7/64 x 7/8	6PS-S15	.21	.14	.11	.088	.072
18F1665	.02	3 1/64 x 7/8	6PS-S20	.21	.15	.11	.095	.078
18F1666	.022	3 1/64 x 7/8	6PS-S22	.21	.15	.11	.095	.078
18F1667	.025	1 1/32 x 7/8	6PS-S25	.24	.16	.13	.100	.082
18F1670	.033	1 9/32 x 1 3/16	6PS-S33	.24	.16	.13	.100	.082
18F1672	.039	3 1/64 x 1 3/16	6PS-S39	.24	.18	.14	.111	.091
18F1674	.047	1 7/32 x 1 3/16	6PS-S47	.24	.18	.14	.111	.091
18F1675	.05	1 7/32 x 1 3/16	6PS-S50	.24	.18	.14	.111	.091
18F1676	.056	3 5/64 x 1 3/16	6PS-S56	.30	.20	.15	.123	.101
18F1678	.068	3 7/64 x 1 3/16	6PS-S68	.30	.20	.15	.123	.101
18F1679	.075	9/16 x 1 5/16	6PS-S75	.30	.20	.15	.123	.101
18F1680	.082	3 9/64 x 1 5/16	6PS-S82	.33	.23	.18	.143	.118
18F1681	.1	5/8 x 1 5/16	6PS-P10	.33	.23	.18	.143	.118
18F1682	.15	4 3/64 x 1 5/8	6PS-P15	.50	.34	.30	.217	.178
18F1683	.2	3/4 x 1 5/8	6PS-P20	.72	.53	.41	.330	.271
18F1684	.22	2 5/32 x 1 5/8	6PS-P22	.72	.53	.41	.330	.271
18F1685	.25	1 3/16 x 1 5/8	6PS-P25	.90	.64	.50	.400	.329

TYPE 10PS—1000 VOLTS DC

Stock No.	Mfd.	Size	Type	1-24	25-49	50-99	100-249	250-Up
18F1686	.001	2 1/64 x 1 1/16	10PS-D10	.18	.12	.090	.072	.059
18F1689	.0022	3/8 x 1 1/16	10PS-D22	.18	.12	.090	.072	.059
18F1692	.0047	1 1/32 x 7/8	10PS-D47	.21	.14	.11	.088	.072
18F1693	.005	1 1/32 x 7/8	10PS-D50	.21	.14	.11	.088	.072

8

Capacitors

SPRAGUE
THE MARK OF RELIABILITY

192P "PACER"—MINIATURE "FILMITE E" CAPACITORS

Miniature size for commercial and industrial applications. Controlled dimensions for automatic insertion equipment installing on P.C. boards. Operating temp. range—55° C to +85°C. Tolerance ±10%. Shpg. wt. 2 oz.

SPRAGUE 18-200DC

80 VOLTS DC

Stock No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249	250-499
18F2520	192P2229R8	.0022	$^{9}/_{64}$x$^{5}/_{16}$	.42	.304	.236	.189	.176
18F2521	192P2729R8	.0027	$^{9}/_{64}$x$^{5}/_{16}$	.42	.304	.236	.189	.176
18F2522	192P3329R8	.0033	$^{9}/_{64}$x$^{5}/_{16}$	.42	.304	.236	.189	.176
18F2523	192P3929R8	.0039	$^{9}/_{64}$x$^{5}/_{16}$	.42	.304	.236	.189	.176
18F2524	192P4729R8	.0047	$^{9}/_{64}$x$^{5}/_{16}$	.42	.304	.236	.189	.176
18F2525	192P5629R8	.0056	$^{11}/_{64}$x$^{3}/_{8}$	.42	.304	.236	.189	.176
18F2526	192P6829R8	.0068	$^{11}/_{64}$x$^{3}/_{8}$	.42	.304	.236	.189	.176
18F2527	192P8229R8	.0082	$^{11}/_{64}$x$^{3}/_{8}$	.42	.304	.236	.189	.189
18F2528	192P1039R8	.01	$^{11}/_{64}$x$^{3}/_{8}$	.39	.286	.222	.178	.165
18F2529	192P1239R8	.012	$^{11}/_{64}$x$^{3}/_{8}$	.42	.306	.238	.190	.177
18F2530	192P1539R8	.015	$^{11}/_{64}$x$^{3}/_{8}$	.45	.329	.256	.204	.170
18F2531	192P1839R8	.018	$^{11}/_{64}$x$^{3}/_{8}$	.45	.333	.259	.207	.192
18F2532	192P2239R8	.022	$^{11}/_{64}$x$^{3}/_{8}$	.45	.338	.263	.210	.195
18F2533	192P2739R8	.027	$^{7}/_{32}$x$^{7}/_{16}$	.48	.342	.266	.213	.198
18F2534	192P3339R8	.033	$^{7}/_{32}$x$^{7}/_{16}$	.48	.347	.270	.216	.200
18F2535	192P3939R8	.039	$^{7}/_{32}$x$^{9}/_{16}$	.48	.356	.277	.221	.205
18F2536	192P4739R8	.047	$^{7}/_{32}$x$^{9}/_{16}$	.51	.365	.284	.227	.211
18F2537	192P5639R8	.056	$^{15}/_{64}$x$^{9}/_{16}$	.51	.376	.292	.234	.217
18F2538	192P6839R8	.068	$^{15}/_{64}$x$^{9}/_{16}$	.54	.394	.306	.245	.228
18F2539	192P8239R8	.082	$^{19}/_{64}$x$^{1}/_{2}$	.57	.412	.320	.256	.238
18F2540	192P1049R8	.1	$^{19}/_{64}$x$^{1}/_{2}$"	.57	.421	.327	.262	.243
18F2541	192P1249R8	.12	$^{19}/_{64}$x$^{5}/_{8}$"	.66	.497	.387	.309	.287
18F2542	192P1549R8	.15	$^{19}/_{64}$x$^{5}/_{8}$"	.72	.533	.415	.332	.308
18F2543	192P1849R8	.18	$^{21}/_{64}$x$^{5}/_{8}$	.78	.587	.457	.365	.339
18F2544	192P2249R8	.22	$^{21}/_{64}$x$^{5}/_{8}$	.87	.646	.502	.402	.373
18F2545	192P2749R8	.27	$^{21}/_{64}$x$^{7}/_{8}$	.93	.691	.537	.430	.399
18F2546	192P3349R8	.33	$^{21}/_{64}$x$^{7}/_{8}$"	.99	.729	.567	.454	.421
18F2547	192P3949R8	.39	$^{21}/_{64}$x$^{13}/_{16}$	1.05	.772	.600	.480	.446
18F2548	192P4749R8	.47	$^{21}/_{64}$x$^{13}/_{16}$	1.11	.815	.634	.507	.471

200 VOLTS DC

Stk. No.	Type	Mfd.	D. x L.	1-24	25-49	50-99	100-249	250-499
18F2242	192P47192	.00047	$^{9}/_{64}$x$^{5}/_{16}$	.36	.261	.203	.162	.151
18F2243	192P56192	.00056	$^{9}/_{64}$x$^{5}/_{16}$	.33	.239	.186	.148	.138
18F2244	192P68192	.00068	$^{9}/_{64}$x$^{5}/_{16}$	.33	.239	.186	.148	.138
18F2245	192P82192	.00082	$^{9}/_{64}$x$^{5}/_{16}$	.33	.239	.186	.148	.138
18F2246	192P10292	.001	$^{9}/_{64}$x$^{5}/_{16}$	.30	.209	.163	.130	.121
18F2247	192P12292	.0012	$^{9}/_{64}$x$^{5}/_{16}$	.30	.207	.161	.129	.120
18F2248	192P15292	.0015	$^{9}/_{64}$x$^{5}/_{16}$	.30	.209	.163	.130	.121
18F2249	192P18292	.0018	$^{11}/_{64}$x$^{5}/_{16}$	.30	.209	.163	.130	.121
18F2250	192P22292	.0022	$^{11}/_{64}$x$^{5}/_{16}$	.30	.212	.165	.132	.122
18F2251	192P27292	.0027	$^{11}/_{64}$x$^{5}/_{16}$	.30	.212	.165	.132	.122
18F2252	192P33292	.0033	$^{11}/_{64}$x$^{5}/_{16}$	.39	.281	.219	.175	.163
18F2253	192P39292	.0039	$^{11}/_{64}$x$^{7}/_{16}$	.30	.214	.166	.133	.124
18F2254	192P47292	.0047	$^{11}/_{64}$x$^{7}/_{16}$	.30	.216	.168	.134	.125
18F2255	192P56292	.0056	$^{11}/_{64}$x$^{7}/_{16}$	.30	.218	.170	.136	.126
18F2256	192P68292	.0068	$^{11}/_{64}$x$^{7}/_{16}$	.30	.221	.172	.137	.127
18F2257	192P82292	.0082	$^{11}/_{64}$x$^{1}/_{2}$	.33	.232	.180	.144	.134
18F2226	192P10392	.01	$^{11}/_{64}$x$^{1}/_{2}$	.33	.236	.184	.147	.137
18F2227	192P12392	.012	$^{7}/_{32}$x$^{7}/_{16}$	.33	.241	.187	.150	.139
18F2228	192P15392	.015	$^{7}/_{32}$x$^{7}/_{16}$	.33	.243	.189	.151	.140
18F2229	192P18392	.018	$^{7}/_{32}$x$^{9}/_{16}$	.33	.248	.193	.154	.140
18F2230	192P22392	.022	$^{7}/_{32}$x$^{9}/_{16}$	.36	.252	.196	.157	.146
18F2231	192P27392	.027	$^{15}/_{64}$x$^{9}/_{16}$	.36	.268	.208	.167	.155
18F2232	192P33392	.033	$^{15}/_{64}$x$^{9}/_{16}$	.39	.281	.219	.175	.163
18F2233	192P39392	.039	$^{19}/_{64}$x$^{1}/_{2}$	.39	.295	.229	.183	.170
18F2234	192P47392	.047	$^{19}/_{64}$x$^{1}/_{2}$	.42	.308	.240	.192	.178
18F2235	192P56392	.056	$^{19}/_{64}$x$^{5}/_{8}$	.45	.326	.254	.203	.189
18F2236	192P68392	.068	$^{19}/_{64}$x$^{5}/_{8}$	.48	.342	.266	.213	.198
18F2237	192P82392	.082	$^{21}/_{64}$x$^{5}/_{8}$	.48	.360	.280	.224	.208
18F2238	192P10492	.1	$^{21}/_{64}$x$^{5}/_{8}$	.51	.376	.292	.234	.217
18F2239	192P12492	.12	$^{21}/_{64}$x$^{7}/_{8}$	.54	.394	.306	.245	.228
18F2240	192P15492	.15	$^{21}/_{64}$x$^{7}/_{8}$	.60	.450	.350	.280	.260
18F2241	192P22492	.22	$^{21}/_{64}$x$^{13}/_{16}$	.60	.506	.394	.315	.293

TYPE 431P WRAP AND FILL "FILMITE E"

Construction gives benefits over metal encased molded or wax coated Cardboard-case tubulars of comparable ratings. Axial lead polyester film capacitor section protected from moisture by wrap of polyester film tape. Tol. ±10%.

50 VOLTS DC

Stk. No.	Type 431P-	Size	Mfd	1-24	25-49	50-99	100-249
47F214	4739R5	$^{3}/_{32}$x$^{3}/_{16}$x$^{5}/_{8}$	.047	1.82	1.365	.796	.637
47F215	6839R5	$^{1}/_{8}$x$^{7}/_{32}$x$^{5}/_{8}$	.068	1.87	1.404	.819	.655
47F217	2249R5	$^{5}/_{32}$x$^{9}/_{32}$x$^{3}/_{4}$	.22	2.18	1.638	.956	.764
47F218	3349R5	$^{3}/_{16}$x$^{5}/_{16}$x$^{3}/_{4}$	.33	2.44	1.833	1.069	.855
47F219	4749R5	$^{3}/_{16}$x$^{5}/_{16}$x1	.47	2.65	1.989	1.160	.928
47F220	6849R5	$^{3}/_{16}$x$^{3}/_{8}$x1	.68	2.91	2.184	1.274	1.019
47F221	1059R5	$^{1}/_{4}$x$^{1}/_{32}$x1	1.0	2.92	2.196	1.281	1.025
47F222	2059R5	$^{3}/_{8}$x$^{9}/_{16}$x1	2.0	3.69	2.772	1.617	1.294
47F223	3059R5	$^{3}/_{8}$x1$^{9}/_{32}$x1$^{1}/_{4}$	3.0	4.36	3.276	1.911	1.529
47F227	1069R5	$^{1}/_{16}$x$^{25}/_{32}$x1$^{3}/_{4}$	10.0	10.70	8.028	4.683	3.746

200 VOLTS DC

47F229	22392	$^{1}/_{8}$x$^{3}/_{16}$x$^{5}/_{8}$	.022	1.30	.975	.569	.455
47F231	47392	$^{5}/_{32}$x1$^{1}/_{4}$x$^{5}/_{8}$	.047	1.04	.780	.455	.364
47F233	10492	$^{3}/_{16}$x$^{5}/_{16}$x$^{3}/_{4}$	.1	1.04	.780	.455	.364
47F234	22492	$^{1}/_{4}$x1$^{3}/_{32}$x$^{3}/_{4}$	.22	1.19	.897	.523	.419
47F236	47492	$^{7}/_{32}$x1$^{3}/_{32}$x1$^{1}/_{4}$	.47	1.76	1.326	2.646	2.117
47F237	68492	$^{5}/_{16}$x1$^{7}/_{32}$x1$^{1}/_{4}$	.68	1.76	1.326	.744	.619
47F238	10592	$^{5}/_{16}$x1$^{7}/_{32}$x1$^{1}/_{4}$	1.0	1.87	1.404	.819	.655
47F239	20592	$^{3}/_{8}$x$^{9}/_{16}$x1$^{3}/_{4}$	2.0	2.68	2.016	1.176	.941
47F240	30592	$^{15}/_{32}$x2$^{1}/_{32}$x1$^{3}/_{4}$	3.0	3.16	2.376	1.386	1.109
47F241	40592	$^{17}/_{32}$x$^{3}/_{4}$x1$^{3}/_{4}$	4.0	3.60	2.700	1.575	1.260
47F243	70592	$^{3}/_{4}$x1$^{5}/_{16}$x1$^{3}/_{4}$	7.0	1.87	1.404	.819	.655

200 VOLTS WVDC (cont.)

Stk. No.	Type 431P	Size	Mfd.	1-24	25-49	50-99	100-249
47F244	10692	$^{23}/_{32}$x1x2$^{1}/_{4}$	10.0	7.29	5.472	3.192	2.554
47F245	12692	$^{23}/_{32}$x1x2$^{1}/_{2}$	12.0	8.11	6.084	3.549	4.318

400 VOLTS DC

47F247	47294	$^{1}/_{8}$x$^{3}/_{16}$x$^{5}/_{8}$	.0047	1.74	1.305	.761	.609
47F249	10394	$^{3}/_{16}$x$^{1}/_{4}$x$^{5}/_{8}$	.01	1.50	1.131	.660	.528
47F251	33394	$^{7}/_{32}$x1$^{1}/_{32}$x$^{3}/_{4}$	.033	1.61	1.209	.705	.564
47F254	10494	$^{9}/_{32}$x$^{7}/_{16}$x1	.1	1.76	1.326	.774	.619
47F257	47494	1$^{3}/_{8}$x$^{9}/_{16}$x1$^{3}/_{4}$	.47	2.23	1.677	.978	.783

600 VOLTS DC

47F262	47296	$^{1}/_{8}$x$^{1}/_{4}$x$^{3}/_{4}$	.0047	1.74	1.305	.761	.609
47F263	68296	$^{5}/_{32}$x$^{9}/_{32}$x$^{3}/_{4}$	.0068	1.80	1.350	.788	.630
47F265	22396	$^{1}/_{4}$x1$^{3}/_{32}$x$^{3}/_{4}$	.022	1.71	1.287	.751	.601
47F266	33396	$^{7}/_{32}$x$^{3}/_{8}$x1	.033	1.71	1.287	.751	.601
47F269	10496	$^{3}/_{8}$x1$^{9}/_{32}$x1	.1	1.82	1.365	.796	.637
47F272	47496	$^{9}/_{16}$x$^{3}/_{4}$x1$^{3}/_{4}$	.47	2.70	2.028	1.183	.946
47F274	10596	$^{3}/_{4}$x3$^{1}/_{32}$x2	1.0	4.17	3.132	1.827	1.462

TYPE 118P DIFILM METALIZED CAPACITORS

SIZES—DIAMETER x LENGTH

J .562" x 1$^{1}/_{8}$"	W	1.000" x 1$^{7}/_{8}$"	HH	.312" x 1$^{1}/_{8}$"
K .562" x 1$^{3}/_{8}$"	X	1.000" x 2$^{1}/_{8}$"	JJ	.400" x $^{7}/_{8}$"
M .562" x 1$^{5}/_{8}$"	Y	1.000" x 2$^{3}/_{8}$"	KK	.400" x 1$^{1}/_{8}$"
P .670" x 1$^{5}/_{8}$"	Z	1.00" x 2$^{5}/_{8}$"	LL	.500" x 1$^{1}/_{8}$"
Q .670" x 1$^{7}/_{8}$"	FF	.235" x $^{3}/_{4}$"	YY	.175" x $^{3}/_{4}$"
T .750" x 1$^{7}/_{8}$"	GG	.312" x $^{7}/_{8}$"	ZZ	.195" x $^{3}/_{4}$"

Unique dual dielectric rated for operation at 125°C without voltage derating. High insulation resistance and capacitance is 10 megohm-microtarads for 200V units or 40 megohm-microfarads for 400 and 600 V units. Hermetically sealed, with glass to metal solder seal terminals Tolerance: ±10%.

SPRAGUE 18-200DC

200 VOLTS

Stock No.	Type	Mfd.	Size	1-9	10-24	25-49	50-99	100-499	500-999
18F1286	118P10392S2	.01	YY	3.16	2.37	1.78	1.19	.948	.869
18F1288	118P15392S2	.015	ZZ	3.16	2.37	1.78	1.19	.948	.869
18F1290	118P22392S2	.022	FF	2.84	2.13	1.60	1.07	.852	.781
18F1294	118P47392S2	.047	GG	2.78	2.09	1.57	1.05	.833	.763
18F1298	118P10492S2	.1	GG	2.87	2.15	1.61	1.08	.860	.789
18F1301	118P22492S2	.22	JJ	2.92	2.19	1.64	1.10	.876	.803
18F1302	118P27492S2	.27	KK	3.03	2.27	1.71	1.14	.907	.832
18F1303	118P33492S2	.33	KK	3.13	2.35	1.76	1.18	.938	.860
18F1305	118P47492S2	.47	LL	3.36	2.52	1.89	1.26	1.008	.924
18F1306	118P56492S2	.56	LL	3.40	2.55	1.91	1.28	1.02	.935
18F1308	118P82492S2	.82	J	3.56	2.67	2.00	1.34	1.068	.979
18F1309	118P10592S2	1.0	J	3.64	2.73	2.05	1.37	1.092	1.00
18F1310	118P15592S2	1.5	M	5.08	3.81	2.86	1.91	1.524	1.397
18F1311	118P20592S2	2.0	P	6.04	4.53	3.40	2.27	1.812	1.661
18F1313	118P40592S2	4.0	T	6.76	5.07	3.81	2.54	2.028	1.859
18F1314	118P50592S2	5.0	W	7.36	5.52	4.14	2.76	2.208	2.024
18F1315	118P60592S2	6.0	W	8.44	6.33	4.75	3.17	2.532	2.321
18F1316	118P80592S2	8.0	W	8.64	6.48	4.86	3.24	2.592	2.376
18F1317	118P10692S2	10.0	Y	9.20	6.90	5.18	3.45	2.760	2.530

400 VOLTS

Stock No.	Type	Mfd.	Size	1-9	10-24	25-49	50-99	100-499	500-999
18F1321	118P10594S2	1.0	T	5.04	3.780	2.835	1.890	1.512	1.386
18F1322	118P20594S2	2.0	W	6.96	5.220	3.195	2.610	2.088	1.914
18F1323	118P30594S2	3.0	Z	8.20	6.150	4.163	3.075	2.460	2.555

600 VOLTS

Stock No.	Type	Mfd.	Size	1-9	10-24	25-49	50-99	100-499	500-999
18F1324	118P10396S2	.01	GG	2.80	2.100	1.575	1.050	.840	.770
18F1325	118P15396S2	.015	GG	2.85	2.142	1.607	1.071	.857	.785
18F1326	118P22396S2	.022	HH	2.88	2.160	1.620	1.080	.864	.792
18F1328	118P47396S2	.047	KK	2.90	2.181	1.636	1.091	.872	.800
18F1329	118P68396S2	.068	KK	3.04	2.280	1.710	1.140	.912	.836
18F1330	118P10496S2	.1	LL	3.29	2.472	1.854	1.236	.989	.906
18F1332	118P22496S2	.22	K	3.61	2.709	2.032	1.355	1.084	.993
18F1334	118P47496S2	.47	P	4.32	3.243	2.432	1.622	1.297	1.189
18F1335	118P68496S2	.68	Q	4.68	3.510	2.633	1.755	1.404	1.287
18F1336	118P10596S2	1.0	W	6.12	4.590	3.443	2.295	1.836	1.683
18F1337	118P15596S2	1.5	W	6.44	4.830	3.623	2.415	1.932	1.771
18F1338	118P20596S2	2.0	X	7.80	5.850	4.388	2.925	2.340	2.145
18F1339	118P25596S2	2.5	Z	8.84	6.630	4.973	3.315	2.652	2.421

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SPRAGUE
THE MARK OF RELIABILITY

Yellow Jacket Filmite "E" Capacitors

TYPE 416P FILMITE "E" CAPACITORS

- For Commercial Applications
- Protected Against Moisture
- Light Weight; Minimum Size

Suited for transistorized or low voltage tube circuits. Extended foil design. End seals are of plastic resin to assure long service life. Temp. range; −55°C to +85°C w/voltage derating to +105C. Capacitance tol. ±10%.

50 WVDC

Stk. No.	Type	Mfd.	Sizes	1-24	25-49	50-99	100-499	500-999
47F1561	416P1539R5	.015	.190x.531	.33	.24	.189	.158	.131
47F1562	416P2239R5	.022	.200x.594	.33	.24	.189	.158	.131
47F1563	416P3339R5	.033	.210x.656	.33	.24	.189	.158	.131
47F1564	416P6839R5	.068	.250x.718	.33	.24	.189	.158	.131
47F1565	416P1049R5	.10	.290x.750	.33	.24	.189	.158	.131
47F1566	416P1549R5	.15	.315x.812	.33	.24	.189	.158	.131
47F1567	416P2249R5	.22	.315x.062	.40	.30	.205	.171	.143
47F1568	416P3349R5	.33	.375x1.062	.42	.31	.245	.204	.170
47F1569	416P4749R5	.47	.430x1.062	.51	.40	.301	.251	.209
47F1570	416P6849R5	.68	.450x1.375	.70	.50	.383	.320	.266
47F1571	416P1059R5	1.0	.500x1.375	1.00	.70	.538	.449	.374

100 WVDC

47F1572	416P68291	.0068	.190x.450	.30	.20	.153	.128	.106
47F1549	416P10391	.01	.190x.450	.30	.20	.153	.128	.106
47F1550	416P33391	.033	.190x.718	.30	.20	.153	.128	.106
47F1551	416P47391	.047	.215x.718	.30	.21	.160	.134	.111
47F1552	416P68391	.068	.215x.844	.30	.22	.169	.141	.118
47F1553	416P10491	.10	.245x.844	.30	.22	.173	.144	.120
47F1554	416P15491	.15	.285x.844	.30	.23	.176	.147	.123
47F1555	416P22491	.22	.290x1.250	.33	.24	.185	.155	.129
47F1556	416P33491	.33	.325x1.250	.40	.30	.223	.186	.155
47F1557	416P47491	.47	.380x1.250	.50	.35	.272	.227	.189
47F1558	416P68491	.68	.455x1.562	.60	.45	.349	.291	.243
47F1559	416P10591	1.0	.535x1.562	.84	.63	.490	.408	.348

200 WVDC

47F1560	416P10292	.001	.190x.450	.27	.20	.15	.128	.106
47F1537	416P15292	.0015	.190x.450	.27	.20	.15	.128	.106
47F1538	416P22292	.0022	.190x.450	.40	.30	.23	.192	.160
47F1539	416P33292	.0033	.190x.450	.27	.20	.15	.128	.106
47F1540	416P47292	.0047	.190x.450	.51	.40	.30	.248	.206
47F1541	416P68292	.0068	.190x.718	.27	.20	.15	.128	.106
47F1542	416P10392	.01	.190x.718	.27	.20	.15	.128	.106
47F1543	416P22392	.022	.190x.718	.27	.20	.15	.128	.106
47F1544	416P15392	.015	.190x.718	.27	.20	.15	.128	.106

• 200 WVDC (Con't)

Stk. No.	Type	Mfd.	Sizes	1-24	25-49	50-99	100-499	500-999
47F1545	416P33392	.033	.190x.844	.27	.20	.15	.128	.106
47F1546	416P47392	.047	.210x.844	.27	.20	.20	.134	.111
47F1547	416P68392	.068	.240x.844	.30	.22	.20	.141	.118
47F1548	416P10492	.10	.275x.969	.36	.30	.21	.171	.143
47F1525	416P15492	.15	.345x1.000	.36	.30	.22	.182	.151
47F1526	416P22492	.22	.355x1.250	.40	.30	.23	.192	.160
47F1527	416P33492	.33	.355x1.250	.27	.20	.20	.128	.106
47F1528	416P47492	.47	.440x1.562	.51	.40	.30	.248	.206
47F1529	416P68492	.68	.610x1.750	.60	.45	.34	.291	.243
47F1530	416P10592	1.0	.710x1.875	.84	.63	.50	.408	.340

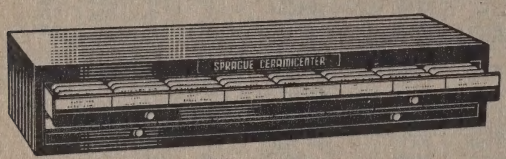
400 WVDC

47F1531	416P33294	.0033	.190x.718	.30	.22	.175	.146	.121
47F1532	416P47294	.0047	.190x.718	.30	.22	.175	.146	.121
47F1533	416P68294	.0068	.210x.844	.30	.22	.175	.146	.121
47F1534	416P10394	.01	.210x.844	.30	.22	.175	.146	.121
47F1535	416P15394	.015	.230x.844	.30	.22	.175	.146	.121
47F1536	416P22394	.022	.265x.844	.30	.22	.175	.146	.121
47F1513	416P33394	.033	.315x.875	.30	.22	.175	.146	.121
47F1514	416P47394	.047	.325x.1000	.30	.23	.182	.152	.126
47F1515	416P68394	.068	.340x1.250	.33	.25	.194	.162	.135
47F1516	416P10494	.10	.400x1.250	.33	.25	.198	.165	.138
47F1517	416P15494	.15	.405x1.562	.40	.30	.205	.171	.143
47F1518	416P22494	.22	.480x1.562	.42	.31	.241	.201	.168
47F1519	416P33494	.33	.650x1.750	.70	.50	.392	.327	.273
47F1520	416P47494	.47	.725x1.937	.80	.60	.466	.389	.324

600 WVDC

47F1521	416P10296	.001	.190x.718	.40	.25	.200	.167	.139
47F1522	416P15296	.0015	.190x.718	.40	.25	.200	.167	.139
47F1523	416P22296	.0022	.190x.718	.40	.25	.200	.167	.139
47F1524	416P33296	.0033	.205x.718	.40	.25	.200	.167	.139
47F1500	416P47296	.0047	.235x.718	.40	.25	.200	.167	.139
47F1501	416P68296	.0068	.240x.844	.40	.25	.200	.167	.139
47F1502	416P10396	.01	.270x.844	.40	.25	.200	.167	.139
47F1503	416P15396	.015	.315x.875	.40	.25	.200	.167	.139
47F1504	416P22396	.022	.375x.875	.40	.25	.200	.167	.139
47F1505	416P33396	.033	.395x1.000	.40	.25	.200	.167	.139
47F1506	416P47396	.047	.400x1.250	.40	.25	.200	.167	.139
47F1507	416P68396	.068	.455x1.250	.40	.30	.212	.177	.148
47F1508	416P10496	.10	.470x1.562	.50	.34	.263	.219	.183
47F1509	416P15496	.15	.545x1.562	.50	.40	.275	.230	.191
47F1510	416P22496	.22	.590x1.937	.54	.40	.313	.261	.218
47F1511	416P33496	.33	.590x1.937	.90	.70	.535	.446	.371
47F1512	416P47496	.47	.890x2.125	1.20	.90	.686	.572	.476

J-150 CERAMICENTER



- 795 Ceramic Disc Capacitors
- One Stop Servicenter
- Time Saving Aid

Packaged in plastic Kleer-Paks, capacitors are "filed" in compartmented drawers outfitted with pre-printed index cards. Contains 290 Type 5GA, 140 Type 5HK, 100 Type 10-TS, 150 Type TG and 115 Type HY. Heavy-gauge steel cabinet finished in blue baked enamel. 30¾"w x 11½"d x 5½"h.

80W415. NET.....**184.25**

J-141 LITTL-LYTIC CENTER

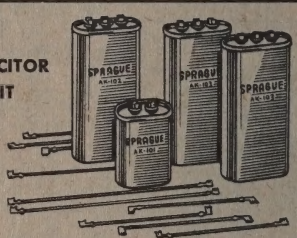
- Two drawer space-saving cabinet
- Withstands temp. up to 85°C (185°F)
- Contains 200 of the most-popular, fastest ratings

Custom designed cabinet puts hundreds of popular rated Littl-Lytic metal encased tubular electrolytic capacitors at your disposal. Contains 200 of the most-popular, fastest moving capacitance and voltage rating of electrolytic capacitors. Included are 15 at 3 WVDC, 10 at 6 WVDC, 25 at 12 WVDC, 25 at 16 WVDC, 55 at 25 WVDC, 50 at 50 WVDC, 10 at 100 WVDC and 10 at 150 WVDC. Capacitors are "filed" in compartmented drawers outfitted with pre-printed index cards, permitting fast and easy selections. Packed 5 to a Handy Rigid Kleer-Pak Plastic Box. Withstands temperatures up to 85°C (185°F). Heavy-gauge steel cabinet finished in blue baked enamel. Size: 30¾"w x 11½"d x 5½"h.

47F1399. NET.....**151.50**

AK-100 MOTOR-RUN CAPACITOR REPLACEMENT KIT

ONLY **$32.95**

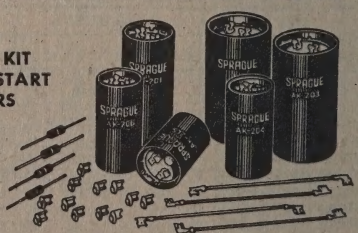


Capacitors in this kit replace any motor run capacitor rated from 165 Vac thru 440 Vac. Includes six 6" jumper leads with connectors and four 10" jumper leads. Packaged in a compact, fiberboard case measuring 17" x 8¾" x 2¼". With lift-off cover.

47F1348. NET.....**32.95**

AK-200 EMERGENCY KIT FOR MOTOR START CAPACITORS

$25.39

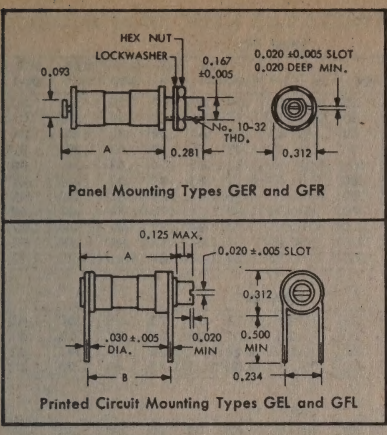


6 motor start capacitors can be used singly, or in parallel, to obtain 87 capacitance/voltage ratings. Includes resistors, terminal adapters, leads and instructions. Provides quick and effective emergency replacement. Size: 11" x 7½" x 4½".

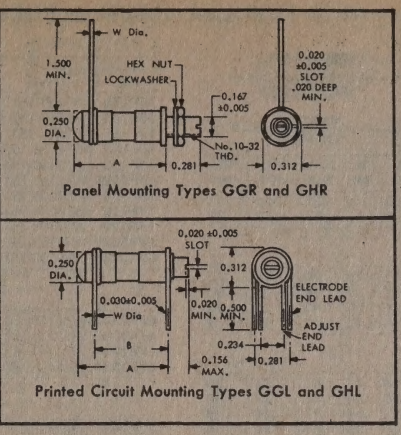
47F1349. NET.....**25.39**

Pistoncap™ Tubular Trimmer Capacitors

SPRAGUE
THE MARK OF RELIABILITY



Panel Mounting Types GER and GFR



Panel Mounting Types GGR and GHR

Printed Circuit Mounting Types GEL and GFL

Printed Circuit Mounting Types GGL and GHL

Types GGP, GHP, GQP, GGR, GHR, GER and GFR have panel mounts and GGC, GHC, GQC, GGL, GHL, GEL and GFL have printed circuit mounts. All have the following characteristics: New simplified long life, highly reliable adjust mechanism; High stability under conditions of changing frequency, voltage, temp. and other environmental parameters; Meet or exceed the requirements of MIL-C-14409C. In addition: types GGP, GHP, GQP, GGR, GHR, GGC, GHC, GQC, GGL and GHL have low loss glass or quartz dielectric; types GER, GFR, GEL and GFL have low loss glass dielectric embedded electrode construction for expanded range; types GGR, GHR, GER, GFR, GGL, GHL, GEL and GFL use latest design of multi-lobed seal at adjust end. Voltage rating: 750 VDC for GGP, GHP, GQP, GGC, GHC and GQC; 1000 VDC for GER, GFR, GEL and GFL.

PANEL MOUNTING TYPES GGP, GHP AND GQP

STANDARD GLASS

Stk. No.	Model	Cap. Range in pF Min.	Cap. Range in pF Max.	Temp. Char. (See Table)	Length A +0.047 −0.031	Wire Size W (AWG)	1-24	25-49	50-99
47F1833	GGP4R500	0.8	4.5	J	0.297	24	3.20	2.95	2.50
47F1834	GGP8R500	0.8	8.5	J	0.547	22	3.40	3.05	2.70
47F1830	GGP12000	0.8	12.0	H	0.750	22	3.75	3.40	2.95
47F1831	GGP18000	0.8	18.0	H	0.984	22	4.35	3.95	3.40
47F1832	GGP30000	1.0	30.0	H	1.594	22	4.55	4.15	3.60
				HI-RANGE GLASS					
47F1854	GHP5R500	0.8	5.5	J	0.297	24	3.80	3.40	3.05
47F1850	GHP11000	0.8	11.0	J	0.547	22	4.20	3.80	3.40
47F1851	GHP16000	0.8	16.0	H	0.750	22	4.80	4.30	3.85
47F1852	GHP23000	0.8	23.0	H	0.984	22	5.40	4.85	4.35
47F1853	GHP38000	1.0	38.0	H	1.594	22	6.00	5.40	4.85
				QUARTZ					
47F1864	GQP1R800	0.6	1.8	Q	0.297	24	5.00	4.50	4.05
47F1866	GQP5R500	0.6	5.5	Q	0.547	22	5.60	5.05	4.55
47F1867	GQP9R500	0.6	9.5	Q	0.984	22	7.40	6.65	6.00
47F1865	GQP16000	0.8	16.0	Q	1.594	22	9.20	8.30	7.45

PRINTED CIRCUIT MOUNTING TYPES GGC, GHC AND GQC

STANDARD GLASS

Stk. No.	Model	Cap. Range in pF Min.	Cap. Range in pF Max.	Temp. Char. (See Table)	Length A Max.	Lead Spacing B ±0.031	Wire Size W (AWG)	1-24	25-49
47F1823	GGC4R500	0.8	4.5	J	0.312	0.250	24	2.80	2.60
47F1824	GGC8R500	0.8	8.5	J	0.562	0.438	22	3.00	2.75
47F1820	GGC12000	0.8	12.0	H	0.766	0.625	22	3.35	3.05
47F1821	GGC18000	0.8	18.0	H	1.000	0.875	22	3.95	3.60
47F1822	GGC30000	1.0	30.0	H	1.609	1.375	22	4.15	3.80
				HI-RANGE GLASS					
47F1844	GHC5R500	0.8	5.5	J	0.312	0.250	24	3.40	3.05
47F1840	GHC11000	0.8	11.0	J	0.562	0.438	22	3.80	3.40
47F1841	GHC16000	0.8	16.0	H	0.766	0.625	22	4.40	3.95
47F1842	GHC23000	0.8	23.0	H	1.000	0.875	22	5.00	4.50
47F1843	GHC38000	1.0	38.0	H	1.609	1.375	22	5.60	5.05
				QUARTZ					
47F1860	GQC1R800	0.6	1.8	Q	0.312	0.250	24	4.60	4.15
47F1862	GQC5R500	0.6	5.5	Q	0.562	0.438	22	5.20	4.70
47F1863	GQC9R500	0.6	9.5	Q	1.000	0.875	22	7.00	6.30
47F1861	GQC16000	0.8	16.0	Q	1.609	1.375	22	8.80	7.90

TYPES GER, GFR, GEL AND GFL

STANDARD GLASS

Stk. No.	Model	Cap. Range in pF Min.	Cap. Range in pF Max.	Lgth. A	Lead Spacing B ±0.031	1-24	25-49
47F1805	GER14000	1.0	14	0.469	.....	6.20	5.60
47F1806	GER28000	1.0	28	0.703	.....	6.50	5.85
47F1807	GER42000	1.0	42	0.922	.....	6.80	6.10
47F1808	GER60000	1.0	60	1.172	.....	7.40	6.65
47F1809	GER90000	1.0	90	1.766	.....	8.60	7.75
47F1800	GEL14000	1.0	14	0.780	0.700	6.20	5.60
47F1801	GEL28000	1.0	28	1.020	0.940	6.50	5.85
47F1802	GEL42000	1.0	42	1.235	1.155	6.80	6.10
47F1803	GEL60000	1.0	60	1.480	1.400	7.40	6.65
47F1804	GEL90000	1.0	90	2.080	2.000	8.60	7.75

NOTE: Higher quantity prices available.

HI-RANGE GLASS

Stk. No.	Model	Cap. Range in pF Min.	Cap. Range in pF Max.	Lgth. A	Lead Spacing B	1-24	25-99
47F1816	GFR16000	1.0	16	0.469	.....	10.20	9.20
47F1817	GFR36000	1.0	36	0.703	.....	10.50	9.45
47F1818	GFR52000	1.0	52	0.922	.....	10.80	9.70
47F1819	GFR75000	1.0	75	1.172	.....	11.40	10.25
47F1815	GFR12100	1.0	120	1.766	.....	12.60	11.35
47F1811	GFL16000	1.0	16	0.780	0.700	10.20	9.20
47F1812	GFL36000	1.0	36	1.020	0.940	10.50	9.45
47F1813	GFL52000	1.0	52	1.235	1.155	10.88	9.70
47F1814	GFL75000	1.0	75	1.480	1.400	11.40	10.25
47F1810	GFL12100	1.0	120	2.080	2.000	12.60	11.35

TEMPERATURE TABLE

Temp. Char.	Oper. Temp. Range	Temp. Coeff. (ppm/°C)	Insul. Resis. at Peak Temp. (MΩ)
E, F, G	−55°C to +125°C	±150	10^5
H	−55°C to +125°C	±100	10^5
J	−55°C to +125°C	±50	10^5
Q	−55°C to +150°C	+50, −0	10^6

PANEL MOUNTING TYPES GGR AND GHR

STANDARD GLASS

Stk. No.	Model	Cap. Range in pF Min.	Cap. Range in pF Max.	D.C. Volts	Temp. Char. (See Table)	Length A ±0.031	Wire Size W (AWG)	1-24	25-49
47F1838	GGR4R500	0.8	4.5	750	J	0.359	24	3.80	3.40
47F1839	GGR8R500	0.8	8.5	1250	J	0.594	22	4.00	3.60
47F1835	GGR12000	0.8	12.0	1250	H	0.812	22	4.40	3.95
47F1836	GGR18000	0.8	18.0	1250	H	1.062	22	4.35	3.95
47F1837	GGR30000	1.0	30.0	1250	H	1.656	22	5.30	4.70
					HI-RANGE GLASS				
47F1859	GHR5R500	0.8	5.5	750	J	0.359	24	4.60	4.15
47F1855	GHR11000	0.8	11.0	1250	J	0.594	22	5.00	4.50
47F1856	GHR16000	0.8	16.0	1250	H	0.812	22	5.60	5.05
47F1857	GHR23000	0.8	23.0	1250	H	1.062	22	6.20	5.60
47F1858	GHR38000	1.0	38.0	1250	H	1.656	22	6.80	6.10

PRINTED CIRCUIT MOUNTING TYPES GGL, GHL AND GPL

STANDARD GLASS

Stk. No.	Model	Cap. Range in pF Min.	Cap. Range in pF Max.	D.C. Volts	Temp. Char. (See Table)	Lead A Max.	Lead Spacing B ±0.031	Wire Size W (AWG)	1-24
47F1828	GGL4R500	0.8	4.5	750	J	0.656	0.500	24	2.80
47F1829	GGL8R500	0.8	8.5	1250	J	0.906	0.703	22	4.00
47F1825	GGL12000	0.8	12.0	1250	H	1.109	0.844	22	4.40
47F1826	GGL18000	0.8	18.0	1250	H	1.359	1.016	22	3.95
47F1827	GGL30000	1.0	30.0	1250	H	1.953	1.469	22	5.20
					HI-RANGE GLASS				
47F1849	GHL5R500	0.8	5.5	750	J	0.656	0.500	24	4.60
47F1845	GHL11000	0.8	11.0	1250	J	0.906	0.703	22	5.00
47F1846	GHL16000	0.8	16.0	1250	H	1.109	0.844	22	5.60
47F1847	GHL23000	0.8	23.0	1250	H	1.359	1.016	22	6.20
47F1848	GHL38000	1.0	38.0	1250	H	1.958	1.469	22	6.80

Cornell Dubilier Capacitors

WBR TUBULAR ELECTROLYTICS

Compact aluminum cased. All welded construction. Has plastic sleeve, except 600V and 700V which has cardboard. Temp. −40°C to +85°C to 450V.

6V DC

Stock No.	Type	Mfd.	D x L	1-24	25-49	50-99	100-249	250-499	500-999
15F153	WBR1000-6	1000	.625x1.437	1.20	.90	.70	.56	.48	.44
15F154	WBR2000-6	2000	.75x1.437	1.44	1.08	.84	.67	.58	.53

10V DC

67F2297	WBR3000-10	3000	.75x1.687	2.16	1.61	1.25	1.00	.86	.79
67F2298	WBR4000-10	4000	.875x1.687	2.55	1.92	1.49	1.19	1.02	.94
67F2299	WBR5000-10	5000	.875x2.0	3.06	2.30	1.79	1.43	1.22	1.12
67F2300	WBR10000-10	10000	1.0x2.687	4.14	3.10	2.41	1.93	1.65	1.52

16V DC

67F2301	WBR100-16	100	.312x.75	.72	.53	.41	.33	.28	.26
15F159	WBR250-16	250	.375x1.0	.93	.69	.54	.43	.37	.34
15F160	WBR500-16	500	.50x1.437	1.11	.83	.64	.51	.44	.40
15F165	WBR1000-16	1000	.625x1.687	1.47	1.10	.86	.69	.59	.54
15F166	WBR2000-16	2000	.75x2.0	1.71	1.29	1.00	.80	.69	.63
15F194	WBR3000-16	3000	.75x2.5	2.49	1.86	1.45	1.16	.99	.91
15F195	WBR4000-16	4000	.875x2.5	3.06	2.30	1.79	1.43	1.23	1.12
15F196	WBR5000-16	5000	1.0x2.187	3.36	2.52	1.96	1.57	1.35	1.23
67F2302	WBR10000-16	10000	1.125x3.562	5.31	3.97	3.09	2.47	2.12	1.94

25V DC

15F317	WBR10-25	10	.25x.50	.60	.44	.34	.27	.23	.21
15F319	WBR25-25	25	.312x.625	.63	.46	.36	.29	.25	.23
15F320	WBR50-25	50	.312x.75	.66	.48	.38	.30	.26	.24
15F321	WBR100-25	100	.375x.75	.78	.57	.45	.36	.31	.28
15F162	WBR250-25	250	.50x1.437	1.08	.80	.63	.50	.43	.39
15F163	WBR500-25	500	.625x1.437	1.44	1.08	.84	.67	.58	.53
15F112	WBR1000-25	1000	.75x1.687	2.43	1.81	1.41	1.13	.97	.89
15F113	WBR2000-25	2000	.75x2.50	2.97	2.23	1.73	1.39	1.19	1.09

35V DC

67F2303	WBR100-35	100	.375x1.0	.78	.57	.45	.36	.31	.28
67F2304	WBR150-35	150	.50x1.062	.87	.64	.50	.40	.34	.31
67F2305	WBR300-35	300	.675x1.062	1.08	.80	.63	.50	.43	.39
67F2306	WBR500-35	500	.675x1.437	1.47	1.10	.86	.69	.59	.54
67F2307	WBR1000-35	1000	.75x1.687	2.46	1.84	1.43	1.14	.98	.90
67F2308	WBR2000-35	2000	.875x2.5	3.27	2.46	1.91	1.53	1.31	1.20
67F2309	WBR3000-35	3000	1.0x2.5	3.69	2.75	2.14	1.71	1.47	1.35
67F2310	WBR5500-35	5500	1.125x3.562	5.52	4.13	3.21	2.57	2.20	2.02

50V DC

15F322	WBR1-50	1	.25x.50	.54	.39	.31	.24	.21	.19
15F323	WBR2-50	2	.25x.50	.54	.39	.31	.24	.21	.19
15F325	WBR5-50	5	.25x.50	.57	.43	.33	.26	.23	.21
15F326	WBR10-50	10	.375x.625	.60	.44	.34	.27	.23	.21
15F327	WBR25-50	25	.375x.625	.63	.46	.36	.29	.25	.23
67F2312	WBR35-50	35	.375x.75	.66	.48	.38	.30	.26	.24
67F2313	WBR50-50	60	.375x.875	.75	.55	.43	.34	.29	.27
15F164	WBR100-50	100	.50x1.437	.81	.60	.46	.37	.32	.29
67F2314	WBR125-50	125	.50x1.437	.84	.62	.48	.39	.33	.30
15F199	WBR150-50	150	.625x1.062	.90	.67	.52	.42	.36	.33
15F198	WBR250-50	250	.625x1.437	1.14	.85	.66	.53	.45	.42
15F197	WBR500-50	500	.75x1.687	1.50	1.13	.88	.70	.60	.55
15F114	WBR1000-50	1000	.875x2.0	2.52	1.88	1.47	1.17	1.01	.92
15F536	WBR1500-50	1500	1.0x2.187	3.09	2.32	1.80	1.44	1.24	1.13
15F537	WBR2000-50	2000	1.0x2.687	3.51	2.64	2.05	1.64	1.41	1.29
15F347	WBR3000-50	3000	1.0x4.062	3.99	2.98	2.32	1.86	1.59	1.46
67F2315	WBR5000-50	5000	1.375x3.625	5.97	4.48	3.48	2.79	2.39	2.19

75V DC

67F2316	WBR150-75	150	.625x1.437	.96	.72	.56	.45	.39	.35
67F2317	WBR275-75	275	.75x1.687	1.35	1.01	.79	.63	.54	.49
67F2318	WBR500-75	500	.875x2.0	2.25	1.68	1.30	1.04	.90	.82
67F2319	WBR1000-75	1000	1.0x2.5	3.84	2.87	2.23	1.79	1.53	1.40
67F2320	WBR2000-75	2000	1.375x2.562	5.37	4.02	3.12	2.50	2.14	1.96

100V DC

67F2321	WBR400-100	400	.875x2.5	1.83	1.38	1.07	.87	.74	.67
67F2322	WBR600-100	600	1.0x2.687	2.73	2.06	1.60	1.28	1.10	1.01
67F2324	WBR1000-100	1000	1.0x4.062	4.14	3.10	2.41	1.93	1.65	1.52
67F2325	WBR1500-100	1500	1.375x3.625	4.44	3.33	2.59	2.07	1.78	1.63
67F2326	WBR2000-100	2000	1.375x4.125	5.82	4.36	3.39	2.71	2.33	2.13

150V DC

15F330	WBR4-150	4	.312x.75	.60	.44	.34	.27	.23	.21
67F2327	WBR5-150	5	.375x.625	.60	.44	.34	.27	.23	.21
15F331	WBR8-150	8	.375x.75	.63	.46	.36	.29	.25	.23
15F332	WBR10-150	10	.375x.875	.63	.47	.37	.29	.25	.23
15F334	WBR16-150	16	.375x1.0	.69	.51	.39	.32	.27	.25
15F313	WBR20-150	20	.375x1.25	.69	.51	.39	.32	.27	.25
15F862	WBR30-150	30	.375x1.50	.75	.55	.43	.34	.29	.27
15F124	WBR40-150	40	.625x1.437	.81	.60	.46	.37	.32	.29

150V DC

Stock No.	Type	Mfd.	D x L	1-24	25-49	50-99	100-249	250-499	500-999
15F125	WBR50-150	50	.625x1.437	.84	.62	.48	.39	.33	.30
15F303	WBR60-150	60	.625x1.457	.87	.64	.50	.40	.34	.31
15F126	WBR80-150	80	.75x1.437	.93	.69	.54	.43	.37	.34
15F167	WBR100-150	100	.75x1.687	1.02	.76	.59	.47	.41	.37
15F168	WBR150-150	150	.875x1.687	1.11	.83	.64	.51	.44	.40
67F2328	WBR160-150	160	.875x1.687	1.11	.83	.64	.51	.44	.40
15FQ98	WBR200-150	200	.875x2.0	1.35	1.01	.79	.63	.54	.49
15F118	WBR250-150	250	1.0x1.687	1.69	1.26	.98	.79	.67	.62
15F099	WBR300-150	300	1.0x2.187	1.83	1.38	1.07	.87	.74	.67
67F2329	WBR350-150	350	1.0x2.187	1.92	1.44	1.12	.90	.77	.71
67F2330	WBR500-150	500	1.125x2.50	3.21	2.40	1.87	1.49	1.28	1.17

180V DC

67F2331	WBR125-180	125	.75x2.5	1.23	.93	.72	.58	.50	.46
67F2332	WBR225-180	225	.875x2.5	1.65	1.24	.97	.77	.66	.61
67F2333	WBR260-180	260	1.0x2.187	2.28	1.70	1.32	1.06	.91	.83
67F2334	WBR400-180	400	1.125x2.5	3.00	2.25	1.75	1.40	1.20	1.10

250V DC

15F993	WBR4-250	4	.50x1.062	.66	.48	.38	.30	.26	.24
15F994	WBR8-250	8	.50x1.437	.72	.54	.42	.34	.29	.27
15F995	WBR12-250	12	.50x1.437	.78	.57	.45	.36	.31	.28
15F115	WBR16-250	16	.625x1.062	.84	.62	.48	.39	.33	.30
15F116	WBR20-250	20	.75x1.062	.87	.64	.50	.40	.34	.31
15F304	WBR30-250	30	.75x1.437	.93	.69	.54	.43	.37	.34
15F117	WBR40-250	40	.625x1.687	1.02	.76	.59	.47	.41	.37
15F305	WBR50-250	50	.75x1.687	1.11	.83	.64	.51	.44	.40
15F306	WBR60-250	60	.75x2.0	1.14	.85	.66	.53	.45	.42
67F2335	WBR80-250	80	.875x2.0	1.23	.92	.72	.57	.49	.45
15F119	WBR100-250	100	.875x2.0	1.32	.99	.77	.62	.53	.48
67F2336	WBR160-250	160	1.0x2.187	1.71	1.29	1.00	.80	.69	.63
67F2337	WBR225-250	225	1.0x2.687	2.16	1.61	1.25	1.00	.86	.79
67F2338	WBR300-250	300	1.0x3.562	3.21	2.40	1.87	1.49	1.28	1.17
67F2339	WBR450-250	450	1.375x3.062	3.69	2.75	2.14	1.71	1.47	1.35

350V DC

15F886	WBR4-350	4	.50x1.062	.69	.51	.39	.32	.27	.25
15F887	WBR8-350	8	.625x1.062	.75	.55	.43	.34	.29	.27
15F890	WBR20-350	20	.75x1.437	.93	.69	.54	.43	.37	.34
15F892	WBR40-350	40	.75x1.687	1.11	.83	.64	.51	.44	.40
15F894	WBR60-350	60	.75x2.50	1.23	.92	.72	.57	.49	.45
15F896	WBR100-350	100	1.0x2.0	1.50	1.13	.88	.70	.60	.55
67F2340	WBR160-350	160	1.125x2.5	2.40	1.79	1.39	1.12	.96	.88
15F122	WBR200-350	200	1.0x4.062	2.43	1.81	1.41	1.13	.97	.89
67F2341	WBR250-350	250	1.125x3.562	3.18	2.39	1.86	1.49	1.27	1.17

450V DC

15F102	WBR1-450	1	.625x1.062	.69	.52	.40	.32	.28	.25
15F103	WBR2-450	2	.625x1.062	.72	.53	.41	.33	.28	.26
15F104	WBR4-450	4	.625x1.062	.75	.55	.43	.34	.29	.27
67F2342	WBR5-450	5	.625x1.062	.78	.57	.45	.36	.31	.28
15F105	WBR8-450	8	.75x1.062	.81	.60	.46	.37	.32	.29
15F106	WBR10-450	10	.75x1.062	.81	.60	.46	.37	.32	.29
15F107	WBR12-450	12	.75x1.062	.87	.64	.50	.40	.34	.31
15F108	WBR16-450	16	.75x1.062	.93	.69	.54	.43	.37	.34
15F109	WBR20-450	20	.75x1.687	.99	.74	.57	.46	.39	.36
15F110	WBR30-450	30	.875x1.687	1.08	.80	.63	.50	.43	.39
15F111	WBR40-450	40	.875x2.0	1.14	.85	.66	.53	.45	.42
67F2343	WBR50-450	50	.875x2.5	1.32	.99	.77	.62	.53	.48
15F147	WBR60-450	60	1.0x2.187	1.47	1.10	.86	.69	.59	.54
15F148	WBR80-450	80	1.0x2.687	1.71	1.29	1.00	.80	.69	.63
15F169	WBR100-450	100	1.0x3.562	2.01	1.52	1.18	.94	.81	.74
67F2344	WBR120-450	120	1.125x3.0	2.13	1.59	1.23	.99	.85	.78
67F2345	WBR160-450	160	1.125x4.062	2.91	2.18	1.70	1.36	1.16	1.07
67F2346	WBR225-450	225	1.375x3.625	4.11	3.08	2.39	1.91	1.64	1.50

500V DC

67F2347	WBR1-500	1	.50x1.062	.75	.55	.43	.34	.29	.27
67F2348	WBR3-500	3	.50x1.437	.78	.57	.45	.36	.31	.28
67F2349	WBR5-500	5	.625x1.062	.81	.60	.46	.37	.32	.29
15F100	WBR8-500	8	.75x1.062	.84	.62	.48	.39	.33	.30
67F2350	WBR10-500	10	.625x1.687	.87	.64	.50	.40	.34	.31
15F101	WBR16-500	16	.75x1.687	.96	.71	.55	.44	.38	.35
15F145	WBR20-500	20	.75x2.0	1.02	.76	.59	.47	.41	.37
15F146	WBR30-500	30	.875x1.687	1.14	.85	.66	.53	.45	.42
67F2351	WBR40-500	40	.875x2.5	1.59	1.20	.93	.74	.64	.59
67F2352	WBR60-500	60	1.0x2.5	1.95	1.47	1.14	.92	.78	.72

600V DC

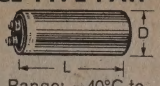
15F183	WBR4-600	4	.687x2.437	1.47	1.10	.86	.69	.59	.54
15F185	WBR8-600	8	.812x2.437	1.71	1.29	1.00	.80	.69	.63
15F186	WBR10-600	10	.812x3.187	1.83	1.38	1.07	.87	.74	.67
15F188	WBR16-600	16	.937x3.187	2.16	1.61	1.25	1.00	.86	.79
15F184	WBR20-600	20	.937x3.687	2.37	1.76	1.38	1.10	.94	.87

700V DC

15F190	WBR10-700	10	.937x3.812	1.89	1.42	1.11	.89	.76	.70
15F192	WBR16-700	16	.937x4.312	2.31	1.72	1.34	1.07	.92	.84

Cornell Dubilier Aluminum Electrolytics

COMPUTER GRADE HIGH CAPACITANCE TYPE FAH



Low leakage current, minimum ESR, high 120cps ripple currents, molded terminal block with safety vent seal, provided with screw terminals, plastic insulating sleeve. Oper. Temp. Range: −40°C to +85°C. Tol: 3-50 VDC, −10 +100%; 51-350 VDC, −10 +75%; 351-450 VDC, −10 +50%.

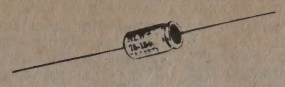
Stk. No.	Type*	VDC	Cap. μF	1-24	25-49	50-99	100-Up
67F2353	FAH8500-10-A1	10	8500	2.33	1.63	1.26	1.12
67F2354	FAH14500-10-A2	10	14500	2.75	1.93	1.49	1.32
67F2355	FAH22000-10-A3	10	22000	3.15	2.21	1.70	1.51
67F2356	FAH32000-10-B2	10	32000	4.95	3.47	2.68	2.38
67F2357	FAH55000-10-B3	10	55000	5.40	3.78	2.92	2.59
67F2358	FAH125000-10-C6	10	125000	11.28	7.89	6.09	5.41
67F2359	FAH200000-10-D6	10	200000	15.20	10.46	8.21	7.30
67F2360	FAH6500-15-A1	15	6500	2.33	1.63	1.26	1.12
67F2361	FAH12000-15-A2	15	12000	2.75	1.93	1.49	1.32
67F2362	FAH18000-15-A3	15	18000	3.20	2.24	1.73	1.53
67F2363	FAH27000-15-B2	15	27000	4.95	3.47	2.68	2.38
67F2364	FAH42500-15-B3	15	42500	5.40	3.78	2.92	2.59
67F2365	FAH69000-15-C3	15	69000	7.95	5.57	4.29	3.82
67F2366	FAH100000-15-D3	15	100000	12.03	8.42	6.49	5.77
67F2367	FAH3700-25-A1	25	3700	2.33	1.63	1.26	1.12
67F2368	FAH6000-25-A2	25	6000	2.75	1.93	1.49	1.32
67F2369	FAH11000-25-A3	25	11000	3.20	2.24	1.73	1.53
67F2370	FAH24000-25-B3	25	24000	5.40	3.78	2.92	2.59
67F2371	FAH39500-25-C3	25	39500	7.95	5.57	4.29	3.82
67F2372	FAH59000-25-D3	25	59000	12.03	8.42	6.49	5.77
67F2373	FAH84000-25-D6	25	84000	15.33	10.73	8.28	7.35
67F2374	FAH42500-30-D3	30	42500	12.03	8.42	6.49	5.77
67F2375	FAH6300-40-A3	40	6300	3.20	2.24	1.73	1.53
67F2376	FAH12000-40-B2	40	12000	4.95	3.47	2.68	2.38
67F2377	FAH14500-40-B3	40	14500	5.53	3.87	2.98	2.65
67F2378	FAH23500-40-C3	40	23500	7.95	5.57	4.29	3.82
67F2379	FAH1600-50-A1	50	1600	2.40	1.68	1.30	1.15
67F2380	FAH3000-50-A2	50	3000	2.83	1.98	1.53	1.35
67F2381	FAH4500-50-A3	50	4500	3.33	2.33	1.80	1.59
67F2382	FAH7000-50-B2	50	7000	4.95	3.47	2.68	2.38
67F2383	FAH9500-50-B3	50	9500	5.53	3.87	2.98	2.65
67F2384	FAH20000-50-C3	50	20000	7.95	5.57	4.29	3.82
67F2385	FAH23000-50-D3	50	23000	12.03	8.42	6.49	5.77
67F2386	FAH40000-50-D6	50	40000	15.70	10.99	8.48	7.53
67F2387	FAH2600-75-A3	75	2600	3.45	2.42	1.86	1.65
67F2388	FAH4100-75-B2	75	4100	4.95	3.47	2.68	2.38
67F2389	FAH6500-75-B3	75	6500	6.75	4.73	3.65	3.24
67F2390	FAH10500-75-C3	75	10500	7.95	5.57	4.29	3.82
67F2391	FAH16000-75-D3	75	16000	12.03	8.42	6.49	5.77
67F2392	FAH22500-75-D6	75	22500	15.70	10.99	8.48	7.53
67F2393	FAH800-100-A1	100	800	2.40	1.68	1.30	1.15
67F2394	FAH1650-100-A3	100	1650	3.45	2.42	1.86	1.65
67F2395	FAH4100-100-B3	100	4100	5.63	3.94	3.04	2.70
67F2396	FAH6500-100-C3	100	6500	8.20	5.74	4.43	3.94
67F2397	FAH9000-100-C6	100	9000	12.38	8.67	6.69	5.94
67F2398	FAH400-150-A1	150	400	2.40	1.68	1.30	1.15
67F2399	FAH1050-150-A3	150	1050	3.45	2.42	1.86	1.65
67F2400	FAH1850-150-B2	150	1850	5.18	3.63	2.80	2.49
67F2401	FAH2600-150-B3	150	2600	5.78	4.04	3.12	2.77
67F2402	FAH4100-150-C3	150	4100	8.33	5.83	4.50	4.00
67F2403	FAH5500-150-D3	150	5500	12.03	8.42	6.49	5.77
67F2404	FAH8500-150-D6	150	8500	15.70	10.99	8.48	7.53
67F2405	FAH250-200-A1	200	250	2.45	1.72	1.32	1.18
67F2406	FAH430-200-A2	200	430	3.05	2.14	1.65	1.47
67F2407	FAH640-200-A3	200	640	3.45	2.42	1.86	1.65
67F2408	FAH1500-200-B3	200	1500	5.78	4.04	3.12	2.77
67F2409	FAH3700-200-D3	200	3700	12.03	8.42	6.49	5.77
67F2410	FAH5500-200-D6	200	5500	15.70	10.99	8.48	7.53
67F2411	FAH530-250-A3	250	530	3.45	2.42	1.86	1.65
67F2412	FAH1200-250-B3	250	1200	6.13	4.29	3.31	2.94
67F2413	FAH3000-250-C6	250	3000	12.75	8.93	6.89	6.12
67F2414	FAH4500-250-D6	250	4500	15.70	10.99	8.48	7.53
67F2415	FAH275-300-A2	300	275	3.20	2.24	1.73	1.53
67F2416	FAH1050-300-B3	300	1050	6.75	4.73	3.65	3.24
67F2417	FAH2500-300-D3	300	2500	12.03	8.42	6.49	5.77
67F2418	FAH100-350-A1	350	100	2.83	1.98	1.53	1.35
67F2419	FAH190-350-A2	350	190	3.33	2.33	1.80	1.59
67F2420	FAH420-350-B2	350	420	6.00	4.20	3.24	2.88
67F2421	FAH650-350-B3	350	650	6.75	4.73	3.65	3.24
67F2422	FAH1200-350-C3	350	1200	9.80	6.86	5.30	4.71
67F2423	FAH1700-350-D3	350	1700	12.03	8.42	6.49	5.77
67F2424	FAH2500-350-D6	350	2500	15.95	11.17	8.61	7.65
67F2425	FAH500-400-B3	400	500	6.75	4.73	3.65	3.24

*CASE CODE AND UNINSULATED CASE SIZES

Last two digits of CDE No. indicate case size (FAH6500-15-A1). Add 1/16" to dia. and 3/8" to lgth. for size including sleeve.

Code	Size, In. Dia. x L.	Code	Size, In. Dia. x L.
A1	1 3/8 x 2 1/8	C3	2 1/2 x 4 1/8
A2	1 3/8 x 3 1/8	C6	2 1/2 x 5 5/8
A3	1 3/8 x 4 1/8	D3	3 x 4 1/8
B2	2 x 3 1/8	D6	3 x 5 5/8
B3	2 x 4 1/8		

NLW ELECTROLYTIC CAPACITORS



Type NLW. Rugged physical construction. Hermetically sealed aluminum foil electrolytic capacitors. Low leakage currents; freedom from shorts. Long shelf and operating life. Suitable for printed circuits. Tinned copper leads with plastic sleeves. Temperature range, −40°C to +105°. Tol. −10% to +75%.

Stock No.	Type NLW	Cap. Mfd.	WV DC	DXL	1-24	25-49	50-99	100-249	250-499	500-999
15F1007	200-3	200	3	5/16 x 3/4	.78	.53	.42	.319	.264	.242
15F2087	450-3	450	3	3/8 x 7/8	.87	.60	.48	.363	.30	.275
47F831	500-3	500	3	3/8 x 1	.87	.60	.48	.363	.30	.275
15F1014	10-6	10	6	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F2088	20-6	20	6	1/4 x 1/2	.54	.37	.30	.226	.187	.171
47F833	100-6	100	6	5/16 x 5/8	.78	.53	.42	.319	.264	.242
15F2089	150-6	150	6	3/8 x 7/8	.81	.56	.44	.334	.276	.253
47F834	200-6	200	6	3/8 x 3/4	.81	.56	.44	.334	.276	.253
15F2090	250-6	250	6	3/8 x 7/8	.84	.58	.46	.348	.288	.264
15F2091	300-6	300	6	3/8 x 7/8	.84	.58	.46	.348	.288	.264
47F835	500-6	500	6	3/8 x 1 1/4	.90	.63	.50	.377	.312	.286
47F837	800-6	800	6	3/8 x 1 1/2	.96	.69	.55	.414	.349	.315
15F1085	4-16	4	16	1/4 x 1/2	.54	.38	.30	.226	.187	.171
15F1028	5-16	5	16	1/4 x 1/2	.54	.38	.30	.226	.187	.171
15F1029	10-16	10	16	1/4 x 1/2	.54	.38	.30	.226	.187	.171
15F1062	15-16	15	16	1/4 x 1/2	.54	.38	.30	.226	.187	.171
15F1030	20-16	20	16	1/4 x 1/2	.54	.38	.30	.226	.187	.171
15F1087	25-16	25	16	1/4 x 5/8	.54	.38	.30	.226	.187	.171
15F1063	50-16	50	16	5/16 x 5/8	.60	.42	.33	.254	.21	.193
15F1064	100-16	100	16	5/16 x 3/4	.81	.56	.44	.334	.276	.253
15F2096	150-16	150	16	3/8 x 3/4	.84	.58	.46	.348	.288	.264
15F2097	200-16	200	16	3/8 x 7/8	.87	.60	.48	.363	.30	.275
47F838	300-16	300	16	3/8 x 1 1/4	.90	.63	.50	.377	.312	.286
47F839	450-16	450	16	3/8 x 1 1/2	.96	.69	.55	.414	.349	.315
47F840	1-25	1	25	1/4 x 1/2	.54	.37	.30	.226	.187	.171
47F841	2-25	2	25	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F2098	3-25	3	25	1/4 x 1/2	.54	.37	.30	.226	.187	.171
47F842	5-25	5	25	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F1033	6-25	6	25	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F1092	8-25	8	25	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F1034	10-25	10	25	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F1035	15-25	15	25	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F1763	25-25	25	25	5/16 x 5/8	.60	.42	.33	.254	.21	.193
15F1094	35-25	35	25	5/16 x 5/8	.60	.42	.33	.254	.21	.193
15F1765	50-25	50	25	5/16 x 3/4	.78	.53	.42	.319	.264	.242
15F1766	100-25	100	25	3/8 x 3/4	.84	.58	.46	.348	.288	.264
47F843	150-25	150	25	3/8 x 1	.87	.60	.48	.363	.30	.275
47F844	200-25	200	25	3/8 x 1 1/4	.93	.64	.51	.386	.319	.292
47F845	250-25	250	25	3/8 x 1 1/2	.96	.69	.55	.414	.349	.315
15F1096	1-50	1	50	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F1097	2-50	2	50	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F2099	3-50	3	50	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F1767	4-50	4	50	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F1037	5-50	5	50	1/4 x 1/2	.54	.37	.30	.226	.187	.171
15F2100	8-50	8	50	1/4 x 5/8	.54	.37	.30	.226	.187	.171
15F1038	10-50	10	50	1/4 x 5/8	.60	.42	.33	.254	.21	.193
15F1144	15-50	15	50	5/16 x 5/8	.60	.42	.33	.254	.21	.193
15F1039	20-50	20	50	5/16 x 3/4	.78	.53	.42	.319	.264	.242
15F1145	25-50	25	50	5/16 x 3/4	.78	.53	.42	.319	.264	.242
15F1066	30-50	30	50	3/8 x 5/8	.81	.55	.44	.334	.276	.253
15F2101	35-50	35	50	3/8 x 3/4	.81	.55	.44	.334	.276	.253
15F1147	40-50	40	50	3/8 x 3/4	.84	.58	.46	.348	.288	.264
15F1768	50-50	50	50	3/8 x 7/8	.84	.58	.46	.348	.288	.264
15F1067	75-50	75	50	3/8 x 1	.87	.60	.48	.363	.30	.275
47F846	100-50	100	50	3/8 x 1 1/4	.90	.62	.49	.377	.312	.286
47F847	125-50	125	50	3/8 x 1 1/2	.96	.69	.54	.414	.349	.315
15F1040	2-100	2	100	1/4 x 1/2	.60	.42	.33	.254	.21	.193
15F1045	10-100	10	100	3/8 x 3/4	.81	.55	.44	.334	.276	.253
15F1047	20-100	20	100	3/8 x 1	.87	.60	.48	.363	.30	.275
47F849	25-100	25	100	3/8 x 1	.90	.62	.49	.377	.312	.286
15F2102	1-150	1	150	1/4 x 1/2	.60	.42	.33	.254	.21	.193
15F1148	2-150	2	150	1/4 x 5/8	.60	.42	.33	.254	.21	.193
15F2103	4-150	4	150	3/8 x 5/8	.78	.53	.42	.319	.264	.242
15F1049	5-150	5	150	3/8 x 5/8	.78	.53	.42	.319	.264	.242
15F1051	8-150	8	150	3/8 x 7/8	.81	.55	.44	.334	.276	.253
15F1052	10-150	10	150	3/8 x 7/8	.84	.58	.46	.348	.288	.264
15F1149	15-150	15	150	3/8 x 1 1/4	.87	.60	.48	.363	.30	.275
47F850	20-150	20	150	3/8 x 1 1/2	.93	.64	.51	.386	.319	.292
47F851	25-150	25	150	3/8 x 1 1/2	.96	.69	.54	.414	.349	.315

WBR CAP-KIT

The type WBR tubular electrolytic assortment is ideal for prototype shops, laboratory work, and general maintenance. The kit includes two each of the most popular WBR ratings.

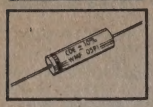
Type	Mfd.	WVDC	Type	Mfd.	WVDC
WBR1000-16	1000	16	WBR60-150	60	150
WBR10-50	10	50	WBR100-150	100	150
WBR100-50	100	50	WBR160-250	160	250
WBR250-50	250	50	WBR50-450	50	450
WBR500-50	500	50	WBR100-450	100	450
WBR1000-50	1000	50	WBR20-500	20	500
WBR2000-50	2000	50			

15F480. NET 19.50

8

Cornell Cubilier Capacitors

WMF MYLAR DIELECTRIC FILM ENCASED



Mylar film wrapping. End sealed with a high density thermo-setting plastic. Miniscule in size. High resistance to humidity. Full rated voltage @ 85C, 50% rated voltage @ 125C. Temp. range: —55 C to +125C. Tolerance: 10%.

50 WVDC

Stk. No.	Type	Mfd.	DxL (in.)	1-24	25-49	50-99	100-499	500-999
15F2104	WMF05P1	.1	.250x1 3/16	.36	.26	.21	.177	.147
15F2105	WMF05P12	.12	.275x1 3/16	.36	.28	.21	.181	.150
15F2106	WMF05P15	.15	.285x1 3/16	.36	.28	.21	.182	.152
15F2107	WMF05P18	.18	.315x1 3/16	.36	.29	.22	.187	.155
15F2108	WMF05P22	.22	.330x1 3/16	.40	.29	.23	.191	.160
15F2109	WMF05P27	.27	.390x1 3/16	.43	.32	.24	.210	.175
15F2110	WMF05P33	.33	.400x1 3/16	.46	.34	.26	.228	.190
15F2111	WMF05P39	.39	.375x1 1/16	.50	.39	.30	.253	.210
15F2112	WMF05P47	.47	.375x1 1/16	.56	.42	.33	.279	.232
15F2113	WMF05P5	.50	.395x1 1/16	.561	.43	.33	.284	.237
15F2114	WMF05P56	.56	.450x1 1/16	.66	.51	.40	.333	.278
15F2115	WMF05P68	.68	.490x1 1/16	.73	.54	.42	.355	.296
15F2116	WMF05P82	.82	.505x1 1/16	.89	.66	.52	.438	.364
15F2117	WMF05W1	1.0	.500x1 3/8	.99	.75	.59	.497	.414
15F2118	WMF05W2	2.0	.600x1 5/8	1.65	1.23	.96	.821	.685
15F2119	WMF05W3	3.0	.730x1 7/8	2.31	1.73	1.34	1.16	.96
15F2120	WMF05W4	4.0	.760x1 7/8	2.74	2.05	1.58	1.36	1.13
15F2121	WMF05W5	5.0	.850x1 7/8	3.40	2.55	1.98	1.71	1.42

100 WVDC

15F1450	WMF1D1	.001	.156x1/2					
15F1837	WMF1D12	.0012	.156x1/2					
15F1451	WMF1D15	.0015	.156x1/2					
15F1838	WMF1D18	.0018	.156x1/2					
15F1452	WMF1D22	.0022	.156x1/2					
15F1839	WMF1D27	.0027	.156x1/2					
15F1453	WMF1D33	.0033	.156x1/2					
15F1840	WMF1D39	.0039	.156x1/2	.30	.22	.17	.144	.120
15F1454	WMF1D47	.0047	.156x1/2					
15F1841	WMF1D5	.005	.156x1/2					
15F1842	WMF1D56	.0056	.156x1/2					
15F1455	WMF1D68	.0068	.175x1/2					
15F1843	WMF1D82	.0082	.175x1/2					
15F1456	WMF1S1	.01	.200x1/2					
15F1844	WMF1S12	.012	.215x1/2					
15F1457	WMF1S15	.015	.235x1/2					
15F1845	WMF1S18	.018	.255x1/2					
15F1458	WMF1S22	.022	.275x5/8	.30	.22	.17	.144	.120
15F1846	WMF1S27	.027	.300x5/8	.30	.22	.17	.144	.120
15F1459	WMF1S33	.033	.300x5/8	.30	.22	.17	.144	.120
15F1847	WMF1S39	.039	.245x3/4	.30	.22	.17	.144	.120
15F1460	WMF1S47	.047	.265x3/4	.30	.23	.18	.151	.125
15F1848	WMF1S5	.05	.270x3/4	.30	.23	.18	.151	.125
15F1849	WMF1S56	.056	.270x3/4	.33	.23	.19	.155	.130
15F1461	WMF1S68	.068	.280x3/4	.33	.24	.19	.158	.132
15F1850	WMF1S82	.082	.270x7/8	.33	.24	.19	.161	.133
15F1462	WMF1P1	.1	.290x7/8	.33	.24	.19	.162	.135
15F1463	WMF1P15	.15	.335x7/8	.33	.25	.20	.165	.138
15F1464	WMF1P22	.22	.385x1	.36	.26	.21	.174	.144
15F1465	WMF1P33	.33	.415x1 1/8	.43	.31	.24	.208	.174
15F1466	WMF1P47	.47	.475x1 1/4	.50	.37	.30	.253	.210
15F1467	WMF1P68	.68	.570x1 1/4	.66	.48	.37	.323	.270
15F1468	WMF1W1	1.0	.625x1 1/2	.92	.68	.53	.452	.377
15F1469	WMF1W1P25	1.25	.690x1 1/2	1.06	.78	.61	.520	.433
15F1470	WMF1W1P5	1.5	.715x1 5/8	1.22	.92	.72	.616	.513
15F1471	WMF1W2	2.0	.800x1 3/4	1.49	1.12	.87	.746	.622

200 WVDC

15F1742	WMF2D1	.001	.156x1/2					
15F1473	WMF2D15	.0015	.156x1/2					
15F1474	WMF2D22	.0022	.156x1/2					
15F1475	WMF2D33	.0033	.160x1/2	.30	.22	.17	.144	.120
15F1476	WMF2D47	.0047	.170x1/2					
15F1477	WMF2D68	.0068	.200x1/2					
15F1478	WMF2S1	.01	.230x1/2					
15F1479	WMF2S15	.015	.290x1/2	.30	.22	.17	.144	.120
15F1480	WMF2S22	.022	.275x5/8	.30	.22	.17	.144	.120
15F1481	WMF2S33	.033	.270x3/4	.30	.22	.17	.144	.120
15F1482	WMF2S47	.047	.320x3/4	.30	.23	.18	.151	.125
15F1483	WMF2S68	.068	.350x3/4	.33	.24	.19	.158	.132
15F1484	WMF2P1	.1	.410x7/8	.40	.29	.22	.191	.160
15F1485	WMF2P15	.15	.500x7/8	.40	.31	.24	.204	.170
15F1486	WMF2P22	.22	.500x1 1/8	.43	.32	.25	.215	.179
15F1487	WMF2P33	.33	.550x1 1/8	.50	.36	.29	.243	.202
15F1488	WMF2P47	.47	.600x1 1/4	.56	.42	.32	.276	.230
15F1489	WMF2P68	.68	.650x1 5/8	.66	.48	.37	.323	.270
15F1490	WMF2W1	1.0	.750x1 3/4	.92	.68	.53	.452	.377
15F1491	WMF2W1P25	1.25	.825x1 3/4	1.06	.78	.61	.520	.433
15F1492	WMF2W1P5	1.5	.900x1 3/4	1.22	.92	.72	.616	.513
15F1493	WMF2W2	2.0	.980x1 7/8	1.49	1.12	.87	.746	.622

400 WVDC

15F1494	WMF4D1	.001	.156x 5/8					
15F1495	WMF4D15	.0015	.156x 5/8					
15F1496	WMF4D22	.0022	.156x 5/8	.33	.24	.19	.164	.136
15F1497	WMF4D33	.0033	.190x 5/8					
15F1498	WMF4D47	.0047	.200x 5/8					
15F1499	WMF4D68	.0068	.250x 5/8					

400 WVDC (Con't.)

Stk. No.	Type	Mfd.	DxL (in.)	1-24	25-49	50-99	100-499	500-999
15F1500	WMF4S1	.01	.300x 5/8	.33	.24	.19	.164	.136
15F1501	WMF4S15	.015	.360x 5/8	.33	.24	.19	.164	.136
15F1502	WMF4S22	.022	.320x 3/4	.33	.24	.19	.164	.136
15F1503	WMF4S33	.033	.350x 7/8	.33	.24	.19	.164	.136
15F1504	WMF4S47	.047	.400x 7/8	.33	.25	.20	.171	.142
15F1505	WMF4S68	.068	.390x1	.36	.28	.21	.182	.152
15F1506	WMF4P1	.1	.465x1	.36	.28	.22	.185	.154
15F1507	WMF4P15	.15	.515x1 1/4	.40	.29	.22	.191	.160
15F1508	WMF4P22	.22	.565x1 3/8	.46	.33	.26	.221	.185
15F1509	WMF4P33	.33	.600x1 5/8	.73	.54	.42	.36	.30
15F1510	WMF4P47	.47	.700x1 5/8	.86	.64	.51	.428	.356
15F1511	WMF4P68	.68	.790x1 3/4	1.06	.78	.62	.524	.436
15F1512	WMF4W1	1.0	.875x2	1.25	.94	.73	.623	.518
15F1513	WMF4W1P25	1.25	.950x2	1.39	1.02	.80	.683	.570
15F1514	WMF4W1P5	1.5	.975x2 1/4	1.55	1.17	.90	.774	.645
15F1515	WMF4W2	2.0	1.250x2 1/4	2.05	1.53	1.19	1.02	.846

600 WVDC

15F1516	WMF6D1	.001	.170x 3/4					
15F1517	WMF6D15	.0015	.170x 3/4					
15F1518	WMF6D22	.0022	.187x 3/4					
15F1519	WMF6D33	.0033	.203x 3/4					
15F1520	WMF6D47	.0047	.234x 3/4	.36	.29	.22	.187	.155
15F1521	WMF6D68	.0068	.265x 3/4					
15F1522	WMF6S1	.01	.290x 3/4					
15F1523	WMF6S15	.015	.312x 7/8					
15F1524	WMF6S22	.022	.335x 7/8					
15F1525	WMF6S33	.033	.350x1					
15F1526	WMF6S47	.047	.415x1	.36	.29	.22	.187	.155
15F1527	WMF6S68	.068	.500x1	.40	.30	.23	.195	.163
15F1528	WMF6P1	.1	.520x1 3/8	.50	.36	.29	.241	.201
15F1529	WMF6P15	.15	.625x1 3/8	.50	.37	.30	.253	.210
15F1530	WMF6P22	.22	.660x1 5/8	.59	.43	.34	.287	.240
15F1935	WMF6P33	.33	.687x2	.99	.74	.57	.491	.408
15F1936	WMF6P47	.47	.855x2	1.25	.95	.74	.629	.524
15F1930	WMF6P68	.68	.970x2	1.68	1.27	.99	.844	.703
15F1931	WMF6W1	1.0	1.165x2 1/2	2.67	1.99	1.55	1.33	1.11
15F1932	WMF6W1P25	1.25	1.340x2 1/2	2.87	2.16	1.67	1.44	1.20
15F1933	WMF6W1P5	1.5	1.275x3	4.36	3.27	2.54	2.18	1.82
15F1934	WMF6W2	2.0	1.460 x 3					

Type MFP Space-Saver Flat Oval

Polyester film type similar to WFM but saves space. In ratings of 0.01 mfd. and above, often used as alternative to WMF or mil. type CTM. Highly moisture and humidity resistant. Max. operating temp. range: -55°C to +125°C; 85°C at full rated voltage with derating of 10% and 50% at 100 C and 125 C respectively. Tolerance: ±10%. 1⅝" min. copperweld leads. Thickness and width tolerances: up to and incl. .500" ±.032"; .501" to and incl. 1.000" ±.062"; larger than 1.000" ±.093.

100 VOLTS DCW

Stk. No	Type MFP-	Cap Mfd.	Size L.xW.xT.	1-24	25-49	50-99	100-499	500-999
15F1851	1S22-10	.022	.500x.343x.218	.33	.24	.18	.156	.13
15F1852	1S33-10	.033	.625x.312x.187	.36	.26	.20	.173	.144
15F1853	1S47-10	.047	.750x.312x.187	.36	.26	.20	.173	.144
15F1854	1S68-10	.068	.750x.343x.218	.36	.26	.20	.173	.144
15F1855	1P1-10	.10	.875x 343x.218	.39	.30	.23	.198	.165
15F1856	1P15-10	.15	.875x.406x.250	.42	.32	.25	.215	.179
15F1857	1P22-10	.22	1.000x.468x.281	.48	.35	.27	.231	.193
15F1858	1P33-10	.33	1.125x.500x.312	.51	.37	.29	.248	.206
15F1859	1P47-10	.37	1.250x.531x.375	.57	.42	.33	.281	.234
15F1860	1P68-10	.68	1.250x.687x.468	.63	.47	.37	.314	.261
15F1861	1W1-10	1.00	1.500x.718x.500	.84	.64	.49	.423	.353
15F1862	1W1P25-10	1.25	1.500x.718x.562	.99	.74	.58	.495	.413
15F1863	1W1P5-10	1.50	1.750x.843x.656	1.14	.86	.67	.57	.475
15F1864	1W2-10	2.0	1.750x1.062x.843	1.38	1.04	.81	.69	.575

200 VOLTS DCW

15F1866	2S22-10	.022	.625x.343x.218	.33	.24	.18	.156	.13
15F1868	2S47-10	.047	.750x.375x.250	.36	.26	.20	.173	.144
15F1869	2S68-10	.068	.750x.437x.250	.36	.26	.20	.173	.144
15F1870	2P1-10	.10	.875x.500x.312	.39	.30	.23	.198	.165
15F1872	2P22-10	.22	1.125x.562x.406	.48	.35	.27	.231	.193
15F1874	2P47-10	.47	1.125x.656x.500	.57	.42	.33	.281	.234
15F1876	2W1-10	1.00	1.750x.812x.625	.84	.64	.49	.423	.353
15F1879	2W2-10	2.00	1.875x1.062x.843	.138	1.04	.81	.69	.575

400 VOLTS DCW

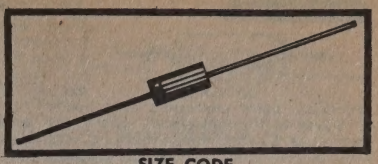
15F1881	4S22-10	.022	.750x.375x.250	.36	.26	.20	.173	.144
15F1883	4S47-10	.047	.875x.500x.343	.39	.29	.22	.191	.159
15F1884	4S68-10	.068	1.000x.437x.312	.39	.29	.22	.191	.159
15F1885	4P1-10	.10	1.000x.531x.375	.39	.30	.23	.198	.165
15F1887	4P22-10	.22	1.375x.625x.500	.48	.35	.27	.231	.193
15F1889	4P47-10	.47	1.625x.781x.593	.84	.64	.50	.425	.354
15F1891	4W1-10	1.00	2.000x.937x.750	1.17	.88	.68	.584	.486
15F1893	4W1P5-10	1.50	2.250x1.062x .843	1.41	1.06	.82	.705	.588
15F1894	4W2-10	2.00	2.250x1.175x.950	1.86	1.39	1.08	.923	.769

8

CDE Tubular Capacitors

TYPE WMC SUB-MINIATURE WRAPPED POLYESTER CAPACITORS

Ultra-miniature version of the WMF capacitor, designed for automatic insertion in printed circuit boards. Sizes conform closely to EIA resistor configuration to allow use of identical equipment. Ideal for cordwood and module packaging applications. Sections are extended foil, polyester film, non-inductive design with tinned, copper clad steel leads. Tolerance, ±10%. Capable of continuous duty at rated voltage over range of −55°C to +85°C (to 125°C with 50% voltage derating).



SIZE CODE

D.xL., In.	*	D.xL., In.	*	D.xL., In.	*
.138x.312	A	.204x.437	F	.290x .625	K
.170x.312	B	.204x.562	G	.318x .625	L
.170x.375	C	.225x.562	H	.318x .875	M
.170x.437	D	.290x.500	I	.318x1.187	N
.170x.500	E	.290x.562	J	.....	.....

80 VOLTS DCW

Stock No.	Type WMC	Cap. µF	Size Code*	1-24	25-49	50-99	100-249	250-499	500-999
20F1000	08D1	.001	A	.42	.30	.25	.209	.181	.156
20F1001	08D12	.0012	A	.42	.30	.25	.209	.181	.156
20F1002	08D15	.0015	A	.42	.30	.25	.209	.181	.156
20F1003	08D18	.0018	A	.42	.30	.25	.209	.181	.156
20F1004	08D22	.0022	A	.42	.30	.25	.209	.181	.156
20F1005	08D27	.0027	A	.42	.30	.25	.209	.181	.156
20F1006	08D33	.0033	A	.42	.30	.25	.209	.181	.156
20F1007	08D39	.0039	A	.42	.30	.25	.209	.181	.156
20F1008	08D47	.0047	A	.42	.30	.25	.209	.181	.156
20F1009	08D56	.0056	C	.42	.30	.25	.209	.181	.156
20F1010	08D68	.0068	C	.42	.30	.25	.209	.181	.156
20F1011	08D82	.0082	C	.42	.30	.25	.209	.181	.156
20F1012	08S1	.01	C	.42	.30	.25	.209	.181	.156
20F1013	08S12	.012	D	.42	.30	.25	.209	.181	.156
20F1014	08S15	.015	D	.45	.32	.27	.227	.196	.169
20F1015	08S18	.018	E	.45	.33	.28	.231	.200	.172
20F1016	08S22	.022	E	.45	.33	.28	.235	.203	.174
20F1017	08S27	.027	F	.45	.34	.28	.236	.204	.176
20F1018	08S33	.033	F	.48	.34	.29	.241	.209	.180
20F1019	08S39	.039	G	.48	.35	.29	.247	.213	.184
20F1020	08S47	.047	G	.48	.36	.30	.252	.218	.188
20F1021	08S56	.056	H	.48	.37	.31	.260	.225	.194
20F1022	08S68	.068	H	.51	.38	.32	.270	.234	.202
20F1023	08S82	.082	I	.54	.40	.34	.283	.245	.211
20F1024	08P1	.1	I	.57	.41	.35	.289	.250	.216
20F1025	08P12	.12	K	.66	.49	.41	.343	.298	.256
20F1026	08P15	.15	K	.72	.52	.44	.368	.318	.275
20F1027	08P18	.18	L	.78	.58	.48	.405	.351	.302
20F1028	08P22	.22	L	.85	.63	.53	.445	.385	.333
20F1029	08P27	.27	M	.90	.68	.57	.477	.413	.356
20F1030	08P33	.33	M	.96	.72	.60	.504	.536	.376
20F1031	08P39	.39	N	1.02	.76	.64	.436	.464	.400
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

200 VOLTS DCW

Stock No.	Type WMC	Cap. µF	Size Code*	1-24	25-49	50-99	100-249	250-499	500-999
20F1032	2T47	.00047	A	.36	.26	.21	.179	.155	.132
20F1033	2T56	.00056	A	.33	.24	.20	.168	.145	.124
20F1034	2T68	.00068	A	.33	.24	.20	.168	.145	.124
20F1035	2T82	.00082	A	.33	.24	.20	.168	.145	.124
20F1036	2D1	.001	A	.30	.21	.18	.148	.128	.124
20F1037	2D12	.0012	A	.30	.21	.18	.148	.128	.109
20F1038	2D15	.0015	A	.30	.21	.18	.149	.129	.110
20F1039	2D18	.0018	B	.30	.21	.18	.149	.129	.110
20F1040	2D22	.0022	B	.30	.21	.18	.149	.129	.110
20F1041	2D27	.0027	B	.30	.21	.18	.149	.129	.110
20F1042	2D33	.0033	B	.30	.21	.18	.149	.129	.110
20F1043	2D39	.0039	D	.30	.21	.18	.151	.130	.113
20F1044	2D47	.0047	D	.30	.21	.18	.151	.130	.113
20F1045	2D56	.0056	D	.30	.22	.18	.152	.133	.114
20F1046	2D68	.0068	D	.30	.22	.18	.155	.134	.115
20F1047	2D82	.0082	E	.33	.23	.19	.163	.141	.121
20F1048	2S1	.01	E	.33	.23	.20	.165	.143	.122
20F1049	2S12	.012	F	.33	.24	.20	.169	.148	.126
20F1050	2S15	.015	F	.33	.24	.21	.172	.149	.127
20F1051	2S18	.018	G	.33	.25	.21	.173	.150	.129
20F1052	2S22	.022	G	.36	.26	.22	.180	.156	.133
20F1053	2S27	.027	H	.36	.27	.23	.189	.164	.140
20F1054	2S33	.033	H	.39	.28	.24	.200	.173	.148
20F1055	2S39	.039	J	.42	.30	.25	.208	.180	.155
20F1056	2S47	.047	J	.42	.31	.26	.217	.188	.161
20F1057	2S56	.056	K	.45	.32	.27	.229	.198	.171
20F1058	2S68	.068	K	.48	.34	.29	.239	.208	.179
20F1059	2S82	.082	L	.48	.36	.30	.252	.218	.188
20F1060	2P1	.1	L	.51	.369	.311	.260	.225	.194
20F1061	2P12	.12	M	.54	.389	.327	.273	.238	.204
20F1062	2P15	.15	M	.60	.440	.371	.311	.269	.232
20F1063	2P18	.18	N	.63	.468	.394	.329	.285	.246
20F1064	2P22	.22	N	.69	.497	.419	.351	.303	.261

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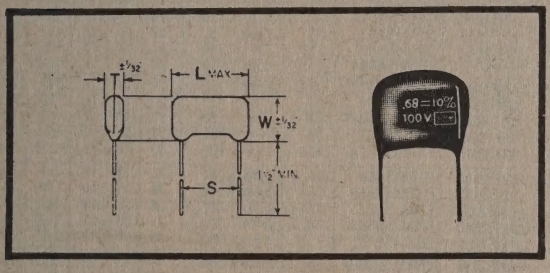
8

MINIATURE RADIAL-LEAD POLYESTER FILM CAPACITORS



Max. operating temperature is 125°C-85°C at full rated voltage. 10% derated at 100°C and 50 derated at 125°C. Leads are #22 AWG including 0.068/100V; 0.047/200V; .022/400V, and 0.068 at 600V. Above these ratings leads are #20 AWG. Tol. ±10%. Wire lead spacing: 9/16" for 3/4" dim. L and 5/16" for 1 1/8" dim. L.

100 VOLTS DCW

Stk. No.	Type DMF-	Cap. Mfd.	Size T.xW.xL.	1-24	25-49	50-99	100-499	500-999
15F1895	1S15-10	.015	3/16x5/16x3/4"	.24	.18	.14	.12	.099
15F1896	1S22-10	.022	3/16x5/16x3/4"	.24	.18	.14	.12	.099
15F1897	1S33-10	.033	7/32x1 1/32x3/4"	.24	.19	.14	.12	.103
15F1898	1S47-10	.047	7/32x1 1/32x3/4"	.27	.20	.15	.13	.109
15F1899	1S68-10	.068	1/4 x 3/8 x3/4"	.27	.21	.16	.14	.114
15F1900	1P1-10	.10	5/16x5/16x3/4"	.30	.23	.18	.15	.128
15F1901	1P15-10	.15	9/32x1 1/16x3/4"	.39	.28	.22	.19	.158
15F1902	1P22-10	.22	3/8 x 3/4 x3/4"	.45	.33	.26	.22	.185
15F1903	1P33-10	.33	7/16x2 7/32x3/4"	.51	.37	.29	.25	.206
15F1904	1P47-10	.47	3/8 x 3/4 x1 1/8"	.57	.43	.34	.29	.241
15F1905	1P68-10	.68	1 9/32x2 7/32x1 1/8"	.66	.48	.38	.32	.268
15F1906	1W1-10	1.00	9/16x1 5/16x1 1/8"	.87	.65	.51	.43	.361

200 VOLTS DCW

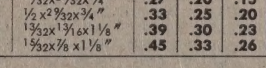
Stk. No.	Type DMF-	Cap. Mfd.	Size T.xW.xL.	1-24	25-49	50-99	100-499	500-999
15F1907	2S1-10	.01	3/16x5/16x3/4"	.24	.18	.14	.12	.099
15F1908	2S15-10	.015	9/32x1 1/32x3/4"	.24	.18	.14	.12	.099
15F1909	2S22-10	.022	1/4 x 3/8 x3/4"	.24	.18	.14	.12	.099
15F1910	2S33-10	.033	1/4 x 3/8 x3/4"	.24	.19	.14	.12	.103
15F1911	2S47-10	.047	1/4 x 3/8 x3/4"	.24	.19	.14	.12	.103
15F1912	2S68-10	.068	9/32x1 3/32x3/4"	.27	.21	.16	.14	.114
15F1913	2P1-10	.10	5/16x2 3/32x3/4"	.30	.23	.18	.15	.128
15F1914	2P15-10	.15	3/8 x2 5/32x3/4"	.39	.28	.22	.19	.158
15F1915	2P22-10	.22	1 5/32x2 7/32x3/4"	.45	.33	.26	.22	.185
15F1916	2P33-10	.33	9/16x3 1/32x3/4"	.51	.37	.29	.25	.206
15F1917	2P47-10	.47	1/2 x7/8 x1 1/8"	.57	.43	.34	.29	.241
15F1918	2P68-10	.68	9/16x3 1/32x1 1/8"	.66	.48	.38	.32	.268

400 VOLTS DCW

Stk. No.	Type DMF-	Cap. Mfd.	Size T.xW.xL.	1-24	25-49	50-99	100-499	500-999
15F1919	4D47-10	.0047	3/16x5/16x3/4"	.24	.18	.14	.12	.099
15F1920	4D68-10	.0068	3/16x5/16x3/4"	.24	.18	.14	.12	.099
15F1921	4S1-10	.01	7/32x1 1/32x3/4"	.24	.18	.14	.12	.099
15F1923	4S22-10	.022	9/32x1 3/32x3/4"	.24	.18	.14	.12	.099
15F1924	4S33-10	.033	9/32x1 1/16x3/4"	.24	.19	.14	.12	.104
15F1925	4S47-10	.047	1 1/32x2 3/32x3/4"	.27	.20	.15	.13	.110
15F1927	4P1-10	.10	1/2 x2 3/32x3/4"	.33	.25	.20	.17	.140
15F1928	4P15-10	.15	1 3/32x1 3/16x1 1/8"	.39	.30	.23	.20	.166
15F1929	4P22-10	.22	1 5/32x7/8 x1 1/8"	.45	.33	.26	.22	.185

TYPE ST AC LINE BYPASS/ANTENNA COUPLING AND TYPE ULC ACROSS-THE-LINE CAPACITORS

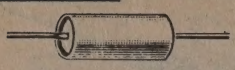
Stock No.	Type	Cap. µF	Rated Voltage AC	Rated Voltage DC	Size, In. D.xL.	EACH 1-24	25-49	50-99	100-499	500-999
20F1092	ST6S47	.047	125	600	1/2x1 1/2	.31	.23	.18	.16	.129
20F1093	ST6P1	.1	125	600	11/16x1 7/8	.40	.30	.23	.20	.165
20F1094	ST6P15	.15	125	600	3/4 x2	.53	.40	.31	.26	.220
20F1095	ST6P22	.22	125	600	13/16x2 1/4	.62	.46	.36	.31	.258
20F1096	ULC10S1	.01	250	1000	3/8x7/8	.56	.43	.33	.28	.236
20F1097	ULC10S22	.022	250	1000	7/16x1 1/8	.77	.58	.45	.38	.320
20F1098	ULC10S47	.047	250	1000	1/2x1 5/8	.84	.63	.49	.42	.348



Types ST and ULC are listed by Underwriters Laboratories as components for Radio & TV Receiving Appliances and Accessories (File E31337). Both types may be operated at full rated voltage from −55°C to +85°C. Type ULC operates to +125°C with 50% derating. Tolerance, ±10%.

Cornell-Dubilier Capacitors

MPY METALIZED PAPER CAPACITORS



Metalized paper, solid resin impregnated unit designed for operation from —55C to +125C at full rated voltage. Encased in exclusive CDE triclad case construction; outer cardboard tube bonded to aluminum foil which is bound to film interliner. Epoxy end seals are bound to tube and leads. Leads are minimum 1⅝" long. Shpg. wt. 3 oz.

200 WVDC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F828	MPY2S22	.022	¼x⅝"	.45	.34	.26	.225	.188
15F829	MPY2S33	.033	¼x⅝"	.45	.34	.26	.225	.188
15F830	MPY2S47	.047	¼x⅝"	.45	.34	.26	.225	.188
15F865	MPY2P1	.1	⅜x⅝"	.51	.38	.30	.225	.213
15F832	MPY2P15	.15	⅜x⅝"	.57	.43	.33	.285	.238
15F833	MPY2P22	.22	5/32x⅝"	.63	.47	.37	.315	.263
15F834	MPY2P33	.33	⅜x1⅛"	.69	.52	.40	.345	.288
15F835	MPY2P47	.47	7/16x1⅛"	.75	.56	.44	.375	.313
15F836	MPY2P68	.68	13/32x1⅛"	.90	.68	.53	.45	.375
15F868	MPY2W1	1.0	9/16x1⅛"	1.08	.81	.63	.54	.45
15F837	MPY2W1P5	1.5	9/16x17/16"	1.26	.95	.74	.63	.525
15F869	MPY2W2	2.0	5/8x17/16"	1.47	1.10	.86	.735	.613

400 WVDC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F839	MPY4S22	.022	3/16x⅝"	.45	.34	.26	.225	.188
15F840	MPY4S33	.033	⅜x⅝"	.45	.34	.26	.225	.188

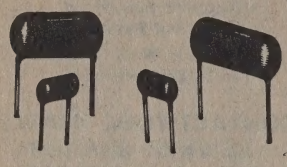
400 WVDC (cont.)

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F841	MPY4S47	.047	7/16x⅝"	.48	.36	.28	.24	.20
15F842	MPY4S68	.068	13/32x⅝"	.51	.38	.30	.225	.213
15F844	MPY4P22	.22	½x1⅛"	.72	.54	.42	.36	.30
15F845	MPY4P33	.33	⅝x1⅛"	.84	.63	.49	.42	.35
15F846	MPY4P47	.47	⅜x17/16"	.96	.72	.56	.48	.40
15F877	MPY4W1	1.0	11/16x113/16"	1.32	.99	.77	.66	.55
15F848	MPY4W1P5	1.5	23/32x2⅜"	1.53	1.15	.89	.765	.638
15F849	MPY4W2	2.0	13/16x2⅜"	1.74	1.31	1.02	.87	.725

600 WVDC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F878	MPY6S1	.01	¼x⅝"	.45	.34	.26	.225	188
15F851	MPY6S22	.022	⅜x⅝"	.48	.36	.28	.24	.20
15F852	MPY6S33	.033	⅜x⅝"	.51	.38	.30	.255	.213
15F853	MPY6S47	.047	13/32x⅝"	.54	.41	.32	.27	.225
15F882	MPY6P1	.1	⅜x1⅛"	.60	.45	.35	.30	.25
15F856	MPY6P22	.22	9/16x1⅛"	.81	.61	.47	.405	.338
15F857	MPY6P33	.33	⅝x1⅛"	1.05	.79	.61	.530	.438
15F858	MPY6P47	.47	⅝x17/16"	1.14	.86	.67	.57	.475
15F859	MPY6P68	.68	⅝x113/16"	1.26	.95	.74	.63	.525
15F885	MPY6W1	1.0	23/32x113/16"	1.44	1.08	.84	.72	.60
15F860	MPY6W1P5	1.5	13/16x2⅜"	1.80	1.35	1.05	.90	.75
15F861	MPY6W2	2.0	29/32x2⅜"	2.10	1.58	1.23	.05	.875

DPMS KRAFT/POLYESTER TUBULAR CAPACITOR



High impact, dipped casing protects against moisture, soldering iron contact, other mechanical damage. Leads formed for PC wiring. Temperature characteristic stable within temperature range of -55° to +125°C at full rated voltage. Type DPMS meets applicable parts of MIL-C-25 regarding moisture resistance and immersion cycling. Leads are #20 AWG tinned copper clad steel wire. 2000 Volt values are available.

200 VOLTS

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F1600	DPMS2S2	.02	.350x.855	.24	.16	.13	.110	.091
67F2000	DPMS2S22	.022	.370x.855	.24	.16	.13	.110	.091
15F1601	DPMS2S47	.047	.450x.855	.24	.17	.14	.116	.096
67F2001	DPMS2S5	.05	.450x.855	.24	.19	.14	.123	.103
15F1603	DPMS2P1	.1	.470x1.180	.27	.21	.16	.140	.116
15F1604	DPMS2P15	.15	.540x1.180	.36	.25	.20	.170	.141
67F2002	DPMS2P2	.2	.565x1.300	.36	.28	.21	.183	.153
15F1605	DPMS2P22	.22	.590x1.300	.42	.30	.24	.201	.168
67F2003	DPMS2P25	.25	.620x1.300	.45	.32	.25	.213	.178
67F2004	DPMS2P33	.33	.605x1.600	.45	.34	.26	.227	.189
15F1607	DPMS2P47	.47	.730x1.600	.54	.40	.31	.266	.221
67F2005	DPMS2P5	.5	.730x1.600	.54	.41	.32	.272	.226

400 VOLTS

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
67F2006	DPMS4S1	.01	.390x.660	.24	.16	.13	.110	.091
67F2007	DPMS4S15	.015	.430x.660	.24	.16	.13	.110	.091
67F2008	DPMS4S2	.02	.390x.855	.24	.16	.13	.110	.091
67F2009	DPMS4S22	.022	.400x.855	.24	.16	.13	.110	.091
67F2010	DPMS4S33	.033	.440x.855	.24	.17	.13	.111	.092
67F2011	DPMS4S47	.047	.415x1.150	.24	.18	.14	.120	.100
67F2012	DPMS4S5	.05	.415x1.150	.27	.19	.15	.126	.105
67F2013	DPMS4S68	.068	.440x1.180	.27	.20	.15	.132	.110
67F2014	DPMS4P1	.1	.520x1.180	.33	.23	.18	.153	.128
67F2015	DPMS4P15	.15	.560x1.300	.36	.27	.21	.180	.150
67F2016	DPMS4P2	.2	.600x1.560	.39	.29	.23	.195	.163
67F2017	DPMS4P22	.22	.620x1.560	.42	.30	.24	.201	.168
67F2018	DPMS4P25	.25	.650x1.560	.48	.37	.28	.243	.203
67F2019	DPMS4P47	.47	.850x1.600	.69	.50	.39	.335	.279
67F2020	DPMS4P5	.5	.850x1.600	.69	.52	.40	.345	.288

600 VOLTS

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
15F1609	DPMS6D1	.001	.340x.660	.24	.16	.13	.110	.091
67F2021	DPMS6D12	.0012	.340x.660	.24	.16	.13	.110	.091
67F2022	DPMS6D15	.0015	.340x.660	.24	.16	.13	.110	.091
15F1610	DPMS6D2	.002	.340x.660	.24	.16	.13	.110	.091
67F2023	DPMS6D22	.0022	.340x.660	.24	.16	.13	.110	.091
15F1611	DPMS6D25	.0025	.340x.660	.24	.16	.13	.110	.091
67F2024	DPMS6D27	.0027	.370x.660	.24	.16	.13	.110	.091
15F1612	DPMS6D3	.003	.370x.660	.24	.16	.13	.110	.091
67F2025	DPMS6D33	.0033	.370x.660	.24	.16	.13	.110	.091
67F2027	DPMS6D39	.0039	.370x.660	.24	.16	.13	.110	.091
67F2028	DPMS6D4	.004	.370x.660	.24	.16	.13	.110	.091
67F2029	DPMS6D47	.0047	.400x.690	.24	.16	.13	.110	.091
15F1613	DPMS6D5	.005	.400x.690	.24	.16	.13	.110	.091
67F2030	DPMS6D56	.0056	.415x.690	.24	.16	.13	.110	.091
67F2031	DPMS6D6	.006	.415x.690	.24	.16	.13	.110	.091
67F2032	DPMS6D68	.0068	.430x.690	.24	.16	.13	.110	.091
67F2033	DPMS6D75	.0075	.430x.690	.24	.16	.13	.110	.091
67F2034	DPMS6D8	.008	.430x.690	.24	.16	.13	.110	.091
67F2035	DPMS6D82	.0082	.370x.870	.24	.16	.13	.110	.091
15F1614	DPMS6S1	.01	.390x.870	.24	.16	.13	.110	.091

600 VOLTS (cont'd)

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
67F2036	DPMS6S12	.012	.400x.870	.24	.16	.13	.110	.091
67F2037	DPMS6S15	.015	.415x.870	.24	.16	.13	.110	.091
15F1615	DPMS6S2	.02	.445x.870	.24	.17	.13	.111	.092
67F2038	DPMS6S22	.022	.470x.870	.24	.17	.13	.111	.092
67F2039	DPMS6S25	.025	.500x.870	.24	.18	.14	.119	.099
67F2040	DPMS6S27	.027	.415x1.150	.24	.19	.15	.125	.104
15F1616	DPMS6S3	.03	.415x1.150	.27	.20	.16	.135	.113
67F2041	DPMS6S33	.033	.430x1.150	.27	.20	.16	.135	.113
67F2042	DPMS6S36	.036	.450x1.150	.30	.22	.17	.144	.120
67F2043	DPMS6S39	.039	.470x1.150	.30	.22	.17	.144	.120
67F2044	DPMS6S4	.04	.470x1.150	.33	.23	.18	.153	.128
15F1617	DPMS6S47	.047	.490x1.150	.33	.23	.18	.153	.128
15F1618	DPMS6S5	.05	.490x1.150	.33	.23	.18	.153	.128
67F2045	DPMS6S56	.056	.520x1.180	.33	.23	.18	.153	.128
67F2046	DPMS6S6	.06	.520x1.180	.33	.25	.19	.164	.136
15F1619	DPMS6S68	.068	.540x1.300	.36	.25	.20	.170	.141
67F2047	DPMS6S75	.075	.575x1.300	.36	.28	.21	.183	.153
67F2048	DPMS6S82	.082	.590x1.300	.36	.28	.21	.183	.153
15F1620	DPMS6P1	.1	.640x1.300	.39	.30	.23	.197	.164
67F2049	DPMS6P15	.15	.650x1.560	.48	.35	.28	.236	.196
67F2050	DPMS6P2	.2	.730x1.560	.54	.41	.32	.270	.225
15F1622	DPMS6P22	.22	.750x1.560	.60	.44	.34	.294	.245
15F1623	DPMS6P25	.25	.830x1.560	.66	.48	.38	.321	.268
67F2051	DPMS6P33	.33	.890x1.560	.81	.61	.48	.408	.340

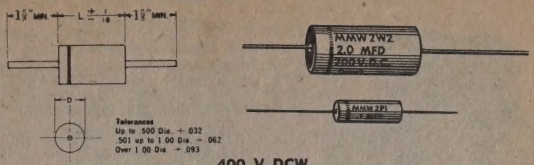
1600 VOLTS

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-499	500-999
67F2052	DPMS16D1	.001	.350x.870	.24	.19	.15	.125	.104
67F2053	DPMS16D15	.0015	.375x.870	.27	.19	.15	.126	.105
67F2054	DPMS16D18	.0018	.400x.870	.27	.20	.15	.132	.110
67F2055	DPMS16D2	.002	.405x.870	.27	.20	.15	.132	.110
67F2056	DPMS16D22	.0022	.420x.870	.27	.20	.15	.132	.110
67F2057	DPMS16D3	.003	.475x.870	.27	.20	.15	.132	.110
67F2058	DPMS16D33	.0033	.480x.870	.30	.21	.16	.138	.115
67F2059	DPMS16D4	.004	.520x.870	.30	.21	.17	.143	.119
67F2060	DPMS16D47	.0047	.540x.870	.30	.23	.18	.150	.125
67F2061	DPMS16D5	.005	.565x.870	.30	.23	.18	.150	.125
67F2062	DPMS16D6	.006	.460x1.180	.30	.23	.18	.150	.125
67F2063	DPMS16D68	.0068	.485x1.180	.30	.23	.18	.150	.125
67F2064	DPMS16D7	.007	.485x1.180	.30	.23	.18	.152	.126
67F2065	DPMS16D75	.0075	.495x1.180	.33	.23	.18	.153	.128
67F2066	DPMS16D8	.008	.510x1.180	.33	.23	.18	.156	.130
67F2067	DPMS16S1	.01	.525x1.180	.33	.25	.19	.166	.139
67F2068	DPMS16S15	.015	.560x1.300	.36	.25	.20	.168	.140
67F2069	DPMS16S2	.02	.570x1.600	.39	.28	.21	.183	.153
67F2070	DPMS16S22	.022	.585x1.600	.42	.31	.24	.206	171
67F2071	DPMS16S3	.03	.665x1.600	.45	.34	.27	.228	.190
67F2072	DPMS16S33	.033	.695x1.600	.48	.36	.28	.242	.201
67F2073	DPMS16S4	.04	.735x1.600	.51	.38	.29	.252	.210
67F2074	DPMS16S47	.047	.785x1.600	.54	.41	.32	.272	.226
67F2075	DPMS16S5	.05	.815x1.600	.54	.41	.32	.272	.226

Cornell-Dubilier Capacitors

TYPE MMW MINIATURE POLYESTER TUBULARS

Metallized polyester dielectric capacitor features extremely small sizes and is ideally suited for application in miniature transistorized circuits and compact, miniaturized military, industrial, and commerical equipment. Metallized polyester film dielectric section tightly wound and encased in tough film wrapper. Epoxy end seals bonded to the wrapper and leads. Has excellent resistance to humidity and moisture as well as capacitance stability over the operating temperature range of −55°C to +85°C at full rated voltage. May be operated to maximum temperature of +125°C with voltage derated to 50% of the +85°C value. Tolerance: ±20%. Average shpg. wt. 3 oz.



50 V DCW

Stock No.	Type No.	Cap. Mfd.	D x L Inches	1-24	25-49	50-99	100-499	500-999
67F2127	MMW05P1	.1	.170x1 1/16	.69	.51	.39	.338	.281
67F2128	MMW05P15	.15	.190x1 1/16	.72	.55	.43	.365	.304
67F2129	MMW05P22	.22	.215x1 1/16	.81	.61	.47	.405	.338
67F2154	MMW05P33	.33	.265x1 1/16	.93	.69	.54	.459	.383
67F2155	MMW05P47	.47	.315x1 1/16	.96	.71	.55	.473	.394
67F2156	MMW05P68	.68	.280x1	1.02	.77	.60	.510	.425
67F2157	MMW05W1	1.0	.325x1	1.14	.86	.67	.575	.479
67F2158	MMW05W1P5	1.5	.340x1 1/4	1.38	1.03	.80	.689	.574
67F2159	MMW05W2	2.0	.405x1 1/4	1.65	1.25	.97	.830	.691
67F2160	MMW05W3	3.0	.500x1 1/4	2.01	1.51	1.18	1.010	.839
67F2161	MMW05W4	4.0	.510x1 3/8	2.55	1.91	1.49	1.280	1.060
67F2162	MMW05W5	5.0	.510x1 3/4	3.00	2.24	1.74	1.490	1.240

200 V DCW

Stock No.	Type No.	Cap. Mfd.	D x L Inches	1-24	25-49	50-99	100-499	500-999
67F2130	MMW2S33	.033	.180x9/16	.63	.47	.36	.311	.259
67F2131	MMW2S47	.047	.200x9/16	.63	.47	.36	.311	.259
67F2132	MMW2S68	.068	.200x1 1/16	.66	.49	.38	.324	.270
67F2133	MMW2P1	.1	.240x1 1/16	.69	.51	.39	.338	.281
67F2134	MMW2P15	.15	.280x1 1/16	.72	.55	.43	.365	.304
67F2135	MMW2P22	.22	.340x1 1/16	.81	.61	.47	.405	.338
67F2163	MMW2P33	33	.390x1 1/16	.93	.69	.54	.459	.383
67F2164	MMW2P47	.47	.370x1	.96	.71	.55	.473	.394
67F2165	MMW2P68	.68	.420x1	1.02	.77	.60	.510	.425
67F2166	MMW2W1	1.0	.500x1	1.14	.86	.67	.575	.479
67F2167	MMW2W1P5	1.5	.540x1 1/4	1.38	1.03	.80	.689	.574
15F1657	MMW2W2	2.0	.620x1 1/4	1.65	1.25	.97	.830	.691

400 V DCW

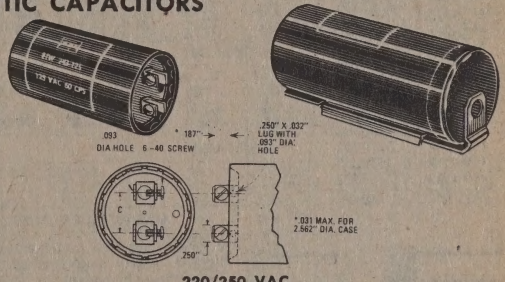
Stock No.	Type No.	Cap. Mfd.	D x L Inches	1-24	25-49	50-99	100-499	500-999
67F2136	MMW4S1	.01	.180x9/16	.60	.45	.35	.297	.248
67F2137	MMW4S15	.015	.180x1 1/16	.63	.47	.36	.311	.259
67F2138	MMW4S22	.022	.210x1 1/16	.63	.47	.36	.311	.259
67F2139	MMW4S33	.033	.250x1 1/16	.66	.49	.38	.324	.270
67F2140	MMW4S47	.047	.300x1 1/16	.69	.51	.39	.338	.281
67F2141	MMW4S68	.068	.350x1 1/16	.72	.53	.41	.351	.293
67F2142	MMW4P1	.1	.325x1	.75	.57	.44	.378	.315
67F2143	MMW4P15	.15	.375x1	.84	.63	.49	.419	.349
67F2144	MMW4P22	.22	.400x1 1/4	.93	.69	.54	.459	.383
67F2169	MMW4P33	.33	.450x1 1/2	1.05	.79	.62	.527	.439
67F2170	MMW4P47	.47	.520x1 1/2	1.23	.91	.71	.608	.506
67F2171	MMW4P68	.68	.625x1 1/2	1.38	1.03	.80	.689	.574
67F2172	MMW4W1	1.0	.675x1 3/4	1.74	1.30	1.01	.867	.723
67F2173	MMW4W1P5	1.5	.825x1 3/4	2.16	1.63	1.27	1.090	.904
67F2174	MMW4W2	2.0	.950x1 3/4	2.64	1.97	1.53	1.320	1.100

600 V DCW

Stock No.	Type No.	Cap. Mfd.	D x L Inches	1-24	25-49	50-99	100-499	500-999
67F2145	MMW6S1	.01	.200x3/4	.63	.47	.36	.311	.259
67F2146	MMW6S15	.015	.250x3/4	.66	.49	.38	.324	.270
67F2147	MMW6S22	.022	.300x3/4	.69	.51	.39	.338	.281
67F2148	MMW6S33	.033	.370x3/4	.72	.53	.41	.351	.293
67F2149	MMW6S47	.047	.325x1 1/16	.75	.57	.44	.378	.315
67F2150	MMW6S68	.068	.400x1 1/16	.81	.61	.47	.405	.338
67F2151	MMW6P1	.1	.450x1 1/16	.87	.65	.51	.432	.360
67F2152	MMW6P15	.15	.475x1 1/4	.99	.73	.57	.486	.405
67F2153	MMW6P22	.22	.575x1 1/4	1.14	.85	.66	.567	.473
67F2175	MMW6P33	.33	.560x1 3/4	1.41	1.05	.82	.702	.585
67F2176	MMW6P47	.47	.675x1 3/4	1.71	1.28	.99	.851	.709
67F2177	MMW6P68	.68	.800x1 3/4	2.07	1.55	1.21	1.030	.861
67F2178	MMW6W1	1.0	.950x1 3/4	2.73	2.05	1.59	1.370	1.140

MOTOR START ELECTROLYTIC CAPACITORS

Designed to operate for minimum 50,000 starts. Protected against vibration stresses internally. Cover seal of rubber phenolic laminate with positive pressure safety vent. High impact phenolic case. Temperature rating: +65°C (+150°F). Will function up to +85°C (+185°F), provided the duty cycles and voltage conditions are adjusted accordingly. Sub-zero temperatures do not affect the operation. Will start a motor at temperatures as low as −40°C (−40°F). Provided with three way dual blades for female connectors, threaded hole for screw connections or for use as solder lug terminals.



110/125 VAC

Stock No.	Type ETW-	Cap. Mfd.	Case Size	1-24	25-99	100-499	500-999
67F2076	21-125	21-25	1.437x2.75	.94	.75	.68	.61
67F2077	25-125	25-30	1.437x2.75	.94	.75	.68	.61
67F2078	30-125	30-36	1.437x2.75	.94	.75	.68	.61
67F2079	36-125	36-43	1.437x2.75	.97	.79	.70	.63
67F2080	43-125	43-53	1.437x2.75	.97	.79	.70	.63
67F2081	53-125	53-64	1.437x2.75	1.02	.83	.74	.66
67F2082	56-125	56-72	1.437x2.75	1.08	.87	.78	.70
67F2083	64-125	64-77	1.437x2.75	1.06	.86	.76	.68
67F2084	72-125	72-88	1.437x2.75	1.06	.86	.76	.68
67F2085	88-125	88-108	1.437x2.75	1.11	.90	.80	.71
67F2086	108-125	108-130	1.437x2.75	1.14	.92	.83	.74
67F2087	124-125	124-125	1.437x2.75	1.19	.96	.85	.77
67F2088	130-125	130-156	1.437x2.75	1.22	.99	.89	.79
67F2089	145-125	145-174	1.437x2.75	1.29	1.04	.94	.84
67F2090	161-125	161-193	1.437x2.75	1.34	1.08	.98	.87
67F2091	189-125	189-227	1.437x3.375	1.51	1.22	1.09	.98
67F2092	200-125	200-240	1.437x3.375	1.63	1.32	1.19	1.06
67F2093	216-125	216-259	1.437x3.375	1.63	1.32	1.19	1.06
67F2094	233-125	233-280	1.812x3.375	1.82	1.47	1.31	1.17
67F2095	243-125	243-292	1.812x3.375	1.83	1.48	1.33	1.19
67F2096	270-125	270-324	1.812x3.375	1.97	1.59	1.41	1.27
67F2097	300-125	300-360	1.812x3.375	2.13	1.72	1.54	1.38
67F2098	324-125	324-388	1.812x3.375	2.15	1.75	1.56	1.40
67F2099	340-125	340-408	1.812x3.375	2.23	1.80	1.62	1.45
67F2100	378-125	378-440	1.812x3.375	2.33	1.88	1.69	1.51
67F2101	400-125	400-480	1.812x3.375	2.43	1.96	1.76	1.57
67F2102	430-125	430-517	1.812x4.375	3.05	2.47	2.21	1.98
67F2103	460-125	460-552	1.812x4.375	3.11	2.51	2.24	2.01
67F2104	540-125	540-648	1.812x4.375	3.26	2.64	2.36	2.12
67F2105	590-125	590-708	2.062x4.375	3.43	2.78	2.49	2.23
67F2106	708-125	708-850	2.562x4.375	4.43	3.58	3.20	2.87
67F2107	829-125	829-995	2.562x4.375	5.49	4.43	3.96	3.55
67F2108	1000-125	1000-1200	2.562x4.375	5.86	4.75	4.24	3.80

220/250 VAC

Stock No.	Type ETW-	Cap. Mfd.	Case Size	1-24	25-99	100-499	500-999
67F2109	21-250	21-25	1.437x2.75	1.88	1.52	1.35	1.21
67F2110	25-250	25-30	1.437x3.375	1.93	1.56	1.39	1.25
67F2111	30-250	30-36	1.437x3.375	1.97	1.59	1.41	1.27
67F2112	36-250	36-43	1.437x3.375	2.14	1.72	1.54	1.38
67F2113	43-250	43-53	1.437x3.375	2.40	1.94	1.74	1.55
67F2114	53-250	53-64	1.812x3.375	2.49	2.02	1.80	1.61
67F2115	56-250	56-72	1.812x3.375	2.73	2.36	1.98	1.77
67F2116	64-250	64-77	1.812x3.375	2.77	2.24	2.01	1.80
67F2117	72-250	72-88	1.812x3.375	2.91	2.35	2.11	1.88
67F2118	88-250	88-108	1.812x4.375	3.11	2.51	2.24	2.01
67F2119	108-250	108-130	1.812x4.375	3.53	2.86	2.55	2.28
67F2120	124-250	124-149	2.062x4.375	3.73	3.02	2.70	2.41
67F2121	130-250	130-156	2.062x4.375	3.91	3.20	2.86	2.57
67F2122	145-250	145-174	2.062x4.375	4.22	3.40	3.05	2.73
67F2123	161-250	161-193	2.562x4.375	4.89	3.95	3.54	3.17
67F2124	189-250	189-227	2.562x4.375	5.20	4.20	3.76	3.37
67F2125	216-250	216-259	2.562x4.375	5.65	4.56	4.08	3.66
67F2126	243-250	243-292	2.562x4.375	6.06	4.91	4.39	4.13

CASE SIZES AND ACCESSORIES

Dimensions D x L (Inches)	Stock No.	End Cap Type	Net	Stock No.	Mounting Bracket Type	Net
1.437x2.75	67F2179	30066	.06	67F2183	34946-2	.12
1.437x3.375	67F2179	30066	.06	67F2184	34946	.15
1.812x3.375	67F2180	34618-3	.09	67F2184	34946	.15
1.812x4.375	67F2180	34618-3	.09	67F2185	34946-1	.15
2.062x3.375	67F2181	34618-2	.10	67F2184	34946	.15
2.062x4.375	67F2181	34618-2	.10	67F2185	34946-1	.15
2.562x4.375	67F2182	34618-4	.22	67F2185	34946-1	.15

Cornell Dubilier Dipped Mica Capacitors

CD SERIES DIPPED MICA CAPACITORS

Feature multi-coat dipped process to meet rigid humidity requirements. Conform to EIA specs. Meets requirements of MIL-C-5. Operating temperature: —55°C to +125°C. Tolerance: ±5% or 0.5 pF, whichever is greater. Operating potential 500 WVDC.

Have 1¼", tinned brass wire leads, except CD which has copperweld leads. All units meet 10-2000 cycle vibration tests.

TYPE CD10—CM04

Stk. No.	Type CD10-	pF	1-24	25-99	100-499	500-999	1000-Up
15F1338	CD050D03	5					
15F1339	CD100D03	10					
15F1340	CD120J03	12	.46	.27	.152	.114	.091
15F1341	CD150J03	15					
15F1342	CD180J03	18					
15F1344	ED220J03	22	.31	.18	.104	.078	.063
15F1345	ED240J03	24	.32	.19	.108	.081	.065
15F1346	ED270J03	27	.32	.19	.108	.081	.065
15F1347	ED300J03	30	.32	.19	.108	.081	.065
15F1348	ED330J03	33	.32	.19	.108	.081	.065
15F1350	ED390J03	39	.33	.19	.110	.083	.066
15F1352	ED470J03	47	.34	.20	.112	.084	.067
15F1353	ED510J03	51	.34	.20	.112	.084	.067
15F1354	ED560J03	56	.35	.20	.116	.087	.070
15F1355	ED620J03	62	.35	.20	.116	.087	.070
15F1356	ED680J03	68	.35	.21	.118	.089	.071
15F1358	ED820J03	82	.36	.21	.120	.090	.072
15F1360	FD101J03	100	.38	.22	.126	.095	.076
15F1362	FD121J03	120	.40	.23	.132	.099	.079
15F1364	FD151J03	150	.46	.27	.154	.116	.093
15F1366	FD181J03	180	.53	.31	.176	.132	.106
15F1367	FD201J03	200	.57	.33	.190	.143	.114
15F1368	FD221J03	220	.59	.35	.198	.149	.119
15F1369	FD241J03	240	.64	.37	.212	.159	.127

TYPE CD15—CM05

Stk. No.	Type CD15-	pF	1-24	25-99	100-499	500-999	1000-Up
15F1203	DC050D03	5	.32	.19	.106	.080	.064
15F1204	CD100D03	10	.32	.19	.106	.080	.064
15F1207	CD180J03	18	.32	.19	.106	.080	.064
15F1209	ED220J03	22					
15F1210	ED240J03	24					
15F1211	ED270J03	27					
15F1212	ED300J03	30					
15F1213	ED330J03	33	.26	.15	.086	.065	.052
15F1215	ED390J03	39					
15F1217	ED470J03	47					
15F1219	ED510J03	51					
15F1220	ED560J03	56					
15F1221	ED620J03	62					

TYPE CD15—CM05 (Cont'd)

Stk. No.	Mil Style	pF	1-24	25-99	100-499	500-999	1000-Up
15F1222	ED680J03	68	.26	.15	.086	.065	.052
15F1223	ED750J03	75	.26	.15	.086	.065	.052
15F1224	ED820J03	82	.26	.15	.086	.065	.052
15F1226	FD101J03	100	.26	.15	.088	.066	.053
15F1230	FD151J03	150	.31	.18	.102	.077	.061
15F1232	FD181J03	180	.35	.21	.118	.089	.071
15F1233	FD201J03	200	.35	.21	.118	.089	.071
15F1234	FD221J03	220	.38	.22	.126	.095	.076
15F1235	FD241J03	240	.40	.24	.134	.101	.081
15F1237	FD271J03	270	.43	.25	.142	.107	.085
15F1238	FD301J03	300	.45	.26	.150	.113	.090
15F1239	FD331J03	330	.50	.29	.166	.125	.100
15F1240	FD361J03	360	.52	.31	.174	.131	.105
15F1241	FD391J03	390	.55	.32	.182	.137	.109
15F1242	FD431J03	430	.59	.34	.196	.147	.118

TYPE CD19—CM06

Stk. No.	Mil Style	pF	1-24	25-99	100-499	500-999	1000-Up
15F1243	FD471J03	470	.43	.25	.142	.107	.085
15F1245	FD511J03	510	.43	.25	.142	.107	.085
15F1246	FD561J03	560	.43	.25	.142	.107	.085
15F1247	FD621J03	620	.47	.27	.156	.118	.094
15F1248	FD681J03	680	.47	.27	.156	.118	.094
15F1249	FD751J03	750	.51	.30	.170	.128	.102
15F1250	FD821J03	820	.51	.30	.170	.128	.102
15F1251	FD911J03	910	.56	.324	.185	.139	.111
15F1252	FD102J03	1000	.56	.324	.185	.139	.111
15F1254	FD122J03	1200	.57	.330	.189	.142	.113
15F1256	FD152J03	1500	.68	.394	.225	.169	.135
15F1258	FD182J03	1800	.77	.449	.257	.193	.154
15F1259	FD202J03	2000	.83	.482	.275	.207	.165
15F1260	FD222J03	2200	.87	.505	.289	.217	.173
15F1261	FD242J03	2400	.95	.554	.317	.238	.190
15F1263	FD272J03	2700	1.05	.613	.350	.263	.210
15F1264	FD302J03	3000	1.13	.657	.375	.282	.225
15F1265	FD332J03	3300	1.23	.715	.409	.306	.245
15F1267	FD392J03	3900	1.50	.875	.500	.375	.300
15F1268	FD432J03	4300	1.66	.966	.552	.414	.331
15F1269	FD472J03	4700	1.85	1.079	.617	.463	.370
15F1271	FD512J03	5100	1.90	1.109	.634	.475	.380

TYPE CD30—CM07

Stk. No.	Type CD30-	pF	1-24	25-99	100-249	250-499	500-990
15F1272	FD562J03	5600	1.52	.909	.606	.455	.364
15F1273	FD622J03	6200	1.64	.984	.656	.492	.394
15F1274	FD682J03	6800	1.83	1.095	.730	.548	.438
15F1275	FD752J03	7500	1.97	1.182	.788	.591	.473
15F1276	FD822J03	8200	2.14	1.281	.854	.641	.512
15F1277	FD912J03	9100	2.28	1.368	.912	.684	.547
15F1278	FD103J03	10000	2.58	1.545	1.030	.773	.618
15F1378	FD153J03	15000	3.68	2.21	1.48	1.10	.88

MINIATURE DIPPED MICA DIELECTRIC CAPACITORS

Microminiature, radial lead, dipped, silver mica capacitors. Temperature range: —55°C to +125° C. Capacitance tolerance: ±1pf(C); ±2%(G); ±5%(J); ±10%(K).

CD6—.265" x .135" x .095". CD7—130-180 pF, .265x.260x.110; 390-620 pF, .275x.260x.125"; 680-750 pF, .300x.290x.135"; 1000-1200 pF, .320x.300x.155"; 1300-1500 pF, .330x.310x.175".

100 WVDC

Stk. No.	Type	pF	1-24	25-99	100-499	500-999	1000-Up
15F1736	CD7FA391G03	390	1.65	.96	.550	.413	.330
15F1738	CD7FA471G03	470	1.75	1.02	.584	.438	.350
15F1739	CD7FA511G03	510	1.80	1.05	.600	.450	.360
15F1740	CD7FA561G03	560	1.85	1.08	.616	.462	.370
15F1741	CD7FA621G03	620	1.90	1.11	.634	.476	.380
15F1742	CD7FA681G03	680	2.40	1.40	.800	.600	.480
15F1743	CD7FA751G03	750	2.60	1.52	.866	.650	.520
15F1746	CD7FA102G03	1000	3.15	1.84	1.05	.788	.630
15F1747	CD7FA112G03	1100	3.25	1.90	1.08	.813	.650
15F1748	CD7FA122G03	1200	3.35	1.95	1.12	.837	.670
15F1749	CD7FA132G03	1300	3.80	2.22	1.27	.950	.760
15F1750	CD7FA152G03	1500	4.15	2.42	1.38	1.04	.830

300 WVDC

Stk. No.	Type	pF		25-99	100-499	500-999	1000-Up
15F1720	CD6EC820G03	82	1.06	.620	.354	.266	.212
15F1721	CD6EC910G03	91	1.06	.620	.354	.266	.212
15F1722	CD6FC101G03	100	1.06	.620	.354	.266	.212
15F1723	CD6FC111G03	110	1.09	.637	.364	.273	.218
15F1724	CD6FC121G03	120	1.09	.637	.364	.273	.218

300 WVDC (Cont'd)

Stk. No.	Type	pF	1-24	25-99	100-499	500-999	1000-Up
15F1729	CD7FC201G03	200	1.16	.68	.386	.290	.232
15F1730	CD7FC221G03	220	1.18	.69	.394	.296	.236
15F1731	CD7FC241G03	240	1.25	.73	.416	.312	.250
15F1732	CD7FC271G03	270	1.38	.81	.460	.345	.276
15F1733	CD7FC301G03	300	1.46	.85	.486	.365	.292

500 WVDC

Stk. No.	Type	pF	1-24	25-99	100-499	500-999	1000-Up
15F1700	CD6CD030C03	3	.45	.26	.150	.113	.090
15F1701	CD6CD050C03	5	.45	.26	.150	.113	.090
15F1702	CD6CD100K03	10	.45	.26	.150	.113	.090
15F1703	CD6CD120K03	12	.46	.27	.154	.115	.092
15F1705	CD6CD200J03	20	.51	.30	.170	.128	.102
15F1706	CD6CD220J03	22	.54	.32	.180	.135	.108
15F1707	CD6CD240J03	24	.54	.32	.180	.135	.108
15F1708	CD6ED270J03	27	.54	.32	.180	.135	.108
15F1709	CD6ED300J03	30	.54	.32	.180	.135	.108
15F1710	CD6ED330J03	33	.56	.33	.186	.140	.112
15F1711	CD6ED360J03	36	.56	.33	.186	.140	.112
15F1712	CD6ED390J03	39	.56	.33	.186	.140	.112
15F1713	CD6ED430J03	43	.56	.33	.186	.140	.112
15F1714	CD6ED470J03	47	.56	.33	.186	.140	.112
15F1716	CD6ED560G03	56	.93	.54	.310	.233	.186
15F1717	CD6ED620G03	62	.93	.54	.310	.233	.186
15F1718	CD6ED680G03	68	1.03	.60	.344	.258	.206
15F1719	CD6ED750G03	75	1.03	.60	.344	.258	.206
15F1725	CD7FD131G03	130	1.11	.65	.370	.278	.222
15F1726	CD7FD151G03	150	1.11	.65	.370	.278	.222
15F1727	CD7FD161G03	160	1.14	.67	.380	.285	.228
15F1728	CD7FD191G03	180	1.15	.67	.384	.288	.230

D.C. Kraft/Oil Capacitors

CDE

CASE SIZES

BASE INCHES				HEIGHT CODE ±.062 INCHES								
Base Code	A (width) ±.062	B (depth) ±.062	F (term Ctrs.)	-1	-2	-3	-4	-5	-6	-7	-8	-9
A	1.812	1.062	.812	1.75	2.0	2.25	2.75	2.875	3.0	....	3.5	3.625
B	2.50	1.187	1.125	....	2.25	3.25	3.75	3.875	4.0	4.25	4.5	4.75
C	3.75	1.25	2.0	....	....	....	3.375	3.75	4.0	....	....	....
D	3.75	1.75	2.0	....	....	2.75	3.75	3.5	4.0	....	4.5	3.625
E	3.75	2.25	2.0	....	3.0	....	....	3.625	4.0	4.25	4.5	....
F	3.75	2.50	2.0	....	....	....	....	....	....	4.25	....	....
G	3.75	3.187	2.0	....	....	....	....	....	....	....	4.75	....
J	4.562	3.75	2.0	....	....	....	....	....	3.0	4.0	....	....

TERMINAL DETAILS

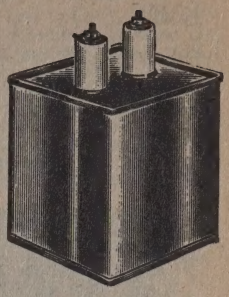
Volts DCW	W Max.	X	Y	Z Max.
600V.-1500V.	1.375"	.437"+.125" −.062"	10-32 NF-2A	.812
2000V.-3000V.	1.75"	.437"+.125" −.062"	10-32 NF-2A	1.0
4000V.-5000V.	2.75"	.687"+.25" −.25"	.3125-18 UNC-2A	1.437

T-N AND TCO-N

- ±10% Tolerance
- Dual AC/DC Voltage
- Rectangular Style

Rectangular, drawn, seamless cased styles with double seamed covers. Tolerance of ±10%. All units are dual AC/DC voltage. Pillar insulated terminals. "F" and "E" characteristics rated for DC applications to 85°C ambient and AC up to 55°C ambinet.

MOUNTING BRACKETS. Order footed or spade mounting brackets separately from tables below in right hand columns.



CHARACTERISTICS "F"

600 VDC/330 VAC

Stk. No.	Type T	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2186	6NP5	0.5	A1	5.37	3.94	3.04	2.51	2.23	2.05
67F2187	6NW1	1.0	A2	5.58	4.09	3.17	2.61	2.33	2.14
67F2188	6NW2	2.0	A4	5.98	4.38	3.39	2.80	2.50	2.29
67F2189	6NW3	3.0	A9	6.41	4.71	3.64	2.99	2.68	2.46
67F2190	6NW4	4.0	B3	6.84	5.02	3.88	3.19	2.86	2.63
67F2191	6NW6	6.0	B7	7.63	5.61	4.33	3.57	3.18	2.93
67F2192	6NW8	8.0	C4	8.86	6.49	5.02	4.14	3.70	3.40
67F2193	6NW10	10.0	C6	9.58	7.02	5.43	4.48	4.00	3.67
67F2194	6NW15	15.0	D5	12.78	9.37	7.25	5.97	5.33	4.90

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
67F2234	31762-87	A1	.32	67F2267	31761-87	A1	.32
67F2235	31762-88	A2	.32	67F2268	31761-88	A2	.32
67F2236	31762-90	A4	.32	67F2269	31761-86	A4	.32
67F2237	31762-93	A9	.32	67F2270	31761-91	A9	.32
67F2238	31762-94	B3	.32	67F2271	31761-92	B3	.32
67F2239	31762-96	B7	.32	67F2272	31761-94	B7	.32
67F2240	31762-97	C4	.32	67F2273	31761-95	C4	.32
67F2241	31762-99	C6	.32	67F2274	31761-93	B6	.32
67F2242	31762-101	D6	.32	67F2275	31761-97	D6	.32

1000 VDC/440 VAC

Stk. No.	Type T	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2199	10NP1	0.1	A1	5.33	3.91	3.03	2.49	2.22	2.04
67F2196	10NP25	0.25	A1	5.40	3.96	3.06	2.52	2.20	2.08
67F2197	10NP5	0.5	A1	5.55	4.07	3.15	2.59	2.32	2.13
67F2198	10NW1	1.0	A3	5.87	4.31	3.33	2.74	2.45	2.26
67F2199	10NW2	2.0	A8	6.34	4.65	3.59	2.97	2.64	2.44
67F2200	10NW4	4.0	B6	7.35	5.38	4.17	3.43	3.06	2.82
67F2201	10NW6	6.0	C5	8.71	6.40	4.95	4.07	3.64	3.34
67F2203	10NW8	8.0	D5	9.69	7.11	5.49	4.53	4.03	3.71
67F2204	10NW10	10.0	D6	10.98	8.05	6.23	5.13	4.57	4.22
67F2205	10NW15	15.0	F7	15.48	11.35	8.77	7.23	6.46	5.94

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
67F2234	31762-87	A1	.32	67F2267	31761-87	A1	.32
67F2234	31762-87	A1	.32	67F2267	31761-87	A1	.32
67F2234	31762-87	A1	.32	67F2268	31761-87	A1	.32
67F2243	31762-89	A3	.32	67F2276	31761-89	A3	.32
67F2244	31762-92	A8	.32	67F2277	31761-90	A8	.32
67F2245	31762-95	B6	.32	67F2274	31761-93	B6	.32
67F2246	31762-82	C5	.32	67F2279	31761-80	C5	.32
67F2247	31762-50	D5	.54	67F2278	31761-50	D5	.54
67F2242	31762-101	D6	.54	67F2275	31761-97	D6	.54
67F2248	31762-85	E7	.54	67F2281	31761-83	F7	1.16

1500 VDC/660 VAC

Stk. No.	Type T	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2206	15NP5	0.5	A3	5.76	4.23	3.27	2.69	2.40	2.21
67F2207	15NW1	1.0	A6	6.01	4.42	3.42	2.81	2.52	2.31
67F2208	15NW2	2.0	B3	6.95	5.10	3.94	3.24	2.89	2.67
67F2209	15NW4	4.0	C5	8.71	6.40	4.95	4.07	3.64	3.34

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
.....	.....	....	.....	67F2276	31761-89	A3	.32
67F2249	31762-91	A6	.32	67F2282	31761-79	A6	.32
67F2238	31762-94	B3	.32	67F2271	31761-92	B3	.32
67F2246	31762-82	C5	.32	67F2279	31761-80	C5	.32

2000 VDC/700 VAC

Stk. No.	Type T	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2210	20NP1	0.1	A1	7.09	5.21	4.02	3.31	2.95	2.73
67F2211	20NP25	0.25	A2	7.27	5.34	4.13	3.40	3.04	2.79
67F2212	20NP5	0.5	A4	7.49	5.50	4.25	3.49	3.12	2.89
67F2213	20NW1	1.0	B3	7.67	5.63	4.35	3.58	3.19	2.94
67F2214	20NW2	2.0	D9	9.36	6.87	5.31	4.37	3.90	3.59
67F2215	20NW4	4.0	E5	12.60	9.24	7.14	5.88	5.26	4.84
67F2216	20NW5	5.0	E7	14.62	10.72	8.28	6.83	6.10	5.61

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
67F2234	31762-87	A1	.32	67F2267	31761-87	A1	.32
67F2235	31762-88	A2	.32	67F2268	31761-88	A2	.32
67F2236	31762-90	A4	.32	67F2269	31761-86	A4	.32
67F2238	31762-94	B3	.32	67F2271	31761-92	B3	.32
67F2250	31762-98	D9	.32	67F2270	31761-91	A9	.32
67F2251	31762-103	E5	.54	67F2283	31761-99	E5	.54
67F2248	31762-85	E7	.54	67F2281	31761-83	F7	1.16

2500 VDC/800 VAC

Stk. No.	Type T	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2217	25NW1	1.0	D3	10.01	7.35	5.68	4.67	4.18	3.84
67F2218	25NW4	4.0	J6	18.25	13.39	10.35	8.52	7.61	7.00

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
67F2252	31762-100	D3	.54	67F2284	31761-96	D3	.54
67F2253	31762-105	J6	1.16	67F2285	31761-101	J6	1.16

3000 VDC/950 VAC

Stk. No.	Type T	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2219	30NP1	0.1	B2	9.61	7.36	5.45	4.49	4.01	3.69
67F2220	30NP5	0.5	B4	11.49	8.43	6.51	5.37	4.79	4.41
67F2221	30NW1	1.0	E2	14.37	10.54	8.14	6.71	5.79	5.51

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
.....	.....	....	.....	67F2276	31761-89	A3	.32
67F2255	31762-81	B4	.32	67F2279	31761-80	C5	.32
67F2256	31762-102	E2	.32	67F2286	31761-98	E2	.32

5000 VDC/1600 VAC

Stk. No.	Type T	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2222	50NP5	0.5	E6	17.28	12.67	9.79	8.06	7.20	6.63
67F2223	50NW1	1.0	J7	24.26	17.80	13.75	11.33	10.12	9.30

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
67F2257	31762-104	E6	.54	67F2287	31761-100	E6	.54
67F2258	31762-106	J7	1.16	67F2288	31761-102	J7	1.16

CHARACTERISTIC "E"

600 VDC

Stk. No.	Type TCO	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2224	6NW4	4	B5	7.06	5.17	4.00	3.30	2.94	2.71
67F2225	6NW10	10	D6	10.66	7.81	6.04	4.98	4.44	4.09

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
67F2259	31762-109	B5	.32	67F2289	31761-103	B5	.32
67F2242	31762-101	D6	.54	67F2275	31761-97	D6	.54

1000 VDC

Stk. No.	Type TCO	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2226	10NP5	0.5	A3	5.44	4.07	3.14	2.59	2.32	2.13
67F2227	10NW1	1.0	A5	5.87	4.31	3.32	2.74	2.45	2.26
67F2228	10NW2	2.0	B9	6.52	4.78	3.70	3.05	2.71	2.51
67F2229	10NW6	6.0	D4	9.54	7.00	5.41	4.45	3.97	3.66
67F2230	10NW8	8.0	D8	11.09	8.14	6.29	5.17	4.62	4.25
67F2231	10NW10	10.0	E8	12.96	9.50	7.34	6.05	5.40	4.97

BRACKETS

Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
67F2243	31762-89	A3	.32	67F2276	31761-89	A3	.32
67F2260	31762-107	A5	.32	67F2290	31761-105	A5	.32
67F2261	31762-108	B9	.32	67F2291	31761-106	B9	.32
67F2262	31762-83	D4	.54	67F2292	31761-81	D4	.54
67F2263	31762-71	D8	.54	67F2293	31761-53	D8	.54
67F2264	31762-111	E8	.54	67F2294	31761-107	E8	.54

1500 VDC

Stk. No.	Type TCO	Cap. Mfd.	Case Code	1-9	10-24	25-49	50-99	100-499	500-Up
67F2232	15NW2	2.0	B8	7.16	5.26	4.06	3.35	2.99	2.75
67F2233	15NW10	10.0	G8	17.28	12.67	9.79	8.07	7.20	6.63

BRACKETS

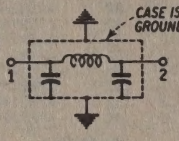
Stk. No.	Footed	Case Code	Net	Stk. No.	Spade	Case Code	Net
67F2265	31762-110	B8	.32	67F2295	31761-104	B8	.32
67F2266	31762-112	G8	1.16	67F2296	31761-108	G8	1.16

8

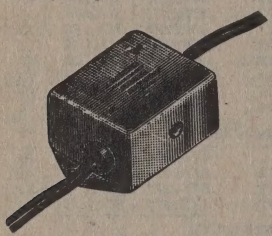
Cornell-Dubilier EMI Filters

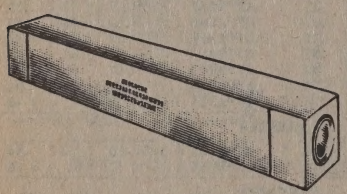
Type NFT. 15 and 10 amp feed-through filters meet requirements of MIL-C-11693. Rated operating temperature of +125°C. 15 amp kraft dielectric units, capacity tolerances of ±10%; 10 amp metalized paper, ±20%. Recommended for prototype purposes as well as production runs. Commonly used in buffers, DC motors, drills, fans, ignition systems, relays, thermostats, other commercial/industrial uses.

Typr NFR. Designed for high attenuation of RF interference over the ranges of 150kHz to 10 gHz (#) and 14kHz to 10 gHz (+). Three terminal design for bulkhead or chassis shielded mounting.



Type NF. Designed for high attenuation over the range of 150KHZ to 1 MHZ.**Chassis shielded, flange mount.





Type CDF. Provide a minimum attenuation of 100 db over the range of 14KC to 10GC. Meet the requirements of MIL-F-15733 where applicable. Provide for versatile mounting with threaded fitting lead termination or universal conduit mounting. Shpg. wt. 35 lbs.

Type IF. Filters are 5 amp portable devices designed for light interference applications. Electrical appliances are plugged into the line sockets provided. IF-24 and IF-54 are commercial wired-in devices designed for RF1 suppression of fluorescent light sources, office machines and other small appliances. IF-24 and IF-54 U.L. approved.

15 AMP KRAFT DIELECTRIC

Stock No.	Type	Curr. Amps	VDC	Cap. Mfd.	Line Freq. Hz	Case Dia.	Case Lgth.	1-24	25-49	50-99	100-499
66F400	NFT3H1PIL-10	15	100	.1	.....	.400	2 9/32	3.24	2.16	1.63	1.46
66F401	NFT3H1P22L-10	15	100	.22	.....	.400	1 11/32	3.44	2.29	1.72	1.55
66F402	NFT3H1P33L-10	15	100	.33	.....	.562	1 5/32	3.60	2.40	1.80	1.62
66F403	NFT3H1P47L-10	15	100	.47	.....	.562	1 13/32	3.82	2.55	1.92	1.72
66F404	NFT3H1W1L-10	15	100	1.0	.....	.670	2 9/32	4.62	3.08	2.31	2.09
66F405	NFT3H6P1L-10	15	*600	.1	0-400	.562	1 13/32	3.85	2.57	1.93	1.73
66F406	NFT3H6P22L-10	15	*600	.22	0-400	.670	1 29/32	4.33	2.89	2.17	1.95
20F1175	NFT3H6P33L-10-10	15	*600	.33	0-400	.750	2 5/32	4.75	3.17	2.39	2.15
66F407	NFT3H6P47L-10	15	*600	.47	0-400	.750	2 13/32	4.94	3.30	2.47	2.23

*also rated at 250 VAC.

10 AMP METALLIZED PAPER DIELECTRIC

Stock No.	Type	Curr. Amps	VDC	Cap. Mfd.	Case Dia.	Case Lgth.	1-24	25-49	50-99	100-499
20F1166	NFT2H10402TA	10	200	.1	.400	1 3/16	4.05	2.71	2.04	1.82
20F1167	NFT2H22402TA	10	200	.22	400	1 5/16	4.56	3.04	2.27	2.06
20F1168	NFT2H33402TA	10	200	.33	.400	1 1/16	4.98	3.33	2.52	2.26
20F1169	NFT2H47402TA	10	200	.47	.562	1 5/16	5.46	3.48	2.60	2.35
20F1170	NFT2H10502TA	10	200	1.0	.562	1 3/16	5.51	3.71	2.76	2.49
20F1171	NFT2H10406TA	10	*600	.1	.562	1 1/16	4.26	2.85	2.15	1.92
20F1172	NFT2H22406TA	10	*600	.22	.670	1 5/16	4.80	3.20	2.39	2.17
20F1173	NFT2H33406TA	10	*600	.33	.670	1 5/16	5.25	3.51	2.65	2.38
20F1174	NFT2H47406TA	10	*600	.47	.670	1 11/16	5.75	3.66	2.74	2.47

*also rated at 250 VAC.

TYPE NFR TUBULAR PI FILTERS

Stock No.	Type	Curr. Amps.	Volts AC	Volts DC	Line Freq. Hz	Case Dia.	Case Lgth.	1-24	25-49	50-99	100-499	500-Up
20F1150	NFR113-9	0.5	....	100	.....	1 1/16	1 1/4	13.05	8.70	6.53	5.87	5.22
20F1151	NFR113-1A	0.5	125	400	0-400	1	2	12.07	8.05	6.03	5.43	4.83
20F1152	NFR100-6	1.0	....	100	.....	1	2 1/16	13.16	8.77	6.58	5.93	5.27
20F1153	NFR119-1	1.0	125	400	0-400	1	2 1/2	14.49	9.66	7.25	6.52	5.80
20F1154	NFR101-8	5.0	....	100	.....	1 1/4	3 7/16	16.79	11.19	8.40	7.56	6.72
20F1155	NFR121-1	5.0	125	400	0-400	1 1/4	2 31/32	19.56	13.04	9.78	8.80	7.82
20F1156	NFR136-1	10.0	....	100	.....	1 3/8	3 1/16	21.93	14.62	10.97	9.87	8.78
20F1157	NFR122-1	10.0	125	400	0-400	1 1/4	3 3/8	23.76	15.84	11.88	10.69	9.50
20F1158	NFR137-1	20.0	....	100	.....	1 1/2	3 3/4	28.68	19.12	14.34	12.91	11.47
20F1159	NFR123-1	20.0	125	400	0-400	1 1/2	3 15/32	30.99	20.66	14.50	13.95	12.40
20F1160	NFR112-7	30.0	125	400	0-400	2 1/4	4 1/8	62.22	41.48	31.11	28.00	24.89
20F1161	NFR103-15	50.0	125	400	0-400	2 1/4	4	69.75	46.50	34.88	31.39	27.90

TYPE NFR FILTERS UL RECOGNIZED

15F2222	NFR100-8A	1	250	600	0-60	1	2 1/16	11.40	7.60	5.70	5.13	4.56
15F2223	NFR110-4A	3	250	600	0-60	1 1/8	3 1/2	17.66	11.77	8.83	7.95	7.06
15F2224	NFR101-4A	5	250	600	0-60	1 1/8	3 7/16	18.94	12.63	9.47	8.53	7.58
15F2225	NFR102-6A	10	250	600	0-60	1 1/2	3 3/4	23.27	15.52	11.64	10.47	9.31
15F2226	NFR111-2A	20	250	600	0-60	1 3/4	4 3/8	33.06	22.04	16.53	14.88	13.23
15F2227	NFR112-1A	30	250	600	0-60	2 1/4	4	54.09	36.06	27.05	24.34	21.64
15F2228	NFR103-5A	50	250	600	0-60	2 1/4	4 1/2	73.19	48.79	36.60	32.94	29.28

TYPE NF RECTANGULAR PI FILTERS

66F417	NF10457-7	1**	250	600	0-400	1 3/4 x 1 1/4 x 1 1/8	14.93	9.95	7.47	6.72	5.97
66F419	NF10459-5	5**	250	600	0-400	2 1/16 x 1 1/4 x 1 1/4	15.15	10.10	7.58	6.82	6.07
66F421	NF10561-5	10**	250	600	0-400	2x2x1 1/2	19.84	13.23	9.92	8.92	7.94

TYPE NF DUAL CIRCUIT RECTANGULAR STYLE

Stock No.	Type	Curr. Amps.	Volts AC	Line Freq. HZ	1-24	25-49	50-99	100-499	500-Up
20F1162	NF20968-3	2x3	250	0-60	14.10	8.20	6.35	5.65	5.15
20F1163	NF10431-5	2x4	250	0-60	15.60	9.10	7.05	6.25	5.70
20F1164	NF10431-37	2x7	250	0-60	21.80	12.70	9.00	8.70	8.00
20F1165	NF20954	2x10	250	0-60	22.50	13.10	10.05	9.00	8.35

TYPE NF QUIETONE FILTERS

Fig. A—Flexible wire leads. Fig. B—Solder lug terminals.

Stock No.	Type	Curr. Amps	Volts AC	Fig.	L. x W. x H.	1-24	25-99	100-Up
66F423	NF10431	2x3.5	280	A	2 1/2 x 2 x 1 3/16	3.87	3.39	2.52
66F426	NF10431-12	2x3.5	280	A	2 1/2 x 2 x 1 3/16	7.49	6.56	4.87

POWER LINE AND SCREEN ROOM FILTERS THREADED LEAD TERMINATION

Stock No.	Type	Curr. Amps.	Volts AC	Line Freq. HZ	Case L. x W. x H.	1-9	10-Up
66F428	CDF25FA6-C	25A	250V	0-60	23 x 4 x 4	129.86	108.22
66F430	CDF50FA6-C	50A	250V	0-60	23 x 4 x 4	136.55	113.78

KNOCKOUTS BOTH ENDS

66F436	CDF25FA6	25A	250V	0-60	26 x 4 x 4	129.86	108.22
66F438	CDF50FA6	50A	250V	0-60	26 x 4 x 4	136.55	113.79
66F439	CDF50FA4	50A	250V	0-400	26 x 4 x 4	136.55	113.79

TYPE IF FILTERS

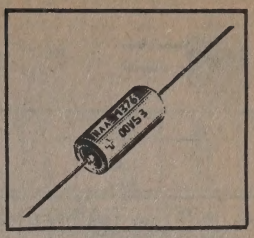
Stock No.	Type	Volt/Amp	Cap. Mfd.	1-24	25-99	100-Up
48F043	IF 4	110/5	.1	1.54	1.35	1.01
48F044	IF 6	110/5	2x.1	2.40	2.10	1.56
48F001	IF19	115/5	2x.1	9.10	7.96	5.92
48F007	IF24	277	2x.1	1.71	1.49	1.10
48F006	IF54	110-220/2	2x.25	4.00	3.50	2.60

Tantalum Capacitors

MALLORY

TYPE CSR SOLID ELECTROLYTE CAPACITORS

olid electrolyte tantalum capacitors meet or xceed established reliability requirements of IIL-C-39003/01 for 2% (L) and 1% (M) failure rate levels. Rigid MIL specifications. Have hermetically sealed metal cases with insulating sleeves. WVDC at +85°C ±10% tol. Wt.: 2 oz.



PRICE CHART AND SIZE

Key	WVDC	Dia. x Lgth.	1-24	25-49	50-99	100-499	500-999	Key	WVDC	Dia. x Lgth.	1-24	25-49	50-99	100-499	500-999
A	6	.135x.286	.84	.64	.54	.44	.39	E		.135x.286	1.08	.82	.68	.56	.50
B	TO	.185x.474	.92	.70	.59	.48	.43	F	50	.185x.474	1.08	.82	.69	.56	.50
C	35	.289x.686	1.84	1.39	1.17	.94	.82	G		.289x.686	2.60	1.96	1.64	1.32	1.16
D		.351x.786	3.60	2.71	2.27	1.82	1.60	H		.351x.786	5.36	4.03	3.37	2.70	2.37

2% FAILURE

Stock No.	Type CSR13	MIL-C 39003/01	MFD	WV DC	Key
7F1505	B565KL	2001	5.6	6	A
7F1506	B685KL	2002	6.8	6	A
7F1507	B476KL	2004	47	6	B
7F1508	B566KL	2006	56	6	B
7F1509	B157KL	2007	150	6	C
7F1510	B187KL	2009	180	6	C
7F688	B277KL	2010	270	6	D
7F689	B337KL	2011	330	6	D
7F690	C395KL	2013	3.9	10	A
7F1514	C475KL	2014	4.7	10	A
7F1515	C276KL	2016	27	10	B
7F1516	C336KL	2017	33	10	B
7F1517	C396KL	2019	39	10	B
7F1518	C826KL	2020	82	10	C
7F1519	C107KL	2021	100	10	C
7F1520	C127KL	2023	120	10	C
7F691	C187KL	2024	180	10	D
7F1522	C227KL	2025	220	10	D
7F1523	D275KL	2027	2.7	15	A
7F1524	D335KL	2028	3.3	15	A
7F1525	D186KL	2030	18	15	B
7F1526	D226KL	2031	22	15	B
7F1527	D566KL	2033	56	15	C
7F1528	D686KL	2034	68	15	C
7F692	D127KL	2036	120	15	D
7F1530	D157KL	2037	150	15	D
7F1531	E125KL	2039	1.2	20	A
7F1532	E155KL	2040	1.5	20	A
7F693	E185KL	2042	1.8	20	A
7F1534	E225KL	2043	2.2	20	A
7F1535	E825KL	2045	8.2	20	B
7F1536	E106KL	2046	10	20	B
47F694	E126KL	2048	12	20	B
17F1538	E156KL	2049	15	20	B
17F1539	E276KL	2051	27	20	C
17F1540	E336KL	2052	33	20	C
17F1541	E396KL	2054	39	20	C
17F1542	E476KL	2055	47	20	C
47F695	E566KL	2057	56	20	D
17F1544	E686KL	2058	68	20	D
47F696	E826KL	2060	82	20	D
17F1546	E107KL	2061	100	20	D
17F1547	F565KL	2063	5.6	35	B
17F1548	F685KL	2064	6.8	35	B
17F1549	F226KL	2066	22	35	C
17F1550	F276KL	2068	27	25	D
17F1551	F336KL	2069	33	35	D
17F1552	F396KL	2071	39	35	D
17F1553	F476KL	2072	47	35	D
17F1554	G472KL	2074	.0047	50	E
47F697	G562KL	2076	.0056	50	E
47F698	G682KL	2077	.0068	50	E
47F699	G822KL	2079	.0082	50	E
17F1558	G103KL	2080	.01	50	E
17F1559	G123KL	2082	.012	50	E
47F070	G153KL	2083	.015	50	E
47F071	G183KL	2085	.018	50	E
17F1562	G223KL	2086	.022	50	E
17F1563	G273KL	2088	.027	50	E
17F1564	G333KL	2089	.033	50	E
47F072	G393KL	2091	.039	50	E
17F1566	G473KL	2092	.047	50	E
17F1567	G563KL	2094	.056	50	E
47F073	G683KL	2095	.068	50	E
47F074	G823KL	2097	.082	50	E
17F1570	G104KL	2098	.1	50	E
47F075	G124KL	2100	.12	50	E
17F1572	G154KL	2101	.15	50	E
47F076	G184KL	2103	.18	50	E
17F1574	G224KL	2104	.22	50	E
47F077	G274KL	2106	.27	50	E
17F1576	G334KL	2107	.33	50	E
47F738	G394KL	2109	.39	50	E
17F1578	G474KL	2110	.47	50	E
17F1579	G564KL	2112	.56	50	E
17F1580	G684KL	2113	.68	50	E
17F1581	G824KL	2115	.82	50	E
17F1582	G105KL	2116	1.0	50	E
47F739	G125KL	2118	1.2	50	F
17F1584	G155KL	2119	1.5	50	F
47F740	G185KL	2121	1.8	50	F
17F1586	G225KL	2122	2.2	50	F
47F741	G275KL	2124	2.7	50	F
17F1588	G335KL	2125	3.3	50	F
47F742	G395KL	2127	3.9	50	F
17F1590	G475KL	2128	4.7	50	F
17F1591	G565KL	2130	5.6	50	G
17F1592	G685KL	2131	6.8	50	G
47F743	G825KL	2133	8.2	50	G
17F1594	G106KL	2134	10	50	G
17F1595	G126KL	2136	12	50	G
17F1596	G156KL	2137	15	50	G
47F744	G186KL	2139	18	50	G
17F1598	G226KL	2140	22	50	H

1% FAILURE

PRICE CHART AND SIZE

Key	WVDC	Dia. x Lgth.	1-24	25-49	50-99	100-499	500-999	Key	WVDC	Dia. x Lgth.	1-24	25-49	50-99	100-499	500-999
A	6	.135x.286	.89	.69	.59	.49	.44	E		.135x.286	1.13	.87	.73	.61	.55
B	TO	.185x.474	.86	.66	.56	.46	.41	F	50	.185x.474	1.13	.87	.74	.61	.55
C	35	.289x.686	1.89	1.44	1.22	.99	.87	G		.289x.686	2.65	2.01	1.69	1.37	1.21
D		.351x.786	3.65	2.76	2.31	1.87	1.65	H		.351x.786	5.41	4.08	3.42	2.75	2.42

Stock No.	Type CSR13	MIL-C 39003/01	MFD	WV DC	Key
7F745	B565KM	2241	5.6	6	A
7F1678	B685KM	2242	6.8	6	A
7F1680	B476KM	2244	47	6	B
7F746	B566KM	2246	56	6	B
7F747	B157KM	2247	150	6	C
7F748	B187KM	2249	180	6	C
7F749	B277KM	2250	270	6	D
7F750	B337KM	2251	330	6	D
7F751	C395KM	2253	3.9	10	A
7F1683	C475KM	2254	4.7	10	A
7F752	C276KM	2256	27	10	B
7F1684	C336KM	2257	33	10	B
7F753	C396KM	2259	39	10	B
7F754	C826KM	2260	82	10	C
7F1685	C107KM	2261	100	10	C
7F755	C127KM	2263	120	10	C
7F756	C187KM	2264	180	10	D
7F1686	C227KM	2265	220	10	D
7F757	D275KM	2267	2.7	15	A
7F1687	D335KM	2268	3.3	15	A
7F758	D186KM	2270	18	15	B
7F759	D226KM	2271	22	15	B
7F760	D566KM	2273	56	15	C
7F761	D686KM	2274	68	15	C
7F762	D127KM	2276	120	15	D
7F1689	D157KM	2277	150	15	D
7F763	E125KM	2279	1.2	20	A
7F1690	E155KM	2280	1.5	20	A
7F764	E185KM	2282	1.8	20	A
7F1691	E225KM	2283	2.2	20	A
7F765	E825KM	2285	8.2	20	B
7F1692	E106KM	2286	10	20	B
47F766	E126KM	2288	12	20	B
17F1693	E156KM	2289	15	20	B
47F767	E276KM	2291	27	20	C
47F768	E336KM	2292	33	20	C
47F769	E396KM	2294	39	20	C
17F1695	E476KM	2295	47	20	C
47F770	E566KM	2297	56	20	D
17F1696	E686KM	2298	68	20	D
47F771	E826KM	2300	82	20	D
17F1697	E107KM	2301	100	20	D
47F772	F565KM	2303	5.6	35	B
17F1698	F685KM	2304	6.8	35	B
17F1699	F226KM	2306	22	35	C
47F773	F276KM	2308	27	35	D
17F1655	F336KM	2309	33	35	D
47F774	F396KM	2311	39	35	D
17F1656	F476KM	2312	47	35	D
47F775	G472KM	2314	.0047	50	E
47F776	G562KM	2316	.0056	50	E
47F777	G682KM	2317	.0068	50	E
47F778	G822KM	2319	.0082	50	E
47F779	G103KM	2320	.01	50	E
47F780	G123KM	2322	.012	50	E
47F781	G153KM	2323	.015	50	E
47F782	G183KM	2325	.018	50	E
17F1659	G223KM	2326	.022	50	E
47F783	G273KM	2328	.027	50	E
17F1660	G333KM	2329	.033	50	E
47F784	G393KM	2331	.039	50	E
17F1661	G473KM	2332	.047	50	E
47F785	G563KM	2334	.056	50	E
47F786	G683KM	2335	.068	50	E
47F787	G823KM	2337	.082	50	E
17F1663	G104KM	2338	.1	50	E
47F788	G124KM	2340	.12	50	E
17F1665	G154KM	2341	.15	50	E
47F789	G184KM	2343	.18	50	E
47F790	G224KM	2344	.22	50	E
47F791	G274KM	2346	.27	50	E
17F1666	G334KM	2347	.33	50	E
47F792	G394KM	2349	.39	50	E
17F1667	G474KM	2350	.47	50	E
47F793	G564KM	2352	.56	50	E
17F1668	G684KM	2353	.68	50	E
47F794	G824KM	2355	.82	50	E
17F1669	G105KM	2356	1.0	50	E
47F795	G125KM	2358	1.2	50	F
47F796	G155KM	2359	1.5	50	F
47F797	G185KM	2361	1.8	50	F
17F1671	G225KM	2362	2.2	50	F
47F731	G275KM	2364	2.7	50	F
17F1672	G335KM	2365	3.3	50	F
47F732	G395KM	2367	3.9	50	F
17F1673	G475KM	2368	4.7	50	F
47F733	G565KM	2370	5.6	50	G
17F1674	G685KM	2371	6.8	50	G
47F734	G825KM	2373	8.2	50	G
17F1675	G106KM	2374	10	50	G
47F735	G126KM	2376	12	50	G
47F736	G156KM	2377	15	50	G
47F737	G186KM	2379	18	50	G
17F1677	G226KM	2380	22	50	H

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MALLORY

Tantalum Capacitors

TIM TYPE - SOLID ELECTROLYTIC TANTALUMS

Rect. case. Tinned #24 leads. Last letter in type number indicates case size. **X**- .285 W x .225 H x .170 T. **Y**- .360 W x .335 H x .170 T. **V**- .325 W x .415 H x .170 T. **W** .228 W x .340 H x .105 T. Lead spacing .20 except Size W- .125. Tolerance ±10%.

PRICE CODE

Key	1-24	25-49	50-99	100-499	500-Up	Key	1-24	25-49	50-99	100-499	500-Up
A	1.41	1.13	.77	.63	.52	D	1.74	1.40	.97	.78	.63
B	1.43	1.15	.79	.65	.55	E	1.89	1.51	1.04	.84	.68
C	2.72	2.18	1.50	1.22	1.02	F	4.48	3.58	2.68	2.17	1.74

Stk. No.	Type TIM	MFD	Volts	Price
47F700	226K006P0X	22	6	B
14F147	566K006P0V	56	6	B
47F702	106K010P0X	10	10	B
47F703	156K010P0X	15	10	B
14F145	336K010P0V	33	10	B
47F704	225K015P0X	2.2	15	A
47F705	335K015P0X	3.3	15	A
47F706	475K015P0X	4.7	15	B
47F707	685K015P0X	6.8	15	B
47F708	226K015P0Y	22	15	B
14F129	226K015P0V	22	15	B
47F709	336K015P0Y	33	15	C

Stk. No.	Type TIM	MFD	Volts	Price
14F127	106K025P0V	10.0	25	B
47F710	106K025P0Y	10	25	B
14F128	156K025P0V	15	25	B
47F711	104K035P0X	.1	35	A
47F712	154K035P0X	.15	35	A
47F713	224K035P0X	.22	35	A
47F714	334K035P0X	.33	35	A
47F715	474K035P0X	.47	35	A
47F716	684K035P0X	.68	35	A
47F717	155K035P0X	1.5	35	B
47F718	225K035P0X	2.2	35	B
47F719	335K035P0X	3.31	35	B

Stk. No.	Type TIM	MFD	Volts	Price
47F720	475K035P0Y	4.7	35	B
60F2214	475K035P0V	4.7	35	B
47F721	685K035P0Y	6.8	35	B
47F722	106K035P0Y	10.0	35	C
47F723	154K050P0X	.15	50	D
47F724	224K050P0X	.22	50	D
47F725	474K050P0X	.47	50	D
47F726	105K050P0X	1.0	50	D
47F727	225K050P0X	2.2	50	E
47F728	335K050P0Y	3.3	50	E
47F730	565K050P0Y	5.6	50	F

TAC-TYPE MINIATURE MOLDED ELECTROLYTIC TANTALUM CAPACITORS

Designed for high density applications. 10% tolerance, #24 (.020") wire leads 1½" x ¼" long.

SIZE AND PRICE LOCATOR

Key	Dia. x Lt.	1-24	25-49	50-99	100-499	500-999	Key	Lt.x Wdth	1-24	25-49	50-99	100-499	500-499
E	.105"x.290"	.73	.59	.54	.48	.39	H	.137"x.340"	.73	.59	.54	.48	.39
F	.105"x.290"	.68	.57	.51	.46	.37	I	.187"x.530"	.70	.59	.54	.48	.39
G	.137"x.340"	.68	.57	.51	.46	.37	J	.187"x.530"	.76	.61	.56	.50	.42

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Stk. No.	Type Tac-	Mfd	WVDC	Key	Stk. No.	Type Tac-	Mfd	WVDC	Key	Stk. No.	Type Tac-	Mfd	WVDC	Key
17F1627	156K003P02	15	3	F	60F3588	685K015P04	6.8	15	I	17F1610	564K035P02	.56	35	F
17F1628	186K003P02	18	3	F	60F3592	825K015P04	8.2	15	I	17F1611	684K035P02	.68	35	F
60F3664	686K003P04	68	3	I	60F3596	106K015P04	10	15	I	17F1612	824K035P02	.82	35	F
60F3665	826K003P04	82	3	I	60F3644	126K015P04	12	15	I	60F3555	125K035P03	1.2	35	G
17F1624	825K006P02	8.2	6	F	60F3647	156K015P04	15	15	I	60F3564	275K035P04	2.7	35	I
17F1625	106K006P02	10	6	F	60F3650	186K015P04	18	15	I	60F3567	335K035P04	3.3	35	I
17F1626	126K006P02	12	6	F	60F3653	226K015P04	22	15	I	60F3572	395K035P04	3.9	35	I
60F3649	156K006P04	15	6	I	17F1613	105K020P02	1.0	20	F	60F3577	475K035P04	4.7	35	I
60F3652	186K006P04	18	6	I	17F1614	125K020P02	1.2	20	F	60F3581	565K035P04	5.6	35	I
60F3655	226K006P04	22	6	I	17F1615	155K020P02	1.5	20	F	60F3585	685K035P04	6.8	35	I
60F3657	276K006P04	27	6	I	17F1616	185K020P02	1.8	20	F	60F3589	825K035P04	8.2	35	I
60F3659	336K006P04	33	6	I	17F1617	225K020P02	2.2	20	F	17F1600	823K050P02	.082	50	E
60F3661	396K006P04	39	6	I	60F3569	335K020P04	3.3	20	I	17F1601	104K050P02	.1	50	E
60F3662	476K006P04	47	6	I	60F3574	395K020P04	3.9	20	I	17F1603	154K050P02	.15	50	E
60F3663	566K006P04	56	6	I	60F3579	475K020P04	4.7	20	I	17F1604	184K050P02	.18	50	E
17F1619	335K010P02	3.3	10	F	60F3583	565K020P04	5.6	20	I	17F1605	224K050P02	.22	50	E
17F1620	395K010P02	3.9	10	F	60F3587	685K020P04	6.8	20	I	17F1606	274K050P02	.27	50	E
17F1621	475K010P02	4.7	10	F	60F3591	825K020P04	8.2	20	I	17F1607	334K050P02	.33	50	E
17F1622	565K010P02	5.6	10	F	60F3595	106K020P04	10	20	I	17F1608	394K050P02	.39	50	E
17F1623	685K010P02	6.8	10	F	60F3599	126K020P04	12	20	I	17F1609	474K050P02	.47	50	E
60F3593	825K010P04	8.2	10	I	60F3646	156K020P04	15	20	I	60F3550	564K050P03	.56	50	H
60F3597	106K010P04	10	10	I	60F3556	125K025P03	1.2	25	G	60F3551	684K050P03	.68	50	H
60F3645	126K010P04	12	10	I	60F3558	155K025P03	1.5	25	G	60F3552	824K050P03	.82	50	H
60F3648	156K010P04	15	10	I	60F3560	185K025P03	1.8	25	G	60F3553	105K050P03	1.0	50	H
60F3651	186K010P04	18	10	I	60F3562	225K025P03	2.2	25	G	60F3554	125K050P04	1.2	50	J
60F3654	226K010P04	22	10	I	60F3565	275K025P04	2.7	25	I	60F3557	155K050P04	1.5	50	J
60F3656	276K010P04	27	10	I	60F3568	335K025P04	3.3	25	I	60F3559	185K050P04	1.8	50	J
60F3658	336K010P04	33	10	I	60F3573	395K025P04	3.9	25	I	60F3561	225K050P04	2.2	50	J
60F3660	396K010P04	39	10	I	60F3578	475K025P04	4.7	25	I	60F3563	275K050P04	2.7	50	J
17F1618	275K015P02	2.7	15	F	60F3582	565K025P04	5.6	25	I	60F3566	335K050P04	3.3	50	J
60F3570	335K015P03	3.3	15	G	60F3586	685K025P04	6.8	25	I	60F3571	395K050P04	3.9	50	J
60F3575	395K015P04	3.9	15	I	60F3590	825K025P04	8.2	25	I	60F3576	475K050P04	4.7	50	J
60F3580	475K015P04	4.7	15	I	60F3594	106K025P04	10	25	I	...	...	...	...	...
60F3584	565K015P04	5.6	15	I	60F3598	126K025P04	12	25	I	...	...	...	...	...

WET-SLUG TANTALUM CAPACITORS

Type TNT. Oper. temp. —55° to +85°C. DC leakage less than 1 microamp after 10 min. of rated voltage. Tol., —15% to +75%.

TNT Prices

Price Code	1-24	25-49	50-99	100-499	500-499
A	1.24	0.99	0.84	0.714	0.651
B	1.46	1.17	0.99	0.84	0.766

Stk. No.	Type	Cap. Mfd.	WVDC +85°	Size	Price
14F448	TNT356U012POB	35	12	.152x .475	B
14F447	TNT256U015POB	25	15	.152x .475	B
14F446	TNT156U030POB	15	30	.152x .475	B
14F497	TNT605U035POA	6	35	.152x .325	A
14F870	TNT126U035POB	12	35	.152x .475	B
14F495	TNT205U050POA	2	50	.152x .325	A
14F498	TNT405U050POA	4	50	.152x .325	A
14F445	TNT805U050POB	8	50	.152x .475	B

Type TAP. Operating temp. —55° to +85°C. DC leakage is less than 1 microamp after 10 min. of rated voltage. Furnished in metal cases with precision formed epoxy end seals. Tol., —15% to +75%. Axial leads 1½" tinned for easy soldering.

TAP Prices

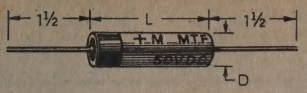
Price Code	1-24	25-49	50-99	100-499	500-999
C	1.46	1.17	0.99	0.84	0.766
D	2.46	1.97	1.66	1.415	1.29

Stk. No.	Type	Cap. Mfd.	WVDC+85°C	Size	Price
14F441	TAP206U010POA	20	10	.228x .500	C
14F090	TAP107U010POB	100	10	.228x .660	D
14F089	TAP706U015POB	70	15	.228x .660	D
14F438	TAP106U025POA	10	25	.228x .500	C
14F088	TAP406U030POB	40	30	.228x .660	D
14F435	TAP505U050POA	5	50	.228x .500	C
14F086	TAP256U050POB	25	50	.228x .660	D
14F434	TAP405U060POA	4	60	.228x .500	C
14F432	TAP205U090POA	2	90	.228x .500	C
14F083	TAP116U090POB	11	90	.228x .660	D

Tantalum Capacitors & Hardware

MALLORY

MTP TANTALUM CAPACITORS



- Offer greatest capacity —Voltage product
- Ideal for miniature circuits
- Long storage life

This sintered tantalum anode capacitor offers the greatest capacity-voltage product of any tantalum type. Meets or exceeds MIL-STD-202 for high frequency vibration, shock, temp. and immersion cycling, moisture resistance and sleeving dielectric strength and insulation resistance. They are housed in special silver cases with elastomer end seal and are completely insulated. Oper. temp. −50 to +85°C. Tol. ±20%.

PRICE AND SIZE LOCATOR

Case Size	Dia. x Lgth. Inches	1-9	10-24	25-49	50-99	100-499	500-999
A	.115 x .400	2.59	2.28	1.99	1.71	1.37	1.25
B	.145 x .590	3.11	2.74	2.39	2.06	1.64	1.51
C	.225 x .775	3.62	3.18	2.78	2.39	1.91	1.75
D	.115 x .312	2.57	2.26	1.97	1.69	1.35	1.23

Stk. No.	Mfr's Type MTP-	Cap. µF	WVDC @ 85°C	Max. D.C.L. at Max. WVDC in µA +25°C	Max. D.C.L. at Max. WVDC in µA +85°C	Max. DF @ 25°C	Code
60F2260	156M006P1D	15	6	.....	.....	.....	D
60F2136	476M006P1A	47	6	.....	.....	.....	A
60F2261	157M006P1B	150	6	.....	.....	.....	B
13F314	187M006P1B	180	6	2.0	8.0	37	B
13F315	457M006P1C	450	6	2.0	10.0	50	C
60F2137	477M006P1C	470	6	2.0	10.0	50	C
60F2262	106M010P1D	10	10	2.0	6.0	20	D
60F2263	336M010P1A	33	10	2.0	6.0	30	A
60F2264	107M010P1B	100	10	2.0	8.0	33	B
13F316	127M010P1B	120	10	2.0	8.0	35	B
13F317	307M010P1C	300	10	2.0	10.0	35	C
60F2265	337M010P1C	330	10	2.0	10.0	35	C
60F2266	226M015P1A	22	15	2.0	6.0	33	A
60F2267	686M015P1B	68	15	2.0	8.0	27	B
13F318	806M015P1B	80	15	2.0	8.0	30	B
13F319	207M015P1C	200	15	2.0	10.0	30	C
60F2138	227M015P1C	220	15	2.0	10.0	30	C
60F2268	685M020P1D	6.8	20	2.0	6.0	20	D
60F2269	156M020P1A	15	20	.....	.....	.....	A
60F2270	476M020P1B	47	20	2.0	8.0	25	B
13F320	606M020P1B	60	20	2.0	8.0	25	B
60F2271	157M020P1C	150	20	2.0	10.0	30	C
13F321	605M030P1D	6	30	.....	.....	.....	D
13F322	106M030P1A	10	30	2.0	6.0	20	A
13F323	456M030P1B	45	30	2.0	8.0	25	B
13F324	127M030P1C	120	30	2.0	10.0	30	C
60F2272	475M035P1D	4.7	35	2.0	6.0	20	D
60F2139	106M035P1A	10	35	2.0	6.0	20	A
60F2140	107M035P1C	100	35	2.0	10.0	25	C
13F325	405M050P1D	4	50	.....	.....	.....	D
13F326	685M050P1A	6.8	50	2.0	6.0	20	A
13F327	306M050P1B	30	50	2.0	8.0	20	B
60F2141	336M050P1B	33	50	2.0	8.0	20	B
60F2273	686M050P1C	68	50	2.0	10.0	20	C
13F328	786M050P1C	78	50	2.0	10.0	20	C
60F2274	335M060P1D	3.3	60	2.0	6.0	15	D
60F2275	475M060P1A	4.7	60	2.0	6.0	15	A
60F2276	685M060P1A	6.8	60	2.0	6.0	20	A
60F2277	106M060P1B	10	60	2.0	8.0	20	B
60F2278	156M060P1B	15	60	.....	.....	.....	B
60F2142	226M060P1B	22	60	2.0	8.0	20	B
60F2143	336M060P1C	33	60	2.0	10.0	20	C
60F2144	476M060P1C	47	60	2.0	10.0	20	C
60F3850	686M060P1C	68	60	2.0	10.0	20	C

TDC TANTALUM CAPACITORS

TDC tantalums have a hard, dip coated epoxy coating and are supplied with tinned nickel radial leads. They exhibit the same long shelf life and performance as other solid tantalum capacitors. Ideally suited for use in industrial, commercial and entertainment electronics. They are low priced and have radial leads. Operating Temperature −55°C to ±85°C. Tolerance ±20%.

DIMENSIONS

Case Size	Max. Inches Dia. x Ht.	Lead Dia. In Inches (±.002)	Lead Spacing (±.015)	Case Markings
E	.175 x .350	.020 (#24AWG)	.250	
F	.250 x .500	.020 (#24AWG)	.250	Color Coded
G	.350 x .650	.025 (#22AWG)	.250	Stamped Capacity,
H	.400 x .750	.025 (#22AWG)	.250	Voltage & Tol.

Stock No.	Mfr's. Type TDC-	Cap. µF	WV DC	Case Size	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-499
60F3851	685M006EL	6.8	6	E	.86	.69	.48	.35
60F3852	476M006FL	47	6	F	.91	.73	.51	.37
60F3853	157M006GL	150	6	G	1.68	1.35	.93	.68
60F3854	337M006HL	330	6	H	3.73	2.98	2.05	1.49
60F3855	475M010EL	4.7	10	E	.86	.69	.48	.35
60F3856	336M010FL	33	10	F	.92	.73	.51	.37
60F3857	107M010GL	100	10	G	1.68	1.35	.93	.68
60F3858	227M010HL	220	10	H	3.73	2.98	2.05	1.49
60F3859	335M015EL	3.3	15	E	.86	.69	.48	.35
60F3860	226M015FL	22	15	F	.92	.73	.51	.37
60F3861	686M015GL	68	15	G	1.68	1.35	.93	.68
60F3862	157M015HL	150	15	H	3.73	2.98	2.05	1.49
60F3863	225M020EL	2.2	20	E	.86	.69	.48	.35
60F3864	156M020FL	15	20	F	1.06	.84	.58	.42
60F3865	336M020GL	33	20	G	1.68	1.35	.93	.68
60F3866	476M020GL	47	20	G	1.68	1.35	.93	.68
60F3867	686M020HL	68	20	H	2.63	2.12	.46	1.06
60F3868	107M020HL	100	20	H	3.73	2.81	2.05	1.49
60F3869	685M025FL	6.8	25	F	1.19	.95	.66	.48
60F3870	106M025FL	10	25	F	1.19	.95	.66	.48
60F3871	226M025GL	22	25	G	1.68	1.35	.93	.68
60F3872	476M025HL	47	25	H	3.73	2.98	2.05	1.49
60F3873	686M025HL	68	25	H	3.73	2.98	2.05	1.49
60F3874	105M035EL	1	35	E	.86	.69	.48	.35
60F3875	155M035EL	1.5	35	E	.86	.69	.48	.35
60F3876	225M035FL	2.2	35	F	1.08	.86	.59	.43
60F3877	335M035FL	3.3	35	F	1.08	.86	.59	.43
60F3878	475M035FL	4.7	35	F	1.19	.95	.66	.43
60F3879	685M035FL	6.8	35	F	1.19	.95	.48	.43
60F3880	106M035FL	10	35	F	1.69	1.35	.93	.68
60F3881	156M035GL	15	35	G	1.69	1.35	.93	.68
60F3882	226M035GL	22	35	G	2.65	2.12	1.46	1.06
60F3883	336M035HL	33	35	H	3.73	2.98	2.05	1.49
60F3884	476M035HL	47	35	H	3.73	2.98	2.05	1.49
60F3885	104M050EL	.10	50	E	.95	.76	.52	.38
60F3886	154M050EL	.15	50	E	.95	.76	.52	.38
60F3887	224M050EL	.22	50	E	.95	.76	.52	.38
60F3888	334M050EL	.33	50	E	.95	.76	.52	.38
60F3889	474M050EL	.47	50	E	.95	.76	.52	.38
60F3890	684M050EL	.68	50	E	.95	.76	.52	.38
60F3891	105M050EL	1.0	50	E	.95	.76	.52	.38
60F3892	155M050FL	1.5	50	F	1.30	1.05	.72	.52
60F3893	225M050FL	2.2	50	F	1.30	1.05	.72	.52
60F3894	685M050GL	6.8	50	G	2.65	2.12	1.46	1.06
60F3895	106M050GL	10	50	G	2.65	2.12	1.46	1.06
60F3896	156M050GL	15	50	G	2.65	2.12	1.46	1.06
60F3897	226M050HL	22	50	H	3.73	2.98	2.05	1.49

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MOUNTING PLATES

For mounting "Twist-Prong" capacitors. (†) For mounting 1 inch diameter can over a 1⅜ inch diameter hole.

Stk. No.	Type	Size In.	Desc.	Fig.	1-99	100-999	1000-Up
14F400	MP-2	¾	Metal	A	.18	.12	.09
14F401	MP-4	1	Metal	A			
14F402	MP-6	1⅛ †	Metal	A			
14F404	BP4	1	Phen.	B			
14F406	BP6	1⅜ †	Phen.	B			

MOUNTING SOCKETS—Fig. C

Stk. No.	Size, In.	1-24	25-49	50-99	100-249
29F549	1	.52	.42	.35	.28
29F550	1⅜	.76	.61	.51	.41

CLIPS—Fig. D

Stk. No.	Size in.	1-99	100-999	1000-up
14F414	⅜ x 7/16	.12	.10	.08
14F415	½ x ⅝	.12	.10	.08
14F416	⅝ x 1 1/16	.12	.10	.08
14F417	¾ x 1 3/16	.15	.11	.09
14F418	⅞ x 1 3/16	.15	.11	.09
14F419	1 x1 1/16	.15	.11	.09
14F420	1⅜x1 7/16	.15	.11	.09

CLAMPS—Fig. E

14F409	1 x1 1/16	.43	.25	.23
14F410	1⅜x1 7/16	.43	.25	.23
14F411	1½x1 9/16	.45	.27	.24
14F412	1¾x1 13/16	.48	.29	.26
14F413	2 x2 1/16	.54	.32	.29
60F2292	2½x2 9/16	.57	.34	.31
60F2113	3	.66	.39	.35

FIBER INSULATING SLEEVES—Fig. F

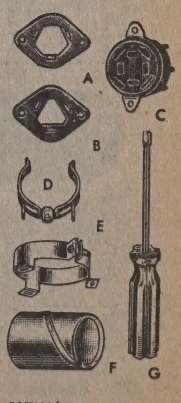
For Twist-Prong capacitors. Closed end. Weight 2 oz.

Stk. No.	Size in.	1-99	100-999	1000-up
14F422	¾x2	.15	.10	.08
14F423	1 x2			
14F424	1 x3			
14F425	1⅜x2			
14F426	1⅜x3			
14F427	1 x2½			
14F428	1 x4			
14F429	1⅜x2½			
14F430	1⅜x4			
60F2114	1 x3½			
60F2115	1⅜x3½			
60F2116	1 x1¾			

MOUNTING WRENCH—Fig. G

For locking "Twist-Prong" electrolytic capacitors securely into position. Shipping weight, 1 lb.

14F421 ..... 2.68



MALLORY Electrolytic Capacitors

FP AND WP CAPACITORS

Vertical mounting dry electrolytics for all filter and audio bypass circuits, and TV applications. All types include deep etched anodes and etched cathodes. All hermetically sealed in aluminum cases. Can is negative; separate positive terminals provided for each section. With mounting washers. Shipping weight, 6 oz.

SIZE CHART

Key Size	Key Size	Key Size
A—¾x2	E—1x2	I—1⅜x2
B—1x2½	F—1x1¾	J—1⅜x3¼
C—1x3	G—1⅜x3	K—1⅜x1¾
D—1x1½	H—1⅜x2	N—1⅜x4

SINGLE SECTION

Stock No.	Type	Mfd.	WV	Size	1-24	25-49	50-99	100-249
14F216	WP039A	1000	15	D	1.76	1.04	.831	.622
14F217	WP041A	2000	15	H	2.37	1.401	1.120	838
14F243	WP042A	3000	15	H	2.93	1.735	1.387	1.038
60F2105	FP042.8A	10000	15	J	6.69	3.962	3.166	2.371
14F214	WP057A	500	25	D	1.49	.883	.706	.529
14F215	WP059	1000	25	H	2.18	1.292	1.032	.773
60F2106	FP060.2	2000	25	K	2.93	1.74	1.39	1.04
60F2107	FP060.4A	4000	25	G	4.50	2.66	2.13	1.59
60F2108	FP060.6A	5000	25	J	5.30	3.14	2.51	1.88
14F212	WP065	500	50	H	1.75	1.033	.826	.618
14F245	WP068	1500	50	G	2.97	2.00	1.60	1.20
60F2110	FP070A	2000	50	J	3.38	2.280	1.823	1.366
14F248	FP119A	300	150	H	1.96	1.320	1.055	.791
14F972	FP140.6A	150	350	I	2.72	1.607	1.284	.962
14F251	FP137A	50	350	E	1.49	.884	.707	.529
14F209	FP140A	125	350	I	2.52	1.489	1.19	.891
14F205	FP144A	20	450	F	1.26	.849	.679	.509
14F207	FP146	40	450	B	1.52	1.022	.817	.612
14F208	FP149	80	450	I	2.20	1.482	1.185	.888
14F973	FP150A	100	450	I	2.42	1.628	1.302	.976
14F291	FP187A	90	500	I	2.68	1.808	1.446	1.084

DUAL SECTION

Stock No.	Type	Mfd.	WV	Size	1-24	25-49	50-99	100-249
14F229	WP200	1000-1000	15-15	H	2.91	1.72	1.374	1.029
14F292	FP216.4A	200-200	150-150	I	2.76	1.632	1.304	.976
14F227	FP221A	40-40	250-250	F	1.70	1.006	.804	.602
14F256	FP227A	20-20	350-350	E	1.59	.941	.752	.563
14F219	FP231A	10-10	450-450	F	1.34	.902	.721	.540
14F220	FP234A	20-20	450-450	B	1.77	1.045	.835	.625
14F222	FP238A	40-40	450-450	I	2.37	1.595	1.275	.956
14F223	FP240	50-50	450-450	G	3.01	1.782	1.424	1.066
14F980	FP258	15-15	475-475	B	1.68	.996	.796	.596
14F262	FP288A	40-40	500-500	I	2.98	1.763	1.409	1.055

TRIPLE SECTION

Stock No.	Type	Mfd.	WV	Size	1-24	25-49	50-99	100-249
14F263	FP311.5A	40-40-40	150-150-150	F	1.75	1.035	.827	.620
14F270	FP345.8	20-20-20	450-450-25	B	1.97	1.168	.934	.699
14F271	FP346A	40-40-20	450-450-25	G	2.76	1.636	1.307	.979
14F275	FP375.8	10-10-10	450-450-450	B	1.80	1.065	.851	.637
14F278	FP376.5A	20-20-20	450-450-450	H	2.48	1.469	1.174	.879
14F234	FP377.1A	40-40-40	450-450-450	G	3.38	2.002	1.600	1.198
14F235	FP378	80-40-20	450-450-450	N	3.65	2.159	1.726	1.292
14F231	FP394A	10-10-10	475-475-475	B	2.08	1.233	.985	.738

QUADRUPLE SECTION

Stock No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
14F996	FP428.4A	40-40-30-30	J	3.88	2.106	1.685	1.263
14F239	FP434	10-10-10-10	H	2.31	1.367	1.092	.818
14F289	FP434.5	20-10-10-10	H	2.55	1.509	1.206	.903
14F240	FP444A	20-20-20-20	I	3.20	1.734	1.387	1.04
14F283	FP447A	40-40-20-20	J	3.76	2.039	1.63	1.222
14F990	FP447.5A	40-40-30-30	J	4.17	2.26	1.808	1.355

Working volts: 450-450-450-450.

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METAL TUBLAR DRY ELECTROLYTIC CAPACITORS

TC Electrolytic with Mylar Sleeve. Single section capacitor with clear mylar insluating sleeve. Sizes shown are for base can, without sleeve. More capacitance and voltage in a smaller sized can. Tol. —10%+100%. Temp. rating up to 85°C. (*) includes mounting strap.

Stock No.	Type	Mfd.	VDC	Can Size	1-24	25-49	50-99	100-249	250-499
14F153	TC1505B	500	15	7/16x1⅜	1.13	.86	.68	.56	.45
16F1690	TC22A	10	25	¼x⅝	.64	.46	.35	.28	.23
16F1700	TC50015C	150	50	½x1	.97	.69	.55	.43	.37
14F173	TC49A	50	150	⅝x1⅝	.90	.64	.50	.41	.34
14F171	TC47A	30	150	⅝x1⅛	.85	.59	.46	.37	.32
14F172	TC48A	40	150	¾x1⅛	.88	.63	.48	.38	.33
16F1704	TC493A	100	150	¾x1⅝	1.13	.81	.62	.50	.43
14F175	TC495B*	150	150	⅞x1⅝	1.22	.87	.69	.51	.46
16F1705	TC496B*	200	150	1x1 9/16	1.42	1.00	.79	.74	.50
16F1706	TC499A*	300	150	⅞x2⅛	1.76	1.30	1.03	.90	.69
26F990	TC50XB	5	250	½x1⅛	.74	.52	.39	.33	.28
16F1708	TC52A	10	250	⅝x1⅛	.77	.60	.46	.37	.31
16F1709	TC55B	20	250	⅝x1 1/16	.88	.69	.55	.43	.36
15F1710	TC58A	40	250	¾x1⅝	1.01	.74	.59	.46	.42
16F1711	TC59B	50	250	¾x1⅞	1.10	.79	.63	.51	.46
16F1712	TC1265B*	100	250	⅞x2⅝	1.58	1.04	.81	.64	.54
14F024	TC65B	20	350	¾x1⅜	.93	.70	.57	.45	.38
26F991	TC68B	60	350	⅞x2⅛	1.26	.93	.71	.61	.51
67F3000	TC69A	100	350	1x2⅝	1.96	1.18	.86	.78	.72
14F176	TC70B	5	450	⅝x1⅛	.77	.56	.43	.36	.31
14F180	TC75A	20	450	⅞x1⅝	1.00	.75	.62	.48	.42
14F182	TC78A	40	450	1x2⅛	1.16	.89	.70	.55	.47
16F1689	TC1520B*	2000	15	⅜x1½	1.78	1.35	1.02	.84	.72
16F1691	TC26B	25	25	5/16x⅝	.64	.46	.37	.30	.24
16F1692	TC29B	50	25	⅜x⅝	.72	.50	.38	.32	.25
14F157	TC2501B	100	25	⅜x¾	.86	.61	.48	.37	.32
16F1693	TC25025B	250	25	7/16x1	1.10	.85	.68	.54	.45
16F1694	TC2505C	500	25	½x1⅜	1.45	1.13	.89	.71	.59
16F1695	TC2510A	1000	25	⅝x1½	2.13	1.26	.98	.83	.64
16F1696	TC2515*	1500	25	¾x2 1/8	2.53	1.90	1.45	1.14	.97
16F1697	TC2520*	2000	25	1x2 1 1/16	2.94	1.70	1.32	1.05	.87
16F1699	TC32B	10	50	5/16x⅝	.64	.46	.35	.29	.23
14F163	TC36B	25	50	⅜x¾	.69	.47	.37	.30	.24
14F164	TC39B	50	50	⅜x1⅜	.77	.56	.43	.35	.30
14F165	TC3501C	100	50	7/16x⅞	.89	.65	.50	.43	.33
14F185	TC50025C	250	50	½x1⅜	1.08	.84	.66	.51	.46
16F1701	TC50050C*	500	50	¾x1⅞	1.51	1.14	.89	.71	.59
16F1702	TC50100C*	1000	50	⅞x2⅝	2.05	1.40	1.12	.88	.69
14F166	TC40A	5	150	5/16x¾	.64	.46	.36	.29	.23
14F168	TC42A	10	150	⅜x1	.69	.50	.39	.31	.25
14F170	TC45A	20	150	⅜x1⅜	.77	.55	.42	.34	.29
14F177	TC71C	8	450	¾x1 9/16	.81	.60	.48	.39	.34
14F178	TC72B	10	450	⅞x1⅜	.83	.63	.50	.39	.35
14F183	TC79B	50	450	1x2⅛	1.35	1.00	.79	.65	.55
14F184	TC80A	80	450	1x3⅛	1.76	1.19	.89	.82	.76
67F3001	TC697B	4	450	⅝x1⅛	.74	.56	.44	.37	.30
67F3002	TC795A	60	450	1x2⅝	1.51	1.14	.97	.77	.62
67F3003	TC807	100	450	1x3⅞	1.96	1.43	1.18	.97	.91

HC CAPACITORS

Plastic case electrolytics for high capacity, low-voltage applications such as dry disc rectifier filters, movie equipment, etc. All are polarized. Two screw terminals. 10 oz.

Stk. No.	Type	Mfd.	WV DC	Size	1-9	10-24	25-49	50-99	100-249
14F105	HC1560A	6000	15	1 13/16x3⅜	6.06	5.20	3.03	2.34	1.87
14F106	HC2510A	1000	25	1 7/16x2¾	3.44	2.94	1.71	1.32	1.07
14F107	HC2520A	2000	25	1 7/16x3⅜	4.48	3.84	2.23	1.72	1.39
14F108	HC2540A	4000	25	1 13/16x3⅜	6.02	5.17	3.01	2.32	1.87
14F298	HC5040	4000	50	2 1/16x4⅜	7.90	6.77	3.95	3.04	2.46
14F109	HC5005A	500	50	1 7/16x2¾	3.59	3.07	1.79	1.38	1.11
14F110	HC5010A	1000	50	1 7/16x3⅜	4.59	3.94	2.30	1.77	1.42
14F111	HC5020A	2000	50	1 13/16x3⅜	5.46	4.68	2.73	2.10	1.69
14F997	HC15010	1000	150	2 1/16x4⅜	7.44	6.43	3.72	2.89	2.34
14F112	HC15010A	1000	150	1 13/16x4⅜	6.95	5.96	3.47	2.67	2.16
14F113	HC20005A	500	200	1 13/16x3⅜	5.97	5.11	2.99	2.30	1.86
14F114	HC45003	300	450	2 1/16x4⅜	9.14	7.84	4.57	3.53	2.85

TYPE NP NON-POLARIZED HIGH CAP ELECTROLYTICS

Stk. No.	Type	Mfd.	WV	Size	1-9	10-24	25-49	50-99	100-249
14F136	NP1255A	500	125	1 13/16x4⅜	6.80	5.83	3.40	2.61	2.04
14F134	NP3025	200	300	7.56	6.48	3.78	2.91	2.27	
14F131	NP4505	50	450	6.80	5.83	3.40	2.61	2.02	
14F132	NP4510	100	450	8.31	7.12	4.15	3.20	2.85	

Aluminum Electrolytics

MALLORY

MTA PRICES

Price Code	1-24	25-49	50-99	100-249	250-499	500-999	1000-Up
A	.37	.30	.25	.218	.192	.162	.141
B	.41	.32	.28	.237	.210	.177	.154
C	.47	.37	.32	.272	.240	.203	.176
D	.52	.41	.35	.302	.267	.225	.196
E	.56	.44	.37	.320	.284	.238	.207
F	.59	.46	.39	.340	.301	.253	.220

MOLDED ALUMINUM ELECTROLYTICS

Molded polypropelene cases provide excellent protection as well as positive electrotype seal. MTA has axial leads, MTV has two #20 AWG leads ½" long spaced 0.200" apart. Both types rated for operation from —20° to +65°C. Tolerance: —10%+100%. DCL: less than .03 microamp/-mf—volt (4 microamp max.).

MTA

MTV

TYPE MTA — AXIAL LEADS

Stock No.	Type	Mfd.	WV DC	Size	Price Code	Stock No.	Type	Mfd.	WV DC	Size	Price Code
17F1746	MTA175E3	175	3	⅜x1"	C	26F976	MTA2D50	2	50	5/16x¾"	A
17F1747	MTA600F3	600	3	½x1⅜"	C	17F1824	MTA3D50	3	50	5/16x¾"	A
17F1748	MTA50D6	50	6	5/16x¾"	A	17F1825	MTA4D50	4	50	5/16x¾"	A
17F1749	MTA150E6	150	6	⅜x1"	B	26F977	MTA5D50	5	50	5/16x¾"	A
17F1750	MTA500F6	500	6	½x1⅜"	D	17F1826	MTA6D50	6	50	5/16x¾"	A
26F950	MTA40D10	40	10	5/16x¾"	A	17F1827	MTA7D50	7	50	5/16x¾"	A
17F1751	MTA100E10	100	10	⅜x1"	B	17F1828	MTA8D50	8	50	5/16x¾"	A
17F1752	MTA200E10	200	10	⅜x1"	C	17F1829	MTA9D50	9	50	5/16x¾"	B
26F951	MTA400F10	400	10	½x1⅜"	E	26F978	MTA10D50	10	50	5/16x¾"	B
26F952	MTA30D15	30	15	5/16x¾"	A	17F1830	MTA15D50	15	50	5/16x¾"	B
17F1753	MTA50E15	50	15	⅜x1"	B	26F981	MTA25E50	25	50	⅜x1"	C
26F956	MTA100E15	100	15	⅜x1"	B	26F982	MTA30E50	30	50	⅜x1"	C
17F1754	MTA250F15	250	15	½x1⅜"	D	26F985	MTA50E50	50	50	⅜x1"	C
17F1816	MTA300F15	300	15	½x1⅜"	F	17F1831	MTA60F50	60	50	½x1⅜"	D
26F958	MTA350F15	350	15	5/16x¾"	F	17F1832	MTA70F50	70	50	½x1⅜"	D
26F959	MTA25D20	25	20	5/16x¾"	A	26F988	MTA80F50	80	50	½x1⅜"	E
17F1817	MTA60E20	60	20	⅜x1"	B	17F1833	MTA5D75	5	75	5/16x¾"	C
26F962	MTA250F20	250	20	½x1⅜"	F	17F1834	MTA15E75	15	75	⅜x1"	C
26F963	MTA50E25	50	25	⅜x1"	B	17F1835	MTA50F75	50	75	½x1⅜"	D
17F1818	MTA175F25	175	25	½x1⅜"	E	17F1836	MTA1D100	1	100	5/16x¾"	C
26F965	MTA200F25	200	25	½x1⅜"	F	17F1837	MTA2D100	2	100	5/16x¾"	C
17F1819	MTA20D30	20	30	5/16x¾"	A	17F1838	MTA3D100	3	100	5/16x¾"	C
17F1820	MTA40E30	40	30	⅜x1"	B	17F1839	MTA4D100	4	100	5/16x¾"	C
17F1755	MTA10D35	10	35	5/16x¾"	A	17F1840	MTA5D100	5	100	5/16x¾"	C
17F1821	MTA15D35	15	35	5/16x¾"	A	17F1841	MTA6E100	6	100	⅜x1"	C
26F968	MTA25D35	25	35	5/16x¾"	B	17F1842	MTA8E100	8	100	⅜x1"	C
17F1822	MTA35E35	35	35	⅜x1"	B	17F1843	MTA10E100	10	100	⅜x1"	C
26F972	MTA100F35	100	35	½x1⅜"	D	17F1844	MTA15E100	15	100	⅜x1"	C
17F1823	MTA125F35	125	35	½x1⅜"	E	17F1845	MTA25F100	25	100	½x1⅜"	D
26F974	MTA150F35	150	35	½x1⅜"	F	17F1846	MTA30F100	30	100	½x1⅜"	D
26F975	MTA1D50	1	50	5/16x¾"	A	17F1847	MTA40F100	40	100	½x1⅜"	D

TYPE MTV — PRINTED CIRCUIT

Stock No.	Type	Mfd.	WV DC	Size	Price Code
17F1756	MTV150CD3	150	3	⅜x.812"	B
17F1759	MTV700DE3	700	3	½x1"	E
17F1760	MTV1000DJ3	1000	3	½x1¼"	F
17F1761	MTV100CB6	100	6	⅜x.812"	B
17F1762	MTV150CD6	150	6	⅜x.937"	C
17F1763	MTV250CK6	250	6	⅜x1.312"	C
17F1804	MTV300CK6	300	6	⅜x1.312"	C
17F1764	MTV400DE6	400	6	½x1"	C
17F1765	MTV500DE6	500	6	½x1"	D
17F1805	MTV750DJ6	750	6	½x1¼"	F
17F1766	MTV800DN6	800		½x1½"	F
17F1767	MTV100CB10	100	10	⅜x.812"	B
17F1768	MTV250DB10	250	10	½x.937"	C
17F1769	MTV400DE10	400	10	½x1"	E
17F1770	MTV600DJ10	600	10	½x1¼"	F
17F1772	MTV100CD1	100	15	⅜x.937"	B
17F1773	MTV150CK15	150	15	⅜x1.312"	C
17F1806	MTV200DE15	200	15	½x1"	D
17F1774	MTV250DE15	250	15	½x1"	D
17F1775	MTV500DN15	500	15	½x1½"	F
17F1807	MTV35CB25	35	25	⅜x.812"	B
17F1776	MTV50DB25	50	25	⅜x.937"	B
17F1808	MTV75CF25	75	25	⅜x1.062"	C
17F1777	MTV100DB25	100	25	½x.812"	C
17F1809	MTV200DE25	200	25	½x1"	F
17F1778	MTV250DJ25	250	25	½x1¼"	F
17F1779	MTV25CB35	25	35	⅜x.812"	B

MTV PRICES

Price Code	1-24	25-49	50-99	100-249	250-499	500-999	10000
A	.41	.32	.28	.237	.210	.177	.154
B	.43	.34	.29	.249	.221	.185	.162
C	.49	.39	.34	.288	.254	.214	.186
D	.56	.44	.37	.320	.284	.238	.207
E	.58	.46	.39	.336	.298	.250	.218
F	.62	.48	.42	.356	.315	.265	.231

Stock No.	Type	Mfd.	WV DC	Size	Price Code
17F1790	MTV50CD35	50	35	⅜x.812"	C
17F1780	MTV100DB35	100	35	½x.812"	D
17F1781	MTV150DE35	150	35	½x1"	F
17F1782	MTV200DJ35	200	35	½x1¼"	F
17F1783	MTV1CB50	1	50	⅜x.812"	A
17F1784	MTV2CB50	2	50	⅜x.812"	A
17F1810	MTV3CB50	3	50	⅜x.812"	A
17F1785	MTV4CB50	5	50	⅜x.812"	A
17F1811	MTV5CB50	4	50	⅜x.812"	A
17F1812	MTV6CB50	6	50	⅜x.812"	A
17F1813	MTV8CB50	8	50	⅜x.812"	A
17F1814	MTV15CB50	15	50	⅜x.812"	B
17F1815	MTV35CD50	35	50	⅜x.937"	C
17F1786	MTV10CB50	10	50	⅜x.812"	B
17F1787	MTV25CB50	25	50	⅜x.812"	C
17F1788	MTV50DB50	50	50	½x.812"	C
17F1789	MTV100DE50	100	50	½x1"	F

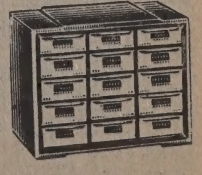
MTV-15-1 MALLOBIN

MTV CAPACITORS SUPPLIED

MTV500DE6
MTV100CB6
MTV250DE15
MTV100CD15
MTV25CB35
MTV250DJ25
MTV10CB50
MTV5CB50
MTV100CB10
MTV750DJ6
MTV35CB25
MTV500DN15
MTV200DJ35
MTV100DB35
MTV35CD50
MTV25CB50
MTV90CD15
MTV50CB15
MTV100DB25
MTV50DB25
MTV2CB50
MTV1CB50
MTV100DE50
MTV25CB50

Assortment of high quality, low cost printed circuit MTV molded aluminum electrolytic capacitors. Contents include two each of 24 popular MTV ratings. From 750 MFD at 6WVDC to 100 MFD at 50 WVDC. Has 15 drawers clearly marked.

60F2294. NET..... **23.04**



8

MALLORY Computer-Grade Electrolytic Capacitors

TYPE CG

Operating life exceeds ten years. Pressure sensitive safety vent. Low ESR. PVC insulating sleeves. High ripple capabilities. 7/32" high, terminal posts. 10-32 screws. Sizes do not include terminals or sleeves. Tolerance: 1-150 WVDC, -10%, +75%; 200 WV and up, -10%, +50%. Maximum DC Leakage Current @ 25°C: 4 mA. Operating Temperature: -40 to +85°C. Although temperature range is as stated, tests have been conducted at 105°C with less than rated voltage without incurring immediate catastrophic failure. Can withstand 6 hrs. of vibration at 10-55cps and return within 1 minute with max. amplitude vibration of .03". Wt. 3 oz.

Stk. No.	Type	Mfd.	WV DC	DxL In	1-49	50-99	100-249
17F1730	CG63U10B1	6,000	10	125/64x3 11/64	2.55	2.01	1.65
26F425	CG822U10C1	8,200	10	125/64x4 11/64	3.06	2.40	1.96
17F1731	CG14U10H1	10,000	10	149/64x3 11/64	3.40	2.67	2.19
26F631	CG152U25A1	1,500	25	125/64x2 11/64	1.85	1.45	1.19
17F1735	CG282U25B1	2,800	25	125/64x3 11/64	2.28	1.80	1.46
26F639	CG382U25C1	3,800	25	125/64x4 11/64	2.80	2.21	1.80
17F1736	CG452U25H1	4,500	25	149/64x3 11/64	2.99	2.35	1.92
26F641	CG63U25K1	6,000	25	21/64x3 11/64	3.48	2.74	2.24
26F427	CG852U25D1	8,500	25	21/64x4 11/64	4.21	3.31	2.71
17F1737	CG1352U25E1	13,500	25	233/64x4 11/64	6.46	5.07	4.15
26F431	CG24U25F1	20,000	25	31/64x4 11/64	7.07	5.56	4.54
26F432	CG3152U25G1	31,500	25	31/64x5 43/64	9.48	7.45	6.09
17F1738	CG212U35B1	2,100	35	125/64x3 11/64	2.33	1.83	1.50
17F1739	CG312U35C1	3,100	35	125/64x4 11/64	3.28	2.59	2.11
17F1740	CG362U35H1	3,600	35	149/64x3 11/64	3.46	2.72	2.23
26F630	CG82U50A1	1100	50	125/64x2 11/64	1.87	1.47	1.20
17F1743	CG152U50B1	1,500	50	125/64x3 11/64	2.21	1.74	1.42
26F633	CG23U50C1	2,000	50	125/64x4 11/64	2.47	1.94	1.58
17F1744	CG252U50H1	2,500	50	149/64x3 11/64	2.72	2.13	1.74
60F2130	CG332U50K1	3,300	50	21/64x3 11/64	3.51	2.76	2.25
26F424	CG452U50D1	4,500	50	21/64x4 11/64	3.74	2.93	2.40
17F1745	CG732U50E1	7,300	50	233/64x4 11/64	5.75	4.52	3.69
60F2133	CG14U50F1	10,000	50	31/64x4 11/64	7.23	5.69	4.64
26F429	CG1652U50G1	16,500	50	31/64x5 43/64	9.93	7.80	6.38
26F628	CG62U75A1	600	75	125/64x2 11/64	2.17	1.70	1.40
17F1715	CG13U75B1	1,000	75	125/64x3 11/64	2.53	1.99	1.63
26F632	CG152U75C1	1,500	75	125/64x2 11/64	3.06	2.40	1.96
17F1716	CG23U75H1	2,000	75	149/64x3 11/64	3.33	2.62	2.13
26F636	CG252U75K1	2,500	75	21/64x3 11/64	3.99	3.13	2.57
26F421	CG3451U75D1	3,450	75	21/64x4 11/64	4.35	3.42	2.79
17F1717	CG552U75E1	5,500	75	233/64x4 11/64	6.91	5.44	4.44
26F643	CG822U75F1	8,200	75	31/64x4 11/64	7.83	6.15	5.03
60F2132	CG1252U75G1	12,500	75	31/64x5 43/64	10.20	8.01	6.56
60F2123	CG42U100A1	400	100	125/64x2 11/64	2.17	1.70	1.40
60F2126	CG13U100C1	1,000	100	125/64x4 11/64	2.94	2.32	1.90
17F1719	CG132U100H1	1,300	100	149/64x3 11/64	3.22	5.53	2.07
26F419	CG2251U100D1	2,250	100	21/64x4 11/64	4.44	3.48	2.85
26F640	CG532U100F1	5,300	100	31/64x4 11/64	7.27	5.72	4.67
26F426	CG832U100G1	8,300	100	31/64x5 43/64	10.45	8.21	6.72
26F627	CG2750U150A1	275	150	125/64x2 11/64	1.76	1.39	1.13
17F1721	CG52U150B1	500	150	125/64x3 11/64	2.21	1.74	1.42
60F2127	CG112U150K1	1,100	150	21/64x3 11/64	3.38	2.65	2.17
26F416	CG1551U150D1	1,550	150	21/64x4 11/64	4.33	3.40	2.78
17F1722	CG252U150E1	2,500	150	233/64x4 11/64	6.39	5.02	4.11
26F422	CG362U150F1	3,600	150	31/64x5 43/64	7.64	6.00	4.91
60F2131	CG562U150G1	5,600	150	31/64x5 59/64	10.65	8.38	6.85
60F2119	CG181T200A1	180	200	125/64x2 11/64	2.18	1.71	1.40
60F2125	CG451T200C1	450	200	125/64x4 11/64	2.78	2.19	1.79
17F1723	CG551T200H1	550	200	21/64x4 11/64	3.08	2.41	1.98
26F414	CG13T200D1	1,000	200	21/64x4 11/64	4.87	3.82	3.13
26F420	CG2451T200F1	2,450	200	31/64x4 11/64	7.37	5.79	4.74
26F423	CG382T200G1	3,800	200	31/64x5 43/64	13.24	10.41	8.51
60F2120	CG141T250A1	140	250	125/64x2 11/64	2.60	2.05	1.67
17F1724	CG2750T250B1	275	250	125/64x3 11/64	2.97	2.33	1.90
60F2122	CG3750T250C1	375	250	125/64x4 11/64	3.22	2.53	2.07
26F413	CG82T250D1	800	250	21/64x4 11/64	5.09	4.00	3.28
26F418	CG192T250F1	1,900	250	31/64x4 11/64	8.20	6.44	5.28
26F638	CG33T250G1	3,000	250	31/64x5 43/64	10.97	8.64	7.05
17F1725	CG3250T300C1	325	300	125/64x4 11/64	3.07	2.41	1.98
26F412	CG72T300D1	700	300	21/64x4 11/64	5.11	4.01	3.29
26F637	CG262T300G1	2,600	300	31/64x5 43/64	11.48	9.01	7.38
60F2121	CG12T350A1	100	350	125/64x2 11/64	2.62	2.06	1.69
60F2118	CG251T350C1	250	350	125/64x4 11/64	3.19	2.51	2.05
60F2124	CG42T350K1	400	350	21/64x3 11/64	3.85	3.10	2.48
26F411	CG551T350D1	550	350	21/64x4 11/64	5.50	4.33	3.54
26F415	CG132T350F1	1,300	350	31/64x4 11/64	9.27	7.29	5.96
26F634	CG23T350G1	2,000	350	31/64x5 43/64	11.48	9.01	7.38
26F626	CG151T400C1	150	400	125/64x4 11/64	3.19	2.51	2.05
26F410	CG3250T400D1	325	400	21/64x4 11/64	4.10	3.22	2.63
26F624	CG41T450A1	40	450	125/64x2 11/64	1.94	1.52	1.25
26F625	CG111T450C1	110	450	125/64x4 11/64	2.94	2.32	1.90
26F409	CG241T450D1	240	450	21/64x4 11/64	3.69	2.90	2.37

TYPE CGS

Mylar sleeved. maximum DC Leakage Current: @ 25°C, 6ma. Operating Temperature: -40 to +65°C. Operating life exceeds ten years. Pressure sensitive safety vent. Low ESR. High riple capabilities. 7/32" high, terminal posts. 10-32 screws. Tolerance: 1-150 working volts DC, -10%, +75%; 200 working volts and up, -10%, + 50%. Temperature tolerance and vibration capability same as Type CG Shipping Weight. 3 oz.

Stock No.	Type	Mfd.	DxL In.	1-24	25-49	50-99
10 WORKING VOLTS DC						
60F3666	CGS722U010BB1	7,200	125/64x2 11/64	2.60	2.07	1.82
60F3667	CGS203U010BF1	20,000	125/64x4 11/64	3.69	2.95	2.59
17F1792	CGS303U010DD1	30,000	21/64x3 11/64	4.77	3.82	3.34
60F3668	CGS663U010D11	66,000	21/64x5 43/64	7.97	6.38	5.59
15 WORKING VOLTS DC						
60F3669	CGS552U015BB1	5,500	125/64x2 11/64	2.44	1.95	1.70
60F3670	CGS103U015BD1	10,000	125/64x3 11/64	3.12	2.49	2.18
60F3671	CGS153U015BF1	15,000	125/64x4 11/64	3.78	3.02	2.64
17F1793	CGS233U015DD1	23,000	21/64x3 11/64	4.87	3.89	3.41
60F3672	CGS343U015DF1	34,000	21/64x4 11/64	6.03	4.82	4.23
60F3673	CGS503U015D11	50,000	21/64x5 43/64	7.97	6.38	5.59
60F3674	CGS803U015FF1	80,000	31/64x4 11/64	10.69	8.55	7.49
60F3675	CGS104U015FH1	100,000	31/64x5 11/64	13.18	10.55	9.24
25 WORKING VOLTS DC						
60F3676	CGS302U025BB1	3,000	125/64x2 11/64	2.55	2.04	1.79
60F3677	CGS562U025BD1	5,600	125/64x3 11/64	3.03	2.43	2.12
60F3678	CGS822U025BF1	8,200	125/64x4 11/64	3.49	2.79	2.45
17F1794	CGS123U025DD1	12,000	21/64x3 11/64	4.33	3.46	3.03
60F3679	CGS183U025DF1	18,000	21/64x4 11/64	5.61	4.49	3.93
60F3680	CGS273U025D11	27,000	21/64x5 43/64	7.43	5.95	5.20
60F3681	CGS433U025FF1	43,000	31/64x4 11/64	10.10	8.08	7.08
60F3682	CGS573U025FH1	57,000	31/64x5 11/64	13.08	10.46	9.18
40 WORKING VOLTS DC						
17F1795	CGS222U040BB1	2,200	125/64x2 11/64	2.70	2.16	1.89
17F1796	CGS422U040BD1	4,200	125/64x3 11/64	3.09	2.47	2.17
17F1797	CGS622U040BF1	6,200	125/64x4 11/64	3.89	3.12	2.73
17F1798	CGS932U040DD1	9,300	21/64x3 11/64	4.97	3.98	3.48
17F1799	CGS133U040DF1	13,000	21/64x4 11/64	6.06	4.86	4.25
17F1800	CGS203U040D11	20,000	21/64x5 13/64	8.05	6.43	5.64
17F1801	CGS323U040FF1	32,000	31/64x4 11/64	11.58	9.26	8.12
17F1802	CGS433U040FH1	43,000	31/64x5 11/64	14.48	11.58	10.15
17F1803	CGS503U040FJ1	50,000	31/64x5 54/64	16.34	13.07	11.45
50 WORKING VOLTS DC						
60F3683	CGS162U050BB1	1,600	125/64x2 11/64	2.60	2.07	1.82
60F3684	CGS292U050BD1	2,900	125/64x3 11/64	3.19	2.55	2.24
60F3685	CGS432U050BF1	4,300	125/64x4 11/64	3.78	3.02	2.64
60F3686	CGS652U050DD1	6,500	21/64x3 11/64	4.86	3.88	3.40
60F3687	CGS962U050DF1	9,600	21/64x4 11/64	6.03	4.82	4.23
60F3688	CGS143U050D11	14,000	21/64x5 43/64	7.99	6.39	5.60
60F3689	CGS223U050FF1	22,000	31/64x5 11/64	10.88	8.71	7.63
60F3690	CGS303U050FH1	30,000	31/64x5 59/64	13.88	11.11	9.73
75 WORKING VOLTS DC						
60F3691	CGS821U075BB1	820	125/64x2 11/64	2.55	2.04	1.79
60F3692	CGS152U075BD1	1,500	125/64x3 11/64	2.95	2.36	2.07
60F3693	CGS232U075BF1	2,300	125/64x4 11/64	3.45	2.76	2.41
60F3694	CGS342U075DD1	3,400	21/64x3 11/64	4.39	3.52	3.07
60F3695	CGS502U075DF1	5,000	21/64x4 11/64	5.34	4.28	3.75
60F3696	CGS752U075D11	7,500	21/64x5 43/64	9.15	5.59	4.90
60F3697	CGS123U075FF1	12,000	31/64x4 11/64	10.03	8.02	7.03
100 WORKING VOLTS DC						
60F3700	CGS122U100BD1	1,200	125/64x3 11/64	3.40	2.72	2.37
60F3702	CGS272U100DD1	2,700	21/64x3 11/64	5.31	4.25	3.72
60F3703	CGS402U100DF1	4,000	21/64x4 11/64	6.89	5.51	4.82
60F3704	CGS592U100D11	5,900	21/64x5 43/64	9.19	7.35	6.44
60F3706	CGS123U100FH1	12,000	31/64x5 11/64	16.48	13.18	11.55
150 WORKING VOLTS DC						
60F3707	CGS401U150BB1	400	125/64x2 11/64	2.72	2.17	1.90
60F3708	CGS112U150BF	1,100	125/64x4 11/64	3.95	3.16	2.77
60F3711	CGS352U150D11	3,500	21/64x5 43/64	8.29	6.63	5.81
60F3712	CGS552U150FF1	5,500	31/64x4 11/64	11.58	9.26	8.12
250 WORKING VOLTS DC						
60F3714	CGS201T250BB1	200	125/64x2 11/64	2.49	1.99	1.74
60F3715	CGS381T250DB1	380	125/64x3 11/64	3.00	2.39	2.10
60F3716	CGS551T250BF1	550	125/64x4 11/64	3.49	2.79	2.45
60F3717	CGS851T250DD1	850	21/64x3 11/64	4.39	3.52	3.07
60F3718	CGS122T250DF1	1,200	21/64x4 11/64	5.51	4.40	3.86
60F3720	CGS292T250FF1	2,900	31/64x4 11/64	10.74	8.59	7.53
60F3721	CGS392T250FH1	3,900	31/64x5 11/64	13.58	10.86	9.52
450 WORKING VOLTS DC						
60F3722	CGS750T450BB1	75	125/64x2 11/64	2.75	2.20	1.93
60F3723	CGS141T450BD1	140	125/64x3 11/64	3.35	2.68	2.35
60F3724	CGS321T450DD1	320	21/64x3 11/64	5.29	4.23	3.71

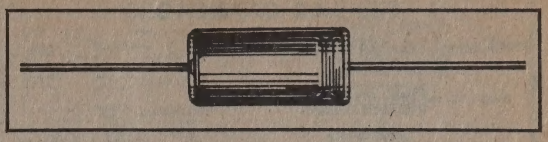
8

Tubular and Mylar Capacitors

MALLORY

TCG TUBULAR COMPUTER GRADE CAPACITORS

Small tubular version of the Mallory type CG electrolytic capacitor. Meets present demands for high quality performance and high C/V product. Features can wall safety vent, wide variety of container sizes, PVC insulating sleeve (Mylar sleeve optional), low ESR and long life, all welded construction. Temperature range: −40° to +85° C. Tolerance: 10 to 50 WVDC types, −10% +75%; 100 to 450 WVDC types, −10% +50%.

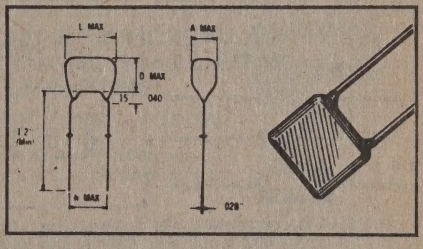


Stock No.	Type TCG-	Cap. μF	WV DC	Case Size	1-24	25-49	50-99	100-499
67F3004	102U010D1G	1000	10	7/16x1 3/8	1.84	1.07	.83	.74
67F3005	252U010N1C	2500	10	1x1 1/8	2.10	1.23	.95	.85
67F3006	502U010N1L	5000	10	1x1 3/8	2.59	1.52	1.16	1.04
67F3007	552U101N1L	5500	10	1x1 3/8	2.75	1.60	1.24	1.11
67F3008	103U010L3C	1000	10	7/8 x3 1/8	3.40	1.98	1.53	1.35
67F3009	122U015D2A	1200	15	7/16x2	1.97	1.15	.89	.79
67F3010	252U015G2L	2500	15	5/8x2 5/8	2.17	1.27	.98	.87
67F3011	292U015G2L	2900	15	5/8x2 5/8	2.55	1.50	1.15	1.11
67F3012	402U015N1L	4000	15	1x1 3/8	2.75	1.60	1.24	1.11
67F3013	632U015L2L	6300	15	7/8 x2 5/8	3.14	1.83	1.41	1.26
67F3014	822U015N2L	8200	15	1x2 5/8	3.40	1.98	1.53	1.35
67F3015	103U015N3C	10000	15	1x3 1/8	3.40	1.98	1.53	1.35
67F3016	121U025D0N	120	25	7/16x3/4	1.71	1.00	.77	.68
67F3017	231U025D1A	230	25	7/16x1	1.74	1.02	.79	.70
67F3018	501U025D1N	500	25	7/16x1 3/4	1.95	1.15	.89	.79
67F3019	102U025N1C	1000	25	1x1 1/8	2.10	1.23	.95	.85
67F3020	222U025J2L	2200	25	3/4 x2 5/8	2.59	1.52	1.16	1.04
67F3021	402U025L3C	4000	25	7/8 x3 1/8	3.14	1.83	1.41	1.26
67F3022	250U030B0L	25	30	5/16x5/8	1.71	1.00	.77	.68
67F3023	750U030D0N	75	30	7/16x3/4	1.71	1.00	.77	.68
67F3024	950U030D0N	95	30	7/16x3/4	1.71	1.00	.77	.68
67F3025	151U030D1A	150	30	7/16x1	1.74	1.02	.79	.70
67F3026	251U030D1G	250	30	7/16x1 3/8	1.80	1.05	.81	.72
67F3027	501U030D2E	500	30	7/16x2 1/4	1.97	1.15	.89	.79
67F3028	112U030G2L	1100	30	5/8x2 5/8	2.17	1.27	.98	.87
67F3029	242U030L2L	2400	30	7/8 x2 5/8	2.78	1.63	1.25	1.12
67F3030	302U030L3C	3000	30	7/8 x3 1/8	3.14	1.83	1.41	1.26
67F3031	500U050D0N	50	50	7/16x3/4	1.71	1.00	.77	.68
67F3032	101U050E1G	100	50	1/2 x1 3/8	1.74	1.02	.79	.70
67F3033	151U050D1G	150	50	7/16x1 3/8	1.80	1.05	.81	.72
67F3034	251U050D2E	250	50	7/16x2 1/4	1.97	1.15	.89	.79
67F3035	291U050D2E	290	50	7/16x2 1/4	1.97	1.15	.89	.79
67F3036	501U050G2L	500	50	5/8x2 5/8	2.10	1.23	.95	.85
67F3037	601U050G2L	600	50	5/8x2 5/8	2.17	1.27	.98	.87
67F3038	112U050N2C	1100	50	1x2 1/8	2.59	1.52	1.16	1.04
67F3039	122U050N2C	1200	50	1x2 1/8	2.72	1.59	1.23	1.08
67F3040	232U050N3C	2300	50	1x3 1/8	3.40	1.98	1.53	1.35
67F3041	252U050N3L	2500	50	1x3 5/8	3.40	1.98	1.53	1.35
67F3042	150T100C0P	15	100	3/8x1 3/16	1.71	1.00	.77	.68
67F3043	100T150C0P	10	150	3/8x1 3/16	1.71	1.00	.77	.68
67F3044	250T150E1G	25	150	1/2 x1 3/8	1.74	1.02	.79	.70
67F3045	500T150D1N	50	150	7/16x1 3/4	1.84	1.07	.83	.74
67F3046	101T150J1L	100	150	3/4 x1 5/8	2.10	1.23	.95	.85
67F3047	251T150L2C	250	150	7/8 x2 1/8	2.59	1.52	1.16	1.04
67F3048	561T150N3C	560	150	1x3 1/8	3.40	1.98	1.53	1.35
67F3049	101T250L2C	100	250	7/8 x2 1/8	2.55	1.50	1.15	1.02
67F3050	201T250N3C	200	250	1x3 1/8	2.78	1.63	1.25	1.12
67F3051	101T350N2L	100	350	1x2 5/8	2.72	1.59	1.23	1.08
67F3052	121T350N2L	120	350	1x2 5/8	2.78	1.63	1.25	1.12
67F3053	161T350N3L	160	350	1x3 5/8	3.40	1.98	1.53	1.35
67F3054	181T350N3L	180	350	1x3 5/8	3.40	1.98	1.53	1.35
67F3055	111T400N3L	110	400	1x3 5/8	3.40	1.98	1.53	1.35
67F3056	100T450G1L	10	450	5/8x1 5/8	1.97	1.15	.89	.79
67F3057	200T450G2L	20	450	5/8x2 5/8	2.10	1.23	.95	.85
67F3058	500T450N2C	50	450	1x2 1/8	2.78	1.63	1.25	1.12
67F3059	750T450N3C	75	450	1x3 1/8	3.40	1.98	1.53	1.35

8

TYPE EPM EPOXY DIP COATED MYLAR DIELECTRIC CAPACITORS

- **Non-Inductive Winding**
- **Low Dissipation Factor**
- **High Insulation Resistance Under Extreme Climatic Conditions**
- **Dipped in Epoxy Resins with Excellent Mechanical Properties**
- **High Dielectric Strength**
- **Good Stability**



Type EPM radial lead capacitors have 100% Mylar dielectric, and are dipped in rock hard epoxy. Excellent lead strength—can be bent in any configuration for point-to-point soldering or printed circuit mounting. Polyester dielectric will not absorb moisture, retains high insulation resistance characteristics under high humidity conditions. Small size, with tinned copper radial leads. Ideal for radio, TV and general electronic applications. Low dissipation factor, high dielectric strength, good capacity stability. Tolerance ±10%.

100 WVDC

Stock No.	Type EPM-	Cap. μF	Size A	D	L	H	1-24
67F3060	1118	.018	.26	.47	.53	.40	.18
67F3061	1122	.022	.26	.47	.53	.40	.18
67F3062	1133	.033	.30	.53	.53	.40	.18
67F3063	114	.04	.30	.53	.53	.40	.18
67F3064	1147	.047	.32	.49	.71	.60	.25
67F3065	1156	.056	.32	.49	.71	.60	.25
67F3066	1168	.068	.32	.51	.71	.60	.25
67F3067	101	.1	.34	.51	.71	.60	.25
67F3068	1015	.15	.36	.59	.91	.60	.30
67F3069	1022	.22	.41	.63	.91	.60	.33
67F3070	1025	.25	.43	.65	.91	.60	.33
67F3071	1047	.47	.47	.71	1.30	1.10	.43
67F3072	105	.5	.47	.71	1.30	1.10	.43
67F3073	1033	.33	.45	.65	1.30	1.10	.38

200 WVDC

Stock No.	Type EPM-	Cap. μF	Size A	D	L	H	1-24
67F3074	211	.01	.26	.45	.53	.40	.18
67F3075	2115	.015	.26	.45	.53	.40	.18
67F3076	212	.02	.26	.47	.53	.40	.18
67F3077	2122	.022	.26	.47	.53	.40	.18
67F3078	2133	.033	.30	.53	.53	.40	.23
67F3079	214	.04	.30	.53	.53	.40	.23
67F3080	2147	.047	.32	.49	.71	.40	.25
67F3081	215	.05	.32	.49	.71	.40	.25
67F3082	2168	.068	.32	.51	.71	.60	.25
67F3083	201	.1	.34	.51	.71	.60	.25
67F3084	2015	.15	.36	.59	.91	.60	.30

200 WVDC (Cont'd)

Stock No.	Type EPM-	Cap. μF	Size A	D	L	H	1-24
67F3085	2022	.22	.41	.63	.91	.60	.33
67F3086	2025	.25	.43	.65	.91	.60	.33
67F3087	2033	.33	.45	.65	1.30	1.10	.38
67F3088	2047	.47	.47	.71	1.30	1.10	.43
67F3089	205	.5	.47	.71	1.30	1.10	.63

400 WVDC

Stock No.	Type EPM-	Cap. μF	Size A	D	L	H	1-24
67F3090	411	.01	.26	.49	.53	.40	.18
67F3091	412	.02	.30	.51	.71	.60	.18
67F3092	4147	.047	.39	.59	.71	.60	.25
67F3093	415	.05	.39	.60	.71	.60	.25
67F3094	401	.1	.47	.69	.91	.60	.30
67F3095	4022	.22	.53	.75	1.30	1.10	.38
67F3096	4025	.25	.60	.77	1.30	1.10	.43
67F3097	4047	.47	.57	.87	1.82	1.40	.77
67F3098	405	.5	.57	.87	1.82	1.40	.93

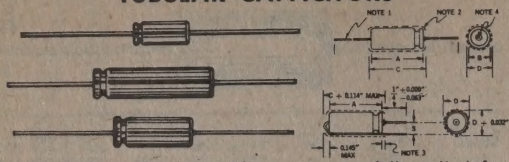
600 WVDC

Stock No.	Type EPM-	Cap. μF	Size A	D	L	H	1-24
67F3099	621	.001	.22	.43	.53	.40	.18
67F4000	6212	.0012	.22	.43	.53	.40	.18
67F4001	6215	.0015	.22	.43	.53	.40	.18
67F4003	622	.002	.22	.43	.53	.40	.18
67F3100	6222	.0022	.22	.43	.53	.40	.18
67F3101	6225	.0025	.22	.43	.53	.40	.23
67F3102	623	.003	.26	.47	.53	.40	.23
67F3103	6233	.0033	.26	.47	.53	.40	.23
67F3104	6239	.0039	.26	.47	.53	.40	.23

600 WVDC (Cont'd)

Stock No.	Type EPM-	Cap. μF	Size A	D	L	H	1-24
67F3105	624	.004	.26	.47	.53	.40	.23
67F3106	6247	.0047	.24	.45	.53	.40	.23
67F3107	625	.005	.24	.45	.53	.40	.23
67F3108	6256	.0056	.24	.45	.53	.40	.23
67F3109	626	.006	.24	.45	.53	.40	.23
67F3110	6268	.0068	.28	.47	.53	.40	.23
67F3111	6275	.0075	.28	.47	.53	.40	.23
67F3112	628	.008	.28	.47	.53	.40	.23
67F3113	6282	.0082	.28	.47	.53	.40	.23
67F3114	611	.01	.26	.43	.71	.60	.23
67F3115	6112	.012	.26	.47	.71	.60	.23
67F3116	6115	.015	.30	.51	.71	.60	.23
67F3117	612	.02	.30	.51	.71	.60	.23
67F3118	6122	.022	.30	.51	.71	.60	.23
67F3119	6125	.025	.32	.51	.71	.60	.23
67F3120	6127	.027	.32	.51	.71	.60	.25
67F3121	613	.03	.36	.53	.71	.60	.19
67F3122	6133	.033	.36	.53	.71	.60	.19
67F3123	6139	.039	.33	.51	.91	.60	.19
67F3124	614	.04	.34	.51	.91	.60	.30
67F3125	6147	.047	.36	.55	.91	.60	.30
67F3126	615	.05	.36	.55	.91	.60	.30
67F3127	6156	.056	.39	.60	.91	.60	.30
67F3128	6168	.068	.43	.63	.91	.60	.33
67F3129	601	.1	.47	.69	1.30	1.10	.38
67F3130	6015	.15	.51	.71	1.30	1.10	.43
67F3131	602	.2	.60	.75	1.30	1.10	.63
67F3132	6022	.22	.60	.75	1.30	1.10	.77
67F3133	6025	.25	.63	.75	1.30	1.10	.93
67F3134	6033	.33	.61	.79	1.30	1.10	1.08

TYPE 76F ALUMINUM MINIATURE TUBULAR CAPACITORS

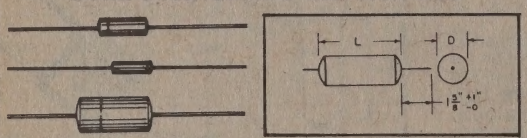


Axial lead insulated capacitors are especially suited for use in miniature, low-voltage electronic devices. Feature extended shelf life, long operating life, low-leakage current, and 1½-volt reverse voltage capability.

Code	C	D	Code	C	D	Code	C	D	Code	C	D
C	9/16	9/32	E	3/4	1 1/32	K	7/8	1 3/32	M	1 5/16	1 3/32
D	3/4	9/32	F	3/4	1 3/32	L	1	1 3/32	N	1 9/16	1 3/32

Stk. No.	Type	WV DC	Cap. µF	Case Code	1-24	25-49	50-99	100-249
47F2200	76F02EC100	12	10	C	.482	.327	.259	.198
47F2201	76F02EC150	12	15	C	.482	.327	.259	.198
47F2202	76F02EK101	12	100	K	.700	.475	.376	.288
47F2203	76F02FK101	15	100	K	.700	.475	.376	.288
47F2204	76F02KD100	25	10	D	.482	.327	.259	.198
47F2205	76F02KL101	25	100	L	.728	.494	.391	.300
47F2206	76F02KN201	25	200	N	.812	.551	.436	.334
47F2207	76F02LC2R0	50	2	C	.482	.327	.259	.198
47F2208	76F02LD5R0	50	5	D	.482	.327	.259	.198
47F2209	76F02LE100	50	10	E	.550	.373	.296	.227
47F2210	76F02LF200	50	20	F	.675	.458	.362	.278
47F2211	76F02LN101	50	100	N	.812	.551	.436	.334
47F2212	76F02MM200	100	20	M	.778	.528	.418	.320

TYPE 61F LECTROFILM®-B TUBULAR COMPUTER-GRADE CAPACITORS



Designed for computers, electronic instruments, communications equipment requiring reliability and long life. Temp. range −55°C to +125°C with proper voltage derating. Ratings 100 and 200 VDC at 85°C. Insulation resistance at 25°C 10,000 megohm-microfarads not to exceed 100,000 megohms, and at 85°C 1000 megohm-microfarads not to exceed 10,000 megohms. Dissipation factor less than 1%. ±10% tolerance.

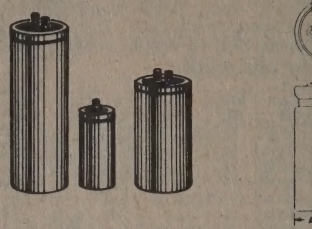
100 VDC

Stk. No.	Type	Cap. µF	Dia. x L. Inches	1-24	25-49	50-99	100-499
47F2213	61F10AA103	.010	.185x .450	.267	.196	.151	.116
47F2214	61F15AA153	.015	.188x .750	.267	.196	.151	.116
47F2215	61F15AA223	.022	.188x .750	.267	.196	.151	.116
47F2216	61F17AA333	.033	.219x .750	.276	.202	.156	.120
47F2217	61F19AA473	.047	.250x .750	.297	.218	.168	.129
47F2218	61F22AA683	.068	.265x .875	.312	.229	.177	.135
47F2219	61F24AA104	.10	.328x .875	.336	.246	.190	.146
47F2220	61F51AA105	1.00	.610x .159	1.041	.763	.590	.451

200 VDC

47F2221	61F10BA102	.011	.185x .450	.267	.196	.151	.116
47F2222	61F10BA152	.0015	.185x .450	.267	.196	.151	.116
47F2223	61F10BA222	.0022	.185x .450	.267	.196	.151	.116
47F2224	61F10BA472	.0047	.185x .450	.267	.196	.151	.116
47F2225	61F15BA103	.010	.188x .750	.267	.196	.151	.116
47F2226	61F19BA223	.022	.250x .750	.267	.196	.151	.116
47F2227	61F22BA333	.033	.265x .875	.276	.202	.156	.120
47F2228	61F23BA473	.047	.281x .875	.297	.218	.168	.129
47F2229	61F29BA104	.10	.375x1.09	.336	.246	.190	.146
47F2230	61F34BA154	.15	.436x1.09	.375	.275	.213	.163
47F2231	61F38BA224	.22	.436x1.25	.411	.301	.233	.178

TYPE 86F ALUMINUM COMPUTER GRADE CAPACITORS

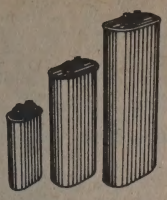


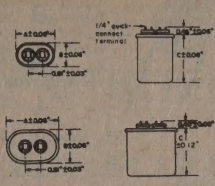
Compared to older designs, can provide up to 70% more capacitance and 100% higher ripple current ratings for a given case size. Polymeric sleeve. In table, ESR and Max rms Ripple Current (*) given at 120 Hz, 25°C. Proportionally good ripple ratings at higher temperatures. Dimension D, .210 minimum.

Case Code	Dim. In. A	B	C	Case Code	Dim. In. A	B	C	Case Code	Dim. In. A	B	C
BA	1.385	2.140	0.500	DE	1.760	4.140	0.750	GE	3.010	4.140	1.250
BC	1.385	3.140	0.500	EE	2.010	4.140	0.859	GH	3.010	5.640	1.250
BE	1.385	4.140	0.500	FE	2.510	4.140	1.125	GN	3.010	8.640	1.250

Stk. No.	Type	WV DC	Cap. µF	Case Code	ESR Ohms	* A	1-9	10-24	25-49	50-99
47F2232	86F111M	10	12,000	BC	.075	8.3	3.93	3.05	2.27	1.77
47F2233	86F113M	10	29,000	DE	.037	15.3	5.82	4.52	3.36	2.59
47F2234	86F114M	10	39,000	EE	.035	16.8	6.94	5.39	4.01	3.08
47F2235	86F115M	10	66,000	FE	.021	24.3	9.94	7.72	5.74	4.41
47F2236	86F116M	10	100,000	GE	.020	27.3	13.73	10.66	7.93	6.10
47F2237	86F120M	15	9,200	BC	.081	8.0	3.84	2.98	2.22	1.70
47F2238	86F121M	15	13,800	BE	.054	11.3	4.50	3.49	2.60	2.00
47F2239	86F122M	15	22,000	DE	.041	14.6	5.66	4.39	3.27	2.51
47F2240	86F123M	15	31,000	EE	.036	16.6	6.94	5.39	4.01	3.08
47F2241	86F124M	15	51,000	FE	.022	23.8	9.78	7.59	5.65	4.34
47F2242	86F125M	15	76,000	GE	.020	27.3	13.32	10.35	7.70	5.92
47F2243	86F126M	15	110,000	GH	.016	30.0	18.15	14.09	10.48	8.06
47F2244	86F128M	20	3,600	BA	.16	4.7	3.22	2.50	1.86	1.43
47F2245	86F131M	20	17,500	DE	.042	14.4	5.89	4.58	3.40	2.62
47F2246	86F138M	25	5,800	BC	.090	7.6	3.95	3.07	2.28	1.75
47F2247	86F139M	25	8,700	BE	.060	10.7	4.64	3.60	2.68	2.06
47F2248	86F140M	25	14,000	DE	.044	14.1	5.92	4.60	3.42	2.63
47F2249	86F142M	25	32,000	FE	.024	22.8	10.22	7.94	5.91	4.54
47F2250	86F145M	25	115,000	GN	.012	30.0	30.13	23.39	17.40	13.38
47F2251	86F147M	30	5,200	BC	.092	7.5	4.00	3.11	2.31	1.78
47F2252	86F150M	30	17,000	EE	.040	15.8	7.31	5.68	4.22	3.25
47F2253	86F153M	30	64,000	GH	.017	30.0	20.52	15.93	11.85	9.11
47F2254	86F156M	40	4,000	BC	.097	7.3	4.33	3.36	2.50	1.92
47F2255	86F157M	40	6,000	BE	.065	10.3	4.99	3.88	2.88	2.22
47F2256	86F158M	40	9,400	DE	.046	13.8	6.11	4.74	3.53	2.71
47F2257	86F159M	40	12,900	EE	.040	15.8	7.26	5.64	4.20	3.23
47F2258	86F160M	40	21,500	FE	.038	18.1	10.10	7.85	5.84	4.49
47F2259	86F161M	40	32,000	GE	.022	26.0	13.59	10.55	7.85	6.03
47F2260	86F168M	50	9,300	EE	.047	14.5	7.26	5.64	4.20	3.23
47F2261	86F173M	75	950	BA	.25	3.7	3.55	2.76	2.05	1.58
47F2262	86F174M	75	1,900	BC	.13	5.4	4.24	3.29	2.45	1.88
47F2263	86F175M	75	2,800	BE	.089	8.8	4.90	3.80	2.83	2.18
47F2264	86F176M	75	4,500	DE	.057	12.4	6.15	4.78	3.55	2.73
47F2265	86F178M	75	10,400	FE	.045	16.6	10.51	8.16	6.07	4.67
47F2266	86F182M	100	470	BA	.51	2.6	3.24	2.52	1.87	1.44
47F2267	86F184M	100	1,400	BE	.17	6.3	4.64	3.60	2.68	2.06
47F2268	86F189M	100	11,600	GH	.029	26.5	19.90	15.45	11.50	8.84
47F2269	86F191M	150	300	BA	.78	2.1	3.17	2.46	1.93	1.41
47F2270	86F196M	150	3,300	FE	.085	9.5	9.56	7.42	5.52	4.25
47F2271	86F199M	150	11,900	GN	.026	30.0	27.88	21.65	16.10	12.36
47F2272	86F200M	200	220	BA	.88	2.0	3.19	2.48	1.85	1.42
47F2273	86F207M	200	5,400	GH	.055	19.2	18.86	14.65	10.90	8.38
47F2274	86F230M	350	1,900	GE	.11	11.6	15.03	11.67	8.68	6.67
47F2275	86F231M	350	2,900	GH	.078	16.2	21.58	16.67	12.47	9.59
47F2276	86F247M	450	1,900	GH	.11	13.6	28.00	21.74	16.17	12.43
47F2277	86F511M	10	18,000	BC	.053	9.7	4.62	3.59	2.67	2.05
47F2278	86F520M	15	15,000	BC	.058	9.3	4.67	3.62	2.70	2.07
47F2279	86F531M	20	27,000	DE	.044	14.2	7.71	5.99	4.45	3.42
47F2280	86F538M	25	9,000	BC	.076	8.4	4.70	3.65	2.72	2.09
47F2281	86F547M	30	8,000	BC	.081	7.9	4.78	3.71	2.76	2.12
47F2282	86F548M	30	12,000	BE	.066	10.4	5.88	4.57	3.40	2.61
47F2283	86F564M	50	2,400	BA	.146	4.8	3.81	2.96	2.20	1.69
47F2284	86F565M	50	4,900	BC	.103	7.1	5.07	3.94	2.93	2.25
47F2285	86F566M	50	7,300	BE	.085	9.1	6.27	4.87	3.62	2.78
47F2286	86F573M	75	1,400	BA	.193	4.2	3.88	3.01	2.24	1.72
47F2287	86F583M	100	1700	BC	.175	5.5	5.09	3.96	2.94	2.26

TYPE 45F GENERAL PURPOSE AC CAPACITORS





These capacitors, superseding the Type 49F, feature Pyranol® II impregnant that increases life and reliability. Provides up to five times the life expectancy of other units. These capacitors find use with AC motors and transformers in industrial control, voltage stabilizers, submersible pumps, business machines, computers, fan motors, and power supplies.

200-365 VAC, 330 V NOMINAL

Stk. No.	Type	Cap. µF	Dim. In. A x B x C	Fig.	1-9	10-24	25-49	50-99
47F2288	45F170	10	2.16x1.31x3.82	A	5.60	3.50	2.52	1.96

336-410 VAC, 370 V NOMINAL

47F2289	45F271	3	2.16x1.31x2.06	A	2.96	1.85	1.33	1.04
47F2290	45F272	4	2.16x1.31x2.06	A	3.20	2.00	1.44	1.12
47F2291	45F1450	5	2.16x1.31x2.32	A	3.60	2.25	1.62	1.26
47F2292	45F274	6	2.16x1.31x2.82	A	4.00	2.50	1.80	1.40
47F2293	45F275	7.5	2.16x1.31x3.44	A	4.60	2.88	2.07	1.61
47F2294	45F276	10	2.16x1.31x4.18	A	5.80	3.63	2.61	2.03
47F2295	45F278	15	2.91x1.91x3.50	B	7.60	4.75	3.42	2.66
47F2296	45F279	17.5	2.91x1.91x3.88	B	8.80	5.50	3.96	3.08

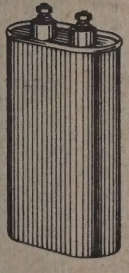
411-485 VAC, 440 V NOMINAL

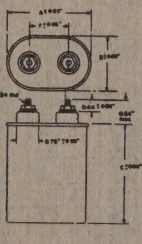
47F2297	45F355	15	2.91x1.91x4.50	B	9.80	6.13	4.41	3.13

551-720 VAC, 660 V NOMINAL

47F2298	45F601	1	2.16x1.31x2.06	A	3.00	1.88	1.35	1.05
47F2299	45F603	2	2.16x1.31x2.31	A	3.16	1.98	1.42	1.11
47F2300	45F605	3	2.16x1.31x2.82	A	3.40	2.13	1.53	1.19
47F2301	45F606	4	2.16x1.31x3.82	A	4.40	2.75	1.98	1.54
47F2302	45F607	5	2.69x1.56x3.50	B	5.20	3.25	2.34	1.82
47F2303	45F608	6	2.69x1.56x4.25	B	6.04	3.78	2.72	2.11
47F2304	45F610	8	2.91x1.91x4.50	B	7.68	4.80	3.46	2.69

TYPE 28F SCR COMMUTATION CAPACITORS

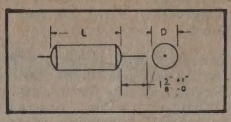




Ideal for SCR circuits, to commutate (turn-off) the SCR. Present in many applications are high repetition rates and large peak currents which demand construction superior to that of standard capacitors. These capacitors have extended foil construction and heavy-duty parts to give the low inductance and minimum ESR needed in these applications.

Stk. No.	Type	VDC	Cap. µF	Dim., Inches A x B x C	1-9	10-24	25-49	50-99
47F2305	28F5122FC	600	5	2.16x1.31x3.81	11.35	7.13	5.17	4.04
47F2306	28F5123FC	600	10	2.91x1.91x4.25	15.47	9.71	7.02	5.49
47F2307	28F5135FC	1000	10	2.91x1.91x6.25	18.67	11.71	8.46	6.61

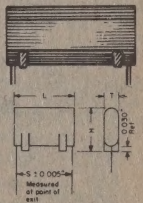
TYPE AE LECTROFILM-B TUBULAR CAPACITORS



For use where small size and high reliability at moderate cost is required. Special construction provides minimum size with excellent resistance to humidity, vibration and shock. Suffix indicates tolerance: J = ±5%; K = ±10%. Ratings at 85°C.

Stk. No.	Type	VDC	Cap. µF	Dim., Inches D x L	1-24	25-49	50-99	100-499
47F2308	AE12R222J	80	.0022	.153x.406	.588	.409	.316	.242
47F2309	AE12R32K	80	.0033	.153x.406	.414	.304	.235	.179
47F2310	AE12R472K	80	.0047	.153x.406	.414	.304	.235	.179
47F2311	AE13R103K	80	.010	.185x.450	.390	.286	.221	.169
47F2312	AE15R153K	80	.015	.185x.530	.447	.328	.253	.194
47F2313	AE15R223K	80	.022	.185x.530	.459	.337	.260	.199
47F2314	AE17R473K	80	.047	.229x.594	.495	.363	.281	.215
47F2315	AE17R104K	80	.10	.315x.594	.573	.420	.325	.248
47F2316	AE12C102J	200	.0010	.153x.406	.387	.284	.219	.168
47F2317	AE12C102K	200	.0010	.153x.406	.288	.211	.163	.125
47F2318	AE12C152J	200	.0015	.153x.406	.387	.284	.219	.168
47F2319	AE12C152K	200	.0015	.153x.406	.288	.211	.163	.125
47F2320	AE12C222K	200	.0022	.185x.406	.288	.211	.163	.125
47F2321	AE12C382K	200	.0038	.185x.450	.288	.211	.163	.125
47F2322	AE13C472J	200	.0047	.185x.450	.396	.290	.224	.172
47F2323	AE13C472K	200	.0047	.185x.450	.294	.216	.167	.127
47F2324	AE13C103J	200	.010	.185x.450	.432	.317	.245	.187
47F2325	AE13C103K	200	.010	.185x.450	.321	.235	.182	.139
47F2326	AE14C153J	200	.015	.229x.530	.447	.328	.253	.194
47F2327	AE14C153K	200	.015	.229x.530	.330	.242	.187	.143
47F2328	AE17C223J	200	.022	.229x.594	.462	.339	.262	.200
47F2329	AE17C223K	200	.022	.229x.594	.345	.253	.196	.150
47F2330	AE17C473J	200	.047	.315x.594	.567	.416	.321	.246
47F2331	AE17C473K	200	.047	.315x.594	.420	.308	.238	.182
47F2332	AE22C104J	200	.10	.328x.719	.690	.506	.391	.299
47F2333	AE22C104K	200	.10	.328x.719	.513	.376	.291	.222

TYPE 75F FILM CAPACITORS



"Black Hawk" film capacitor features rugged epoxy molded case with mounting feet and radial leads for PC board mount. Voltage ratings at 85°C. Tolerance ±10%.

Stk. No.	Type	VDC	Cap. µF	Dim., In. H x L	1-24	25-49	50-99	100-499
47F2334	75F1R5A102	50	.0010	.471x .500	.198	.145	.112	.086
47F2335	75F1R5A222	50	.0022	.471x .500	.198	.145	.112	.086
47F2336	75F1R5A472	50	.0047	.471x .500	.198	.145	.112	.086
47F2337	75F1R5A103	50	.010	.471x .500	.198	.145	.112	.086
47F2338	75F1R5A223	50	.022	.471x .500	.198	.145	.112	.086
47F2339	75F1R5A333	50	.033	.471x .500	.210	.154	.119	.091
47F2340	75F1R5A473	50	.047	.471x .500	.213	.156	.121	.092
47F2341	75F1R5A563	50	.056	.471x .500	.213	.156	.121	.092
47F2342	75F3R5A683	50	.068	.411x .800	.234	.172	.133	.101
47F2343	75F3R5A104	50	.10	.411x .800	.264	.194	.150	.114
47F2344	75F3R5A154	50	.15	.475x .800	.351	.257	.199	.152
47F2345	75F4R5A224	50	.22	.531x .800	.399	.293	.226	.173
47F2346	75F4R5A334	50	.33	.531x .800	.531	.389	.301	.230
47F2347	75F6R5A474	50	.47	.569x1.130	.624	.458	.354	.270
47F2348	75F6R5A684	50	.68	.569x1.130	.861	.631	.488	.373
47F2349	75F7R5A105	50	1.00	.732x1.130	1.197	.878	.678	.519
47F2350	75F1R1A102	100	.001	.471x .500	.198	.145	.112	.086
47F2351	75F1R1A103	100	.010	.471x .500	.201	.147	.114	.087
47F2352	75F1R1A223	100	.022	.471x .500	.213	.156	.121	.092
47F2353	75F3R1A473	100	.047	.411x .800	.231	.169	.131	.100
47F2354	75F3R1A104	100	.10	.475x .800	.264	.194	.150	.114
47F2355	75F1R2A102	200	.0010	.471x .500	.198	.145	.112	.086
47F2356	75F1R2A222	200	.0022	.471x .500	.198	.145	.112	.086
47F2357	75F1R2A472	200	.0047	.471x .500	.198	.145	.112	.086
47F2358	75F1R2A103	200	.010	.471x .500	.201	.147	.114	.087
47F2359	75F1R2A223	200	.022	.471x .500	.213	.156	.121	.092
47F2360	75F3R2A473	200	.047	.411x .800	.231	.169	.131	.100
47F2361	75F3R2A683	200	.068	.475x .800	.249	.183	.141	.108
47F2362	75F3R2A104	200	.10	.475x .800	.264	.194	.150	.114
47F2363	75F6R2A224	200	.22	.569x1.130	.399	.293	.226	.173
47F2364	75F6R2A334	200	.33	.569x1.130	.531	.389	.301	.230
47F2365	75F7R2A474	200	.47	.732x1.130	.624	.458	.354	.270

8

CENTRALAB
Electronics Division
GLOBE-UNION INC.

Centralab Caparitors

LOW VOLTAGE DISC CERAMICS CAPACITORS

SEMICONDUCTOR TYPE ULTRA-KAP®

- HIGH CAPACITANCE/MINIATURE SIZE
- -55° to +85°C Operating Temp. Range
- Tinned Wire Leads

These reduced titanate devices provide from 50 to 100 times greater capacitance than standard ceramic discs. Excellent choice for bypass and coupling applications with operating frequencies up to 1 MHz. Dielectric strength same as working voltage. Durez coated, wax impregnated. Cap., tol., voltage, temp., marked as space permits. Thickness, .156"

3 VDCW (Tol. GMV) Y5T

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F395	UK-104	.1	.220	.42	.333	.210	.158	.145	.127
67F5000	UK-154	.15	290	.30	.238	.150	.113	.094	.082
19F396	UK-224	.22	.405	.30	.238	.150	.113	.094	.082
19F397	UK-474	.47	.405	.30	.238	.150	.113	.098	.086
19F398	UK-105	1.0	.590	.36	.285	.180	.135	.125	.110
19F399	UK-225	2.2	.820	.42	.333	.210	.158	.153	.135

10 VDCW (Tol. +80 —20%) Y5F

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F276	UK10-503	.05	.290	.18	.143	.09	.068	.066	.053
19F277	UK10-104	.1	.405	.180	.143	.09	.068	.066	.058
19F278	UK10-204	.2	.590	.30	.238	.15	.113	.095	.083
19F279	UK10-474	.47	.820	.42	.333	.21	.158	.145	.127

12 VDCW (Tol. ± 20%) Y5F

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
67F5001	UK12-503	05	.290"	.18	.15	.096	.076	.07	.061
67F5002	UK12-104	1	.405"	.18	.155	.10	.08	.077	.067
67F5003	UK12-204	2	.590"	.30	.25	.16	.13	.105	.091
67F5004	UK12-474	47	.820"	.42	.34	.22	.17	.15	.135

16 VDCW (±20%) Y5F

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F1267	UK16-103	.01	.290"	.15	.12	.087	.074	.052	.046
19F1268	UK16-223	.022	.290"	.16	.13	.09	.08	.052	.046
19F1269	UK16-503	.05	.390"	.23	.18	.125	.105	.085	.072
19F1270	UK16-104	.1	.485"	.19	.15	.11	.10	.082	.072

20VDCW (Tol. +80—20%) Y5F

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F1278	UK20-503	.05	.405"	.18	.143	.090	.068	.062	.055
19F1279	UK20-104	.1	.590"	.21	.166	.105	.079	.077	.068
19F1280	UK20-204	.2	.820"	.39	.310	.195	.146	.139	.122

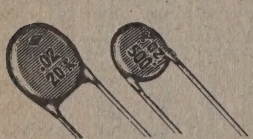
25 DVCW (Tol. ±20%) Y5F

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F1271	UK25-103	.01	.290"	.16	.13	.09	.08	.052	.046
19F1272	UK25-223	.022	.290"	.19	.15	.11	.10	.082	.076
19F1273	UK25-503	.06	.405"	.24	.19	.14	.12	.085	.076
19F1274	UK25-104	.1	.590"	.25	.20	.15	.13	.085	.076

50VDCW (Tol. ±20%) Y5F

19F400	UK50-103	.01	.290"	.19	.156	.095	.081	.056	.05
19F401	UK50-153	.015	.390"	.25	.198	.12	.102	.062	.054
19F402	UK50-223	.022	.485"	.35	.276	.168	.143	.093	.082
19F403	UK50-503	.05	.690"	.51	.406	.244	.207	.139	.122
19F404	UK50-104	.1	.920"	.86	.69	.415	.352	.244	.215

GENERAL PURPOSE—50 VDCW—Z5V



Designed for high capacity low voltage demands of transistor circuitry. Leads: #22 tinned copper, 1" minimum length. Max. thickness .171". Power factor: 3% max. at 1 KC. Insulation: Phenolic vacuum wax impregnated. Tolerance: +80 —20%. Operating range: —55° to +85°C.

Stock No.	Mfd.	Type	Dia.	1-99	100-199	200-499	500-999	1M-3M	4M-5M
19F1223	.005	CK-502	.390"	.21	.166	.105	.079	.048	.042
19F1224	.01	CK-103	.390"	.21	.166	.105	.079	.052	.046
19F1225	.02	CK-203	.590"	.21	.166	.105	.079	.076	.067
19F1226	.025	CK-253	.590"	.21	.166	.105	.079	.076	.067
19F1228	.05	CK-503	.690"	.30	.238	.15	.113	.088	.077
19F1229	.1	CK-104	.718"	.60	.475	.30	.225	.216	.192

GENERAL PURPOSE LOW VOLTAGE

Designed to fulfill most solid-state circuitry demands including non-critical bypass and coupling -55° to +85°C Operating Temperature Range Durez coated, wax impregnated. Tinned wire leads. Dielectric Strength: 250% of rated working voltage. Marked as space permits.

75 VDCW (Tol. +80,—30%) Z5V

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
19F1103	DDA-503	05	690"	.30	.238	.15	.13	.082	.073
19F1104	DDA-104	1	718"	.60	.475	.30	.225	.203	.178

100 VDCW (Tol. ±20%) Z5V

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
67F5005	DC-502	005	390"	.15	.12	.084	.062	.045	.039
67F5006	DC-103	01	390"	.15	.12	.084	.062	.045	.039
67F5007	DC-203	02	590"	.21	.17	.126	.091	.054	.047
67F5008	DC-253	025	590"	.24	.17	.126	.091	.054	.047
67F5009	DC-303	03	590"	.24	.17	.126	.091	.054	.047
67F5010	DC-503	05	690"	.26	.21	.177	.126	.091	.079
67F5011	DC-104	1	718"	.58	.49	.344	.255	.195	.175

600 VDCW (Tol. +80,—20% *GMV) Z5U, † Z5V

Stock No.	Type	Mfd.	Dia.	1-99	100-199	200-499	500-999	1000-3000	4000-5000
67F5012	DD6-103*	01	590"	.24	.19	.12	.09	.044	.038
67F5013	DD -153	015	690"	.24	.19	.12	.09	.054	.047
19F340	DD -203	02	690"	.45	.356	.225	.169	.099	.085
19F537	DD -303	03	718"	.45	.356	.225	.169	.099	.085
19F538	DD -403	04	718"	.45	.356	.225	.169	.155	.145
19F539	DD -503	05	875"	.45	.356	.225	.169	.155	.145
67F5018	DD -104†	1	975"	.65	.50	.35	.29	.25	.21

TEMPERATURE STABLE CAPACITORS

Excellent capacitance stability over wide temperature range. Economical substitute for foil and mica. CE Series, X5F used where extended temp stability is required for RC networks and conventional applications. CF Series, Z5P used where general purpose would not meet circuitry demands -55° to +85°C Operating Temp Range. Dielectric Strength: 250% of rated working voltage. Durez coated, wax impregnated. Tinned wire leads. Marked as space permits. .156" thick.

600 VDCW (Tol. ±10%) X5F

Stock No.	Type	Mfd. PF.*	Dia.	1-99	100-199	200-499	500-1M
19F1235	CE-151	150*	290"	.18	.143	.09	.068
19F1236	CE-221	220*	290"	.18	.143	.09	.068
19F1237	CE-331	330*	290"	.18	.143	.09	.068
19F1238	CE-471	470*	290"	.18	.143	.09	.068
19F1239	CE-501	500*	290"	.18	.143	.09	.068
19F1241	CE-681	680*	290"	.18	.143	.09	.068
19F1242	CE-751	750*	290"	.18	.143	.09	.068
19F1244	CE-102	.001	290"	.18	.143	.09	.068
67F5019	CE-122	.0012	390"	.18	.143	.09	.068
67F5020	CE-152	.0015	390"	.18	.143	.09	.068
67F5021	CE-182	.0018	485"	.18	.143	.09	.068
67F5022	CE-202	.002	485"	.18	.153	.098	.073
67F5023	CE-222	.0022	485"	.18	.153	.098	.073
67F5024	CE-332	.0033	590"	.19	.153	.098	.073
67F2025	CE-392	.0039	590"	.19	.153	.098	.073
67F5026	CE-472	.0047	690"	.19	.160	.105	.077
67F5027	CE-502	.005	690"	.19	.160	.105	.077
67F5028	CE-622	.0062	820"	.29	.220	.140	.105
67F5029	CE-822	.0082	820"	.29	.220	.140	.105
67F5030	CE-103	.01	920"	.29	.230	.150	.110

600 VDCW (Tol. ±10%) Z5P

19F1246	CF-152	.0015	390"	.18	.143	.09	.068
19F1247	CF-182	.0018	390"	.18	.143	.09	.068
19F1249	CF-222	.0022	390"	.21	.166	.105	.079
19F1250	CF-332	.0033	485"	.21	.166	.105	.079
19F1251	CF-392	.0039	590"	.21	.166	.105	.079
19F1252	CF-472	.0047	590"	.21	.166	.105	.079
19F1253	CF-502	.005	590"	.21	.166	.105	.079
19F1256	CF-103	.01	820"	.24	.19	.12	.09

8

Centralab Capacitors

CENTRALAB
Electronics Division
GLOBE-UNION INC.

TYPE DD DISC CERAMIC CAPACITORS

Intended for by-pass, coupling or filter service. Disc ceramic capacitors have a higher dielectric constant, greater voltages, and higher capacities in less space than paper or mica types. Tol. ± 10% except * ±20%, † ±.5pF, ‡ GMV; ** +80—20%.
(A) .290 x .156"; (B) .305 x .156"; (C) .405 x .156"; (D) .500 x .156"; (E) .605 x .156"; (F) .705 x .156"; (G) .718 x .250"; (H) .875 x .250".

1000 VDCW

Stk. No.	Type	pF	Size	1-99	100-199	200-499	500-999	1M-3M	4M-5M
19F300	DD-3R3	.3†	A						
19F301	DD-050	5	A						
19F341	DD-060	6	A						
19F302	DD-6R8	6.8	A	.15	.119	.075	.056	.048	.042
19F342	DD-7R5	7.5	A						
19F343	DD-080	8	A						
19F303	DD-100	10	A						
19F344	DD-120	12	A						
19F304	DD-150	15	A						
19F345	DD-180	18	A						
19F305	DD-200	20	A						
19F346	DD-220	22	A						
19F347	DD-240	24	A						
19F306	DD-250	25	A						
19F348	DD-270	27	A						
19F349	DD-300	30	A						
19F307	DD-330	33	A						
19F308	DD-390	39	A						
19F309	DD-470	47	A						
19F310	DD-500	50	A	.15	.119	.075	.056	.038	.033
19F516	DD-510	51	A						
19F311	DD-560	56	B						
19F312	DD-680	68	B						
19F313	DD-750	75	B						
19F358	DD-820	82	B						
19F359	DD-910	91	B						
19F314	DD-101	100	B						
19F315	DD-121	120	B						
19F365	DD-131	130	B						
19F316	DD-151	150	B						
19F317	DD-181	180	B						
19F318	DD-201	200	B						
19F319	DD-221	220	B						
19F366	DD-241	240	B						
19F320	DD-251	250	B						
19F321	DD-271	270	B						
19F322	DD-301	300	B						
19F323	DD-331	330	B						
19F368	DD-351	350	B						
19F369	DD-361	360	B						
19F324	DD-391	390	B						
19F379	DD-401	400	B						
19F325	DD-471	470	B						
19F326	DD-501	500	B	.15	.119	.075	.056	.041	.035
19F518	DD-511	510	B						
19F327	DD-561	560	B						
19F519	DD-601	600	B						
19F328	DD-681	680	B						
19F329	DD-751	750	B						
19F380	DD-821	820	B						
19F531	DD-911	910	B						
19F331	DD-102	1000	C					.044	.038
19F532	DD-102G	1000‡	B					.036	.031
19F381	DD-122	1200	C					.044	.038
19F382	DD-132	1300	C					.044	.038
19F332	DD-152	1500	C					.044	.038
19F534	DD-152G	1500‡	B					.036	.031
19F383	DD-162	1600	C	.15	.119	.075	.056	.044	.038
19F384	DD-182	1800	C					.044	.038
19F333	DD-202	2000 *	C					.038	.033
19F385	DD-222	2200 *	C					.038	.033
19F386	DD-252	2500 *	C					.038	.033
19F387	DD-272	2700 *	C					.038	.033
19F334	DD-302	3000 *	C					.038	.033
19F388	DD-332	3300 *	C					.044	.038
19F389	DD-392	3900 *	D					.044	.038
19F390	DD-402	4000 *	D					.044	.038
19F391	DD-432	4300 *	D					.044	.038
19F335	DD-472	4700*	D					.046	.040
19F336	DD-5022	5000*	D					.046	.040
19F337	DD-502	5000‡	E					.044	.038
19F392	DD-562	5600 *	D					.044	.038
19F393	DD-682	6800 *	E					.044	.038
19F394	DD-752	7500 *	E					.044	.038
19F536	DD-822	8200 *	E					.054	.047
19F339	DD-103	10000‡	F	.24	.19	.12	.09	.054	.047
19F338	DD-1032	10000*	F	.24	.19	.12	.09	.062	.054

MAKE NEWARK YOUR ONE-STOP SOURCE FOR ALL ELECTRONIC COMPONENTS

HI-VOLTAGE DISC CAPACITORS 3000-6000VOLTS

Highly efficient for by-pass-coupling in high voltage circuits under conditions of extreme humidity or temperature. Maintain performance at temperatures up to 85° C. Leads #22 tinned copper wire 1½" min. length. Insul.: Double coating and high temp. vacuum wax impregnation. Tol. ±20% Volt. DD30 series, 3000 VDCW, DD60 series, 6000 VDCW. Sizes: (A) .330" dia.; (B) .430" dia. (C) .630" dia.; (F) .800" dia.; (G) .760" dia.; (H) .660" dia.

TYPE DD30—3000 VDCW

Stk. No.	Type	pF	Size	1-99	100-199	200-499	500-1000
19F203	100	10	A				
19F217	101	100	A				
19F219	151	150	A	.24	.19	.12	.09
19F222	221	220	A				
19F230	501	500	A				
19F234	102	1,000	B				
19F236	152	1,500	C				
19F237	202	2,000	C	.30	.238	.15	.113
19F238	222	2,200	C				
19F241	302	3,000	C				
19F242	502	5,000	F				

TYPE DD60—6000 VDCW

Stk. No.	Type	pF	Size	1-99	100-199	200-499	500-1000
19F473	500	50	H				
19F481	181	180	H				
19F482	201	200	H	.36	.285	.18	.135
19F485	271	270	H				
19F490	471	470	H				
19F493	681	680	H				
19F495	102	1,000	H	.60	.475	.30	.225
19F498	202	2,000	G				

CENTRALAB CAPACITOR KIT

- Wide Assortment
- Popular Sizes
- Ready To Use

KIT-60D contains an assortment of the most widely used general purpose ceramic disc capacitors. 600 and 1000 VDCW ratings in 40 different values from 5pf to .05mf. Housed in rugged steel frame cabinet with 15 high impact plastic drawers. Capacitors functionally arranged in clearly labeled drawers by voltage and value. Shipped set up and ready to use.

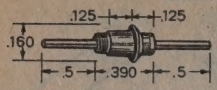
KIT-60D CONTENTS

Cap.	Qty.	Type	Cap.	Qty.	Type
5pf	5	DD-050	390pf	5	DD-391
10	5	DD-100	470	5	DD-471
15	5	DD-150	500	5	DD-501
20	5	DD-200	680	5	DD-681
22	5	DD-220	820	5	DD-821
25	5	DD-250	.001mf	15	DD-102
33	5	DD-330	.001	10	DD-102G
47	5	DD-470	.0015	5	DD-152
50	5	DD-500	.002	10	DD-202
68	5	DD-680	.0022	5	DD-222
100	10	DD-101	.003	5	DD-302
120	5	DD-121	.0047	5	DD-472
150	5	DD-151	.005	5	DD-502
180	5	DD-181	.005	10	DD-5022
200	10	DD-201	.0068	5	DD-682
220	5	DD-221	.01	5	DD-103
250	5	DD-251	.01	15	DD-1032
270	5	DD-271	.01	5	DD6-103
300	5	DD-301	.02	5	DD-203
330	5	DD-331	.05	5	DD-503

61F5031NET 37.95

CENTRALAB
Electronics Division
GLOBE-UNION INC.

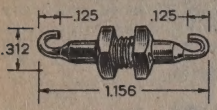
CERAMIC FEED-THRU CAPACITORS



MFT SERIES EYELET TYPE

Stk. No.	Type	pF	Key
19F1120	MFT-50	50 ±10%	A
19F1121	MFT-100	100 ±10%	A
19F1122	MFT-500	500 ±20%	A
19F1123	MFT-1000	1000 GMV	A

Miniature eyelet type, rated 500 VDC working. Mounts on .218" dia. flange on eyelet inserted in .160" dia. hole in chassis. Body length 1.390" overall. Shipping wt., 1 oz.

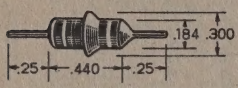


FT SERIES BUSHING TYPE

Stk. No.	Type	pF	Key
19F1115	FT-500	500	B
19F1116	FT-1000	1000	B
19F1117	FT-1500	1500*	B
19F1118	FT-1800	1800*	B
19F1119	FT-2300	2300*	B

Bushing type ceramic. Rated 500 VDC working, mounts on .281" lg thread. Overall size .312" hex x 1.156" lg. Tol. ±20% except (*) +50%, −20% Shpg. wt., 2 oz.

SFT SERIES SYMMETRICAL TYPE



Stk. No.	Type	pF	Key
20F1400	SFT-100	10 ±10%	C
20F1401	SFT-220	22 ±10%	C
20F1402	SFT-390	39 ±10%	C
20F1403	SFT-500	59 ±10%	C
20F1404	SFT-101	100 ±10%	C
20F1405	SFT-221	220 ±20%	C
20F1406	SFT-501	500 ±20%	C
20F1407	SFT-102	1000 GMV	C

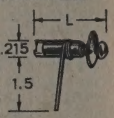
Symmetrical type. Rated 500 VDC working. Tinned wire leads. Mounts in .200" dia. hole. Overall length .940". Ship. Wt. 1½ oz.

8

PRICING

	1-99	100	200-400	500-1M
A	.30	.238	.15	.113
B	.75	.594	.375	.28
C	.25	.21	.135	.10
	1-4	5-25	30-100	105-250
D	1.80	1.62	1.43	1.28
E	2.70	2.43	2.14	1.92
F	8.40	7.56	6.65	5.99
G	7.20	6.48	5.70	5.13

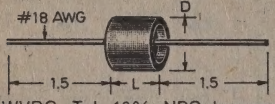
TYPE 829 TUBULAR TRIMMER



Tiny tubular and industrial trimmers for TV and FM applications. Have ceramic bodies, .215" in diameter. Length as shown. Mount by means of locknut. Rated 500 VDC working.

Stk. No.	Type	Length	pF	Key
19F170	829-3	.500	.5-3	A
19F171	829-4	.500	1-4	A
19F172	829-6	.625	1-6	A
19F173	829-7	.625	1-7.5	A
19F174	829-10	.625	1.5-10	A

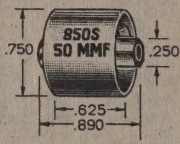
TRANSMITTING CAPACITORS



5000 WVDC. Tol. 10%. NPO temperature coefficients except (*) which are N750.
Type 853—.500" dia. x .473" Lt.
Type 854—.375" dia. x .375" Lt.
Type 855—.250" dia. x .343" Lt.

WIRE LEAD

Stk. No.	Type	pF	Tol.	Key
19F268	855-3Z	3	±10%	D
19F270	854-10Z	10	±10%	D
19F271	855-10N*	10	±10%	D
19F272	853-20Z	20	±10%	D
19F274	853-40N*	40	±10%	D

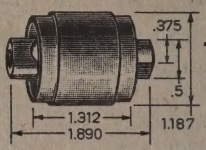


TRANSMITTING CAPACITOR

Threaded Terminals

Type 850. 7500 VWDC except (*) 5000 T.C. N=N750, Z=NPO, (†) X5T, (‡) X5U. Body Size: .625" Lt. x .750" dia.

Stk. No.	Type	pF	Tol.	Key
19F248	850S-25Z	25	±10%	E
19F254	850S-50Z	50	±10%	E
19F250	850S-50N	50	±10%	E
19F251	850S-75N	75	±10%	E
19F252	850S-100N*	100	±10%	E
19F253	858S-500†*	500	±20%	E
19F249	858S-1000‡*	1000	±20%	E



TRANSMITTING CAPACITOR

Threaded Terminals

15,000 VDC except (*) which work at 7,500 VDC. Negative 750 temperature coefficients, except (†), which are NPO zero. Tol. 10%. Body size: 1.312" Lt. x 1.187" dia.

Stk. No.	Type	pF	Tol.	Key
19F454	857-25Z	25	±10%	F
19F455	857-50Z	50	±10%	F
19F456	857-100N†	100	±10%	G
19F457	857-200N*	2000	±10%	G

POLYSTYRENE CAPACITORS

Sealed polystyrene foil-capacitors, ideal for applications in TV and radio where they can be used as direct replacements for micas and mylars. Voltage rating 630 VDCW. 20-470 pf—.473" Lt. x .251" dia. 510—3000 pf—.670" Lt. x .381" dia. 3300—10000 pf—.867" Lt. x .554" dia.

Stk. No.	Type	pF	1-49	50-149	150-499	500-999	1M-3M	4M-5M
19F2337	CPR-20J	20						
19F2338	CPR-22J	22						
19F2342	CPR-33J	33						
19F2344	CPR-39J	39						
19F2346	CPR-47J	47						
19F2347	CPR-56J	56						
19F2349	CPR-68J	68						
19F2350	CPR-75J	75						
19F2351	CPR-82J	82						
19F2353	CPR-100J	100	.15	.119	.075	.056	.052	.047
19F2357	CPR-150J	150						
19F2359	CPR-180J	180						
19F2360	CPR-200J	200						
19F2361	CPR-220J	220						
19F2362	CPR-240J	240						
19F2363	CPR-270J	270						
19F2364	CPR-200J	300						
19F2365	CPR-330J	330						
19F2367	CPR-390J	390						

Stk. No.	Type	pF	1-49	50-149	150-499	500-999	1M-3M	4M-5M
19F2367	CPR-390J	390						
19F2368	CPR-430J	430						
19F2369	CPR-470J	470						
19F2370	CPR-510J	510						
19F2372	CPR-620J	620	.15	.119	.075	.056	.052	.047
19F2373	CPR-680J	680						
19F2375	CPR-820J	820						
19F2376	CPR-910J	910						
19F2377	CPR-1000J	1000						
19F2379	CPR-1200J	1200						
19F2381	CPR-1500J	1500						
19F2384	CPR-2000J	2000	.18	.143	.09	.068	.064	.059
19F2385	CPR-2200J	2200						
19F2388	CPR-2700J	2700						
19F2390	CPR-3300J	3300						
19F2394	CPR-4700J	4700						
19F2395	CPR-5000J	5000	.21	.166	.105	.079	.075	.070
19F2398	CPR-6200J	6200						
19F2403	CPR-10000J	10000						

Centralab Monolithic Capacitors

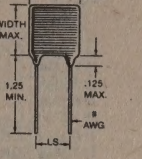
MONO-KAP™ RADIAL LEAD EPOXY COATED

CN Series. Maximum stability over wide range of voltages, frequencies, and environmental conditions. Tolerance: ±10%, except (*) ±0.5 pf. Epoxy coated.

CY Series. High capacitance for general purpose applications. Tolerance: ±20%, except (†) GMV. Epoxy coated. Useful for bypass, coupling, and filtering applications.

SIZE CHART

Size Code	Max. Length	Max. Width	Max. Thick	Lead Spacing	Lead #AWG
10	.100″	.100″	.100″	.100″	26
15	.150″	.150″	.100″	.100″	26
20	.200″	.200″	.125″	.100″	24
30	.300″	.300″	.150″	.200″	24
40	.400″	.400″	.150″	.200″	24



ULTRA-STABLE
CN SERIES 100 VDCW COG (NPO)

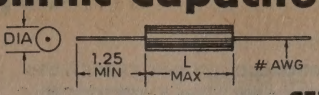
Stk. No.	Type	Cap.	Size Code	1-49	50-99	100-299	300-499	500-999
20F1408	CN10A4R7D	4.7pF*	10	.78	.57	.47	.39	.34
20F1409	CN10A6R8D	6.8pF*	10	.78	.57	.47	.39	.34
20F1410	CN15A100K	10pF	15	.33	.24	.20	.17	.14
20F1411	CN15A150K	15pF	15	.33	.24	.20	.17	.14
20F1412	CN15A220K	22pF	15	.33	.24	.20	.17	.14
20F1413	CN15A330K	33pF	15	.33	.24	.20	.17	.14
20F1414	CN15A470K	47pF	15	.33	.24	.20	.17	.14
20F1415	CN15A680K	68pF	15	.33	.24	.20	.17	.14
20F1416	CN15A101K	100pF	15	.33	.24	.20	.17	.14
20F1417	CN15A151K	150pF	15	.33	.24	.20	.17	.14
20F1418	CN15A221K	220pF	15	.33	.24	.20	.17	.14
20F1419	CN20A331K	330pF	20	.66	.48	.40	.33	.29
20F1420	CN20A471K	470pF	20	.66	.48	.40	.33	.29
20F1421	CN20A681K	680pF	20	.75	.55	.45	.38	.33
20F1422	CN20A102K	.001μF	20	.75	.55	.45	.38	.33
20F1423	CN20A152K	.0015μF	20	.87	.64	.52	.44	.38
20F1424	CN30A222K	.0022μF	30	1.59	1.17	.95	.80	.69
20F1425	CN30A332K	.0033μF	30	1.74	1.28	1.04	.87	.75
20F1426	CN30A472K	.0047μF	30	1.98	1.45	1.19	.99	.86
20F1427	CN30A682K	.0068μF	30	2.43	1.78	1.46	1.22	1.05
20F1428	CN40A103K	.01μF	40	4.26	3.12	2.56	2.13	1.85

GENERAL PURPOSE
CY SERIES 50 VOLT DCW Y5V

20F1429	CY15C471M	470pF	15	.36	.26	.22	.18	.16
20F1430	CY15C681M	680pF	15	.36	.26	.22	.18	.16
20F1431	CY15C102M	.001μF	15	.36	.26	.22	.18	.16
20F1432	CY15C152M	.0015μF	15	.36	.26	.22	.18	.16
20F1433	CY15C222M	.0022μF	15	.36	.26	.22	.18	.16
20F1434	CY15C332M	.0033μF	15	.36	.26	.22	.18	.16
20F1435	CY15C472M	.0047μF	15	.36	.26	.22	.18	.16
20F1436	CY15C682M	.0068μF	15	.36	.26	.22	.18	.16
20F1437	CY15C103M	.01μF	15	.36	.26	.22	.18	.16
20F1438	CY15C103P	.01μF†	15	.27	.20	.16	.14	.12
20F1439	CY15C153M	.015μF	15	.36	.26	.22	.18	.16
20F1440	CY15C223M	.022μF	15	.36	.26	.22	.18	.16
20F1441	CY15C333M	.033μF	15	.36	.26	.22	.18	.16
20F1442	CY15C473M	.047μF	15	.39	.29	.23	.20	.17
20F1443	CY15C683M	.068μF	15	.39	.29	.23	.20	.17
20F1444	CY20C104M	.1μF	20	.63	.46	.37	.31	.27
20F1445	CY20C104P	.1μF†	20	.45	.33	.27	.22	.19
20F1446	CY20C154M	.15μF	20	.72	.52	.43	.36	.31
20F1447	CY20C224M	.22μF	20	.72	.52	.43	.36	.31
20F1448	CY20C334M	.33μF	20	.81	.59	.48	.40	.35
20F1449	CY20C474M	.47μF	20	.81	.59	.48	.40	.35
20F1450	CY30C684M	.68μF	30	1.86	1.36	1.11	.93	.80
20F1451	CY30C105M	1.0μF	30	1.86	1.36	1.11	.93	.80
20F1452	CY30C105P	1.0μF†	30	1.29	.94	.77	.64	.55
20F1453	CY30C155M	1.5μF	30	2.04	1.49	1.22	1.02	.88
20F1454	CY30C225M	2.2μF	30	2.40	1.76	1.44	1.20	1.04
20F1455	CY40C335M	3.3μF	40	4.38	3.21	2.62	2.19	1.89
20F1456	CY40C475M	4.7μF	40	5.34	3.91	3.20	2.67	2.31

CY SERIES 100 VOLT DCW Y5V

20F1457	CY15A682M	.0068μF	15	.36	.26	.22	.18	.16
20F1458	CY15A103M	.01μF	15	.36	.26	.22	.18	.16
20F1459	CY15A103P	.01μF†	15	.27	.20	.16	.14	.12
20F1460	CY15A153M	.015μF	15	.36	.26	.22	.18	.16
20F1461	CY15A223M	.022μF	15	.36	.26	.22	.18	.16
20F1462	CY15A333M	.033μF	15	.36	.26	.22	.18	.16
20F1463	CY20A473M	.047μF	20	.60	.44	.36	.30	.26
20F1464	CY20A683M	.068μF	20	.63	.46	.37	.31	.27
20F1465	CY20A104M	.1μF	20	.63	.46	.37	.31	.27
20F1466	CY20A104P	.1μF†	20	.45	.33	.27	.22	.19
20F1467	CY20A154M	.15μF	20	.75	.55	.37	.32	.30
20F1468	CY20A224M	.22μF	20	.75	.55	.37	.32	.30
20F1469	CY30A334M	.33μF	30	1.56	1.14	.93	.78	.67
20F1470	CY30A474M	.47μF	30	1.56	1.14	.93	.78	.67
20F1471	CY30A684M	.68μF	30	1.92	1.40	1.15	.96	.83
20F1472	CY30A105M	1.0μF	30	1.92	1.40	1.15	.96	.83
20F1473	CY40A155M	1.5μF	40	3.69	2.70	2.21	1.84	1.59
20F1474	CY40A225M	2.2μF	40	4.26	3.12	2.55	2.13	1.84



TUBULAR CASE AXIAL LEAD CERAMIC CAPACITORS

C22 Series. Useful for bypass coupling, blocking applications. Transfer molded. Epoxy case. Tolerance: ±10%. Sizes: A—.170″L x .100″ Dia., 26 AWG. B—.260″L x .110″ Dia., 22AWG. C—.410″L x .150″ Dia., 22AWG.

C33 Series. Minimum change over wide range of conditions. Transfer molded. Epoxy case. Tolerance: ±10% except (*) ±0.5 pf. Sizes: D—.250″L x .100″ Dia., 22AWG. E—.400″L x .140″ Dia., 22AWG.

C22 SERIES 100 VOLT DCW X7R

Stk. No.	Type	Cap.	Size Code	1-99	100-499	500-999	1 M-5 M
20F1475	C22A100K	10pF	A	1.01	.67	.50	.34
20F1476	C22A120K	12pF	A				
20F1477	C22A150K	15pF	A				
20F1478	C22A180K	18pF	A				
20F1479	C22A220K	22pF	A				
20F1480	C22A270K	27pF	A	1.01	.67	.50	.34
20F1481	C22A330K	33pF	A				
20F1482	C22A390K	39pF	A				
20F1483	C22A470K	47pF	A				
20F1484	C22A560K	56pF	A				
20F1485	C22A680K	68pF	A	1.01	.67	.50	.34
20F1486	C22A820K	82pF	A				
20F1487	C22A101K	100pF	A				
20F1488	C22A121K	120pF	A				
20F1489	C22A151K	150pF	A				
20F1490	C22A181K	180pF	A	1.01	.67	.50	.34
20F1491	C22A221K	220pF	A				
20F1492	C22A271K	270pF	A				
20F1493	C22A331K	330pF	A				
20F1494	C22A391K	390pF	A				
20F1495	C22A471K	470pF	A	1.01	.67	.50	.34
20F1496	C22A561K	560pF	A				
20F1497	C22A681K	680pF	A				
20F1498	C22A821K	820pF	A				
20F1499	C22A102K	.001μF	A				
20F1500	C22A152K	.0015μF	A	1.01	.67	.50	.34
20F1501	C22A222K	.0022μF	A				
20F1502	C22A272K	.0027μF	A				
20F1503	C22A332K	.0033μF	A				
20F1504	C22A392K	.0039μF	A				
20F1505	C22A472K	.0047μF	A	1.01	.67	.50	.34
20F1506	C22A682K	.0068μF	B				
20F1507	C22A822K	.0082μF	B				
20F1508	C22A103K	.01μF	B				
20F1509	C22A153K	.015μF	B	1.49	.99	.74	.50
20F1510	C22A223K	.022μF	B				
20F1511	C22A333K	.033μF	C	1.92	1.28	.96	.64
20F1512	C22A473K	.047μF	C				
20F1513	C22A563K	.056μF	C	2.10	1.40	1.05	.70
20F1514	C22A683K	.068μF	C				
20F1515	C22A823K	.082μF	C				
20F1516	C22A104K	.1μF	C				

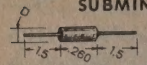
C33 SERIES 100 VOLT DCW COG (NPO)

20F1517	C33A1R0D	1.0pF*	D	1.48	1.18	.96	.74
20F1518	C33A1R8D	1.8pF*	D				
20F1519	C33A2R2D	2.2pF*	D				
20F1520	C33A3R3D	3.3pF*	D				
20F1521	C33A4R7D	4.7pF*	D	1.48	1.18	.96	.74
20F1522	C33A5R6D	5.6pF*	D				
20F1523	C33A6R8D	6.8pF*	D				
20F1524	C33A8R2D	8.2pF*	D				
20F1525	C33A100K	10pF	D	1.26	1.01	.82	.63
20F1526	C33A120K	12pF	D				
20F1527	C33A150K	15pF	D				
20F1528	C33A180K	18pF	D				
20F1529	C33A220K	22pF	D				
20F1530	C33A270K	27pF	D	1.26	1.01	.82	.63
20F1531	C33A330K	33pF	D				
20F1532	C33A390K	39pF	D				
20F1533	C33A470K	47pF	D				
20F1534	C33A560K	56pF	D				
20F1535	C33A680K	68pF	D	1.26	1.01	.82	.63
20F1536	C33A820K	82pF	D				
20F1537	C33A101K	100pF	D				
20F1538	C33A121K	120pF	D				
20F1539	C33A151K	150pF	D				
20F1540	C33A181K	180pF	D	1.26	1.01	.82	.63
20F1541	C33A221K	220pF	D				
20F1542	C33A271K	270pF	D				
20F1543	C33A331K	330pF	D				
20F1544	C33A391K	390pF	D				
20F1545	C33A471K	470pF	D	1.36	1.09	.88	.68
20F1546	C33A561K	560pF	E				
20F1547	C33A681K	680pF	E				
20F1548	C33A821K	820pF	E				
20F1549	C33A102K	.001μF	E				

8

Capacitors

SUBMINIATURE MONOBLOC CERAMIC CAPACITORS



Monobloc construction allows a volumetric efficiency up to 20mf/cu. in. Tolerance within ±10% for capacitance from 10 pf to 100 pf when measured at 1mc with .5 to 1 VRMS across the capacitor including COG dielectric. For values greater than 100pf tolerance is within ±10% when measured at 1kc with .5 to 1 VRMS across the capacitor. Maximum capacitance change: ±15% of the 25°C value over temp. range —55°C to 125°C. Size: .260 max. lead length, 1.5 min. Leads: 22AWG solder coated copper.

W5RO (X7RO) STABLE TYPE 8003—100 VDCW @ 125°C

Stock No.	Type	Cap (pf)	1-49	50-99	100-249	250-499	500-999
19F2534	8003-000 W5RO 181K	180					
19F2535	8003-000 W5RO 221K	220					
19F2537	8003-000 W5RO 331K	330					
19F2539	8003-000 W5RO 471K	470					
19F2540	8003-000 W5RO 561K	560	1.30	.97	.81	.65	.49
19F2541	8003-000 W5RO 681K	680					
19F2543	8003-000 W5RO 102K	1000					
19F2544	8003-000 W5RO 122K	1200					
19F2545	8003-000 W5RO 152K	1500					
19F2546	8003-000 W5RO 182K	1800					
19F2547	8003-000 W5RO 222K	2200					
19F2548	8003-000 W5RO 272K	2700					
19F2549	8003-000 W5RO 332K	3300	1.30	.97	.81	.65	.49
19F2550	8003-000 W5RO 392K	3900					
19F2551	8003-000 W5RO 472K	4700					
19F2552	8003-000 W5RO 562K	5600					
19F2553	8003-000 W5RO 682K	6800	1.44	1.08	.90	.72	.54
19F2555	8003-000 W5RO 103K	10000	1.68	1.26	1.05	.84	.63
19F2556	8003-000 W5RO 123K	12000	1.44	1.08	.90	.72	.54
19F2557	8003-000 W5RO 153K	15000	1.54	1.15	.96	.77	.58
19F2559	8003-000 W5RO 223K	22000	1.97	1.48	1.23	.98	.74

NPO HIGH STABILITY TYPE 8003—100 VDCW @ 125°C

19F2560	8003-000 COGO 100K	10					
19F2562	8003-000 COGO 150K	15					
19F2564	8003-000 COGO 220K	22					
19F2565	8003-000 COGO 270K	27					
19F2566	8003-000 COGO 330K	33	1.15	.86	.72	.57	.43
19F2568	8003-000 COGO 470K	47					
19F2572	8003-000 COGO 101K	100					
19F2573	8003-000 COGO 121K	120					
19F2574	8003-000 COGO 151K	150					

W5RO (X7RO) STABLE TYPE ET05 & ET06—100 VDC @125°C

20F1200	ET05-000 W5RO 681K	680	.72	.54	.45	.36	.27
20F1201	ET05-000 W5RO 102K	1000	.72	.54	.45	.36	.27
20F1202	ET06-000 W5RO 222K	2200	.91	.68	.57	.46	.34
20F1203	ET06-000 W5RO 332K	3300	.91	.68	.57	.46	.34
20F1204	ET06-000 W5RO 472K	4700	.91	.68	.57	.46	.34
20F1205	ET06-000 W5RO 682K	6800	.96	.72	.60	.48	.36
20F1206	ET06-000 W5RO 103K	10000	.96	.72	.60	.48	.36
20F1207	ET06-000 W5RO 223K	22000	1.44	1.08	.90	.72	.54
20F1208	ET06-000 W5RO 333K	33000	1.44	1.08	.90	.72	.54
20F1209	ET06-000 W5RO 473K	47000	1.78	1.33	1.10	.89	.67
20F1210	ET06-000 W5RO 683K	68000	2.00	1.50	1.25	1.00	.75
20F1211	ET06-000 W5RO 104K	100000	2.16	1.62	1.35	1.08	.81

NPO HIGH STABILITY TYPE ET05 & ET06—100 VDCW @ 125°C EXCEPT (*) 50 VDCW-Z5U GENERAL PURPOSE

Specified Temperature Range over which maximum capacitance change is guaranteed. —55°C to 125°C. **Type ET05. Size:** Width .200, height .200, thickness .100 spacing .200 **Type ET06. Size:** Width .300, height .300, thickness .100, spacing .2uu.

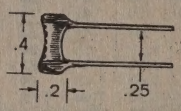
Stock No.	Type	Cap (pf)	1-49	50-99	100-249	250-499	500-999
20F1212	ET05-000 COGO 100K	10					
20F1213	ET05-000 COGO 120K	12	.72	.54	.45	.36	.27
20F1214	ET05-000 COGO 150K	15					
20F1215	ET05-000 COGO 220K	22					
20F1216	ET05-000 COGO 330K	33					
20F1217	ET05-000 COGO 470K	47	.72	.54	.45	.36	.27
20F1218	ET05-000 COGO 680K	68					
20F1219	ET05-000 COGO 101K	100	1.20	.90	.75	.60	.45
20F1220	ET05-000 COGO 221K	220					
20F1221	ET06-000 COGO 331K	330					
20F1222	ET06-000 COGO 471K	470					
20F1223	ET06-000 COGO 561K	560	1.49	1.12	.93	.75	.56
20F1224	ET06-000 COGO 681K	680					
20F1225	ET06-000 COGO 821K	820					
20F1226	ET06-000 COGO 102K	1000					
20F1227	ET06-000 Z5UO 154M	150000	1.73	1.30	1.08	.86	.65
20F1228	ET06-000 Z5UO 224M*	220000	1.73	1.30	1.08	.86	.65
20F1229	ET06-000 Z5UO 334M*	330000	2.16	1.62	1.35	1.08	.81
20F1230	ET06-000 Z5UO 474M*	470000	2.72	2.04	1.70	1.36	1.02

MIL-C-11015C DISC CERAMICS

Capacitors meet requirements for TV, industrial electronics and military equipment at 85°C. All .156" thick. Style 831: .290 disc. dia., .250 lead spacing. Style 801: .360 disc dia., .250 lead spacing. Style 811: .539 disc. dia., .357 lead spacing. Style 841: .675 disc. dia. .375 lead spacing. 500 VDC. 1500 VDC Flash Test. Shpg. Wt., 1 oz.

Stk. No.	Mil. No.	Cap. (pf)	1-49	50-99	100-249	250-499	500-999
19F2750	CK60BX470K	47.0	.23	.18	.146	.105	.099
19F2754	CK60BX101K	100.0	.23	.18	.146	.105	.099
19F2756	CK60BX151K	150.0	.23	.18	.146	.105	.099
19F2762	CK60AX471K	470.0	.19	.15	.121	.087	.082
19F2764	CK60AW471M	470.0	.18	.14	.114	.082	.077
19F2765	CK60AW681M	680.0	.18	.14	.114	.082	.077
19F2766	CK60AW821M	820.0	.18	.14	.114	.082	.077
19F2767	CK60AW102M	1,000.0	.18	.14	.114	.082	.077
19F2769	CK61BX221K	220.0	.23	.18	.146	.105	.099
19F2773	CK61BX471K	470.0	.23	.18	.146	.105	.099
19F2777	CK61AW222M	2,200.0	.18	.14	.114	.082	.077
19F2778	CK62AY220M	22.0	.21	.16	.130	.094	.088
19F2785	CK62BX102K	1,000.0	.24	.18	.149	.107	.101
19F2787	CK62BX152K	1,500.0	.24	.18	.149	.107	.101
19F2789	CK62AX222K	2,200.0	.20	.15	.124	.089	.084
19F2791	CK62AW332M	3,300.0	.21	.16	.13	.094	.088
19F2792	CK62AW472M	4,700.0	.21	.16	.13	.094	.088
19F2794	CK62AW822M	8,200.0	.21	.16	.13	.094	.088
19F2795	CK63BX222K	2,200.0	.26	.19	.16	.115	.109
19F2797	CK63BX332K	3,300.0	.26	.19	.16	.115	.109
19F2800	CK63AY103M	10,000.0	.22	.17	.138	.099	.094
19F2801	CK63AW103M	10,000.0	.24	.18	.149	.107	.101

TYPE NPO CERAMICONS



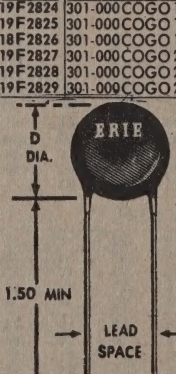
Tubular capacitors for frequency determining application. Also used as temp. compensating elements in circuits which must be temp. stabilized. Size: .200 Dia., .400 L., .250 lead spacing. Shpg. wt. 1 oz.

±.25 PF TOL.

Stk. No.	Type	T. Co Cap NPO pf	1-49	50-99	100-249	250-499	500-999	1M-5M
19F1092	301-000 COKO 508C	±250 0.5						
19F1093	301-000 COKO 688C	±250 0.68						
19F1094	301-000 COKO 109C	±250 1.0	.20	.15	.13	.09	.085	.05
19F500	301-000 COKO 159C	±250 1.5						
19F2823	301-000 COKO 209C	±250 2.0						
19F1096	301-000 COJO 229C	±120 2.2						
19F501	301-000 COJO 309C	±120 3.0						
19F502	301-000 COJO 339C	±120 3.3						
19F503	301-000 COHO 479C	±60 4.7	.20	.15	.13	.09	.085	.05
19F504	301-000 COHO 509C	±60 5.0						
19F505	301-000 COHO 689C	±60 6.8						
19F506	301-000 COHO 829C	±60 8.2						
19F507	301-000 COHO 100C	±60 10.0	.26	.195	.163	.117	.111	.065

±5% TOL

19F2824	301-000 COGO 120J	±30 12.0						
19F2825	301-000 COGO 150J	±30 15.0						
18F2826	301-000 COGO 180J	±30 18.0	.20	.15	.13	.09	.085	.05
19F2827	301-000 COGO 200J	±30 20.0						
19F2828	301-000 COGO 220J	±30 22.0						
19F2829	301-000 COGO 240J	±30 24.0						



100 V TRANSISTOR CAPACITORS

Ultra miniature. Capacitance Tol. 80% to 20%. Style 835, 805, & 855 have a thickness of .125 and lead spacing of .250. Style 845 has a thickness of .125 and lead spacing of .375. Shpg. wt. 1 oz.

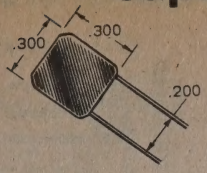
Type	D-Dia.	T.-Thick.	Lead Spacing
835	.275	.125	.250
805	.344	.125	.250
855	.420	.125	.250
845	.655	.125	.375

Stk. No.	Type	Cap. (mf)	1-49	50-99	100-249	250-499	500-999	1M-5M
19F1700	835-000-X5V0-502Z	.005	.12	.09	.078	.056	.053	.031
19F1701	805-000-X5V0-103Z	.01	.20	.15	.128	.092	.087	.051
19F1702	855-000-X5V0-203Z	.02	.20	.15	.128	.092	.087	.051
19F1704	845-000-X5V0-473Z	.047	.27	.20	.166	.12	.113	.067
19F1705	845-000-X5V0-503Z	.05	.27	.20	.166	.12	.113	.067
19F1706	845-000-X5V0-104Z	.1	.67	.50	.412	.299	.283	.166

8

Capacitors

RED CAPS



Encapsulated with JET-SEAL, a hard, bright polymeric coating, formulated to provide mechanical and electrical protection under the most severe environmental conditions. Meet requirements of MIL-C-20 and MIL-C-11015.

MAX DIM'S							
Type	W&H	T	Lead Spacing	Type	W&H	T	Lead Spacing
8101	.100	.100	100	8131	.300	.150	200
8111	.150	.100	100	8141	.400	. .	. .
8121	.200	.125	100	8151	.500	. .	400

50 VOLT GENERAL PURPOSE CAPACITORS

Stk. No.	Type	Mfd.	1-49	50-99	100-249	250-499	500-999
17F110	8121-050-651-103M	.01	.50	.37	.30	.25	.22
17F111	8121-050-651-153M	.015	.54	.40	.32	.27	.23
17F112	8121-050-651-223M	.022	.61	.45	.37	.31	.27
17F113	8121-050-651-273M	.027	.68	.50	.41	.34	.30
17F114	8121-050-651-333M	.033	.76	.55	.45	.38	.33
17F115	8121-050-651-473M	.047	.83	.61	.50	.41	.36
17F116	8121-050-651-683M	.068	.97	.71	.58	.49	.42
17F117	8121-050-651-104M	.100	1.15	.85	.69	.58	.50
17F118	8121-050-651-154M	.15	1.30	.95	.78	.65	.56
17F119	8131-050-651-224M	.22	.96	.70	.58	.48	.42
17F120	8131-050-651-334M	.33	1.14	.84	.68	.57	.49
17F121	8131-050-651-474M	.47	1.38	1.01	.83	.69	.60
17F122	8131-050-651-684M	.68	1.47	1.08	.88	.74	.64
17F123	8131-050-651-105M	1.00	1.92	1.41	1.15	.96	.83
17F124	8141-050-651-155M	1.50	2.82	2.07	1.69	1.41	1.22
17F125	8141-050-651-225M	2.2	3.81	2.79	2.29	1.91	1.65
17F126	8151-050-651-335M	3.3	5.37	3.94	3.22	2.69	2.33
17F127	8151-050-651-475M	4.7	6.84	5.02	4.10	3.42	2.96

100 VOLT

Stk. No.	Type	Mfd.	1-49	50-99	100-249	250-499	500-999
19F3544	8121-100-651-103M	.01	.58	.42	.35	.29	.25
19F3546	8121-100-651-223M	.022	.72	.53	.43	.36	.31
19F3549	8121-100-651-473M	.047	.97	.71	.58	.49	.42
19F3551	8131-100-651-104M	.1	.93	.68	.56	.47	.40
19F3552	8131-100-651-154M	.15	1.02	.75	.61	.51	.44
19F3553	8131-100-651-224M	.22	1.11	.81	.67	.56	.48
19F3555	8131-100-651-334M	.33	1.32	.97	.79	.66	.57
19F3556	8131-100-651-474M	.47	1.74	1.28	1.04	.87	.75
19F3558	8141-100-651-105M	1.0	2.61	1.91	1.57	1.31	1.13
19F3560	8151-100-651-225M	2.2	4.80	3.52	2.88	2.40	2.02

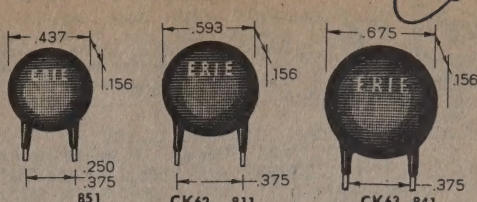
100 VOLT ULTRA STABLE CAPACITORS

Stk. No	Type	PF.	1-49	50-99	100-249	250-499	500-999
19F3500	8101-100-COGO-479D	4.7	.36	.26	.22	.18	.16
19F3502	8101-100-COGO-100K	10	.36	.26	.22	.18	.16
19F3504	8111-100-COGO-220K	22	.36	.26	.22	.18	.16
19F3505	8121-100-COGO-330K	33	.33	.24	.20	.17	.14
19F3506	8121-100-COGO-470K	47	.60	.44	.36	.30	.26
19F3508	8121-100-COGO-101K	100	.66	.48	.40	.33	.29
19F3510	8121-100-COGO-221K	220	.78	.57	.47	.39	.34
19F3511	8121-100-COGO-331K	330	.90	.66	.54	.45	.39
19F3512	8121-100-COGO-471K	470	1.05	.77	.63	.53	.46
19F3513	8121-100-COGO-681K	680	1.26	.92	.76	.63	.55
19F3514	8121-100-COGO-102K	1000	1.56	1.14	.94	.78	.68
19F3516	8131-100-COGO-222K	2200	1.62	1.19	.97	.81	.70
19F3517	8131-100-COGO-332K	3300	2.10	1.54	1.26	1.05	.91
19F3518	8141-100-COGO-472K	4700	3.06	2.24	1.84	1.53	1.33
19F3519	8141-100-COGO-682K	6800	4.14	3.04	2.48	2.07	1.79
19F3520	8141-100-COGO-103K	10000	5.64	4.14	3.38	2.82	2.44

100 VOLT STABLE

Stk. No.	Type	PF.	1-49	50-99	100-249	250-499	500-999
19F3522	8101-100-W5RO-221K	220	.36	.26	.22	.18	.16
19F3524	8111-100-W5RO-471K	470	.36	.26	.22	.18	.16
19F3526	8121-100-W5RO-102K	1000	.33	.24	.20	.17	.14
19F3527	8121-100-W5RO-152K	1500	.33	.24	.20	.17	.14
19F3528	8121-100-W5RO-222K	2200	.42	.31	.25	.21	.18
19F3530	8121-100-W5RO-472K	4700	.45	.33	.27	.23	.20
19F3531	8121-100-W5RO-682K	6800	.51	.37	.31	.26	.22
19F3532	8121-100-W5RO-103K	10K	.60	.44	.36	.30	.26
19F3533	8131-100-W5RO-153K	15K	.75	.55	.45	.38	.33
19F3534	8131-100-W5RO-223K	22K	.87	.64	.52	.44	.38
19F3535	8131-100-W5RO-333K	33K	.96	.70	.58	.48	.42
19F3538	8131-100-W5RO-104K	100K	1.74	1.28	1.04	.87	.75
19F3539	8141-100-W5RO-224K	220K	3.72	2.73	2.23	1.86	1.61
19F3540	8151-100-W5RO-334K	330K	4.68	3.43	2.81	2.34	2.03

GENERAL PURPOSE CERAMICONS



Silver fired ceramic dielectric. 1000 DCWV, 1500 VDC test. Tolerance: (*±.25%), (**±.5%), (†±5%), (††±20%). Shpg. wt. 1 oz.

KEY FOR CERAMICONS			
Type	Diameter	Lead Spacing	Thickness
831	.290	.250	.156
801	.360	.250	.156
811	.593	.375	.156
841	.675	.375	.156
851	.437	.250/.375	.156

Stk. No	Type	Cap. (pf.)	1-49	50-99	100-249	250-499	500-999
19F2683	831-000-COGO-509C	5.0*					
19F2685	831-000-COGO-100D	10.0**					
19F2686	831-000-COGO-120J	12.0†					
19F2687	801-000-COGO-150J	15.0†					
19F2689	801-000-COGO-200J	20.0†					
19F2690	801-000-COGO-220J	22.0†	.10	.08	.06	.05	.04
19F2691	851-000-COGO-270J	27.0†					
19F2692	851-000-COGO-330J	33.0†					
19F2693	851-000-COGO-470J	47.0†					
19F2713	841-000 COGO 101J	100.0†	.12	.09	.07	.06	.05
19F2694	831-000 U2JO 100D	10.0**					
19F2695	831-000 U2JO 120J	12.0†					
19F2696	831-000 U2JO 150J	15.0†					
19F2697	831-000 U2JO 180J	18.0†					
19F2698	831-000 U2JO 200J	20.0†					
19F2699	831-000 U2JO 220J	22.0†					
19F2700	831-000 U2JO 270J	27.0†					
19F2701	831-000 U2JO 330J	33.0†	.10	.08	.06	.05	.04
19F2703	801-000 U2JO 470J	47.0†					
19F2704	801-000 U2JO 500J	50.0†					
19F2705	801-000 U2JO 560J	56.0†					
19F2706	851-000 U2JO 680J	68.0†					
19F2709	851-000 U2JO 101J	100.0†					
19F2718	831-000 X5FO 470K	47.0					
19F2719	831-000 X5FO 560K	56.0					
19F2720	831-000 X5FO 680K	68.0					
19F2721	831-000 X5FO 101K	100.0					
19F2722	831-000 X5FO 151K	150.0					
19F2723	831-000 X5FO 201K	200.0					
19F2724	831-000 X5FO 221K	220.0	.15	.11	.10	.07	.06
19F2725	831-000 X5FO 271K	270.0					
19F2726	831-000 X5FO 331K	330.0					
19F2727	831-000 X5FO 391K	390.0					
19F2728	831-000 X5FO 471K	470.0					
19F2729	831-000 X5FO 501K	500.0					
19F2730	801-000 X5FO 681K	680.0					
19F2731	801-000 X5FO 102K	1,000.0					
19F2732	851-000 X5FO 152K	1,500.0	.15	.11	.09	.07	.06
19F2733	871-000 X5FO 202K	2,000.0	.16	.12	.099	.071	.067
19F2734	811-000 X5FO 222K	2,200.0	.16	.12	.10	.072	.068
19F2735	811-000 X5FO 332K	3,300.0	.16	.12	.10	.072	.068
19F2736	811-000 X5RO 472K	4,700.0	.12	.09	.075	.054	.051
19F2737	811-000 X5RO 502K	5,000.0	.12	.09	.075	.054	.051
19F2738	811-000 Z5UO 103M	10,000.0††	.13	.10	.080	.058	.054
19F2739	841-000 Z5UO 153M	15,000.0††	.16	.12	.099	.071	.067
19F2740	841-000 X5UO 203M	20,000.0††	.16	.12	.099	.071	.067

TRANSCAPS

Use in transistorized, filtering and by-pass applications. .156" thick. All char. Y5F. PF max is 8%. IR (min) ohms, is 1,000,000 for 5655 and 5615. Life, at 85°C. and rated voltage, is 500 hours All are rated at ±20% tol. Shpg. wt., 1 oz.
Lead spacing.250 except type 5615, 5645 and 5685 which are .325.

12 VOLT

Stk. No.	Type	Dia.	Mf	1-49	50-99	100-249	250-499	500-999	1000-4999
19F2802	5635-000 Y5F0 503M	.275	.05	.22	.16	.135	.097	.092	.054
19F2803	5655-000 Y5F0 104M	.420	.1	.22	.17	.140	.101	.095	.056
19F2804	5615-000 Y5F0 224M	.550	.22	.34	.25	.21	.151	.143	.084
19F2805	5645-000 Y5F0 334M	.660	.33	.44	.33	.275	.198	.187	.110
19F2806	5685-000 Y5F0 474M	.800	.47	.55	.41	.345	.248	.235	.138

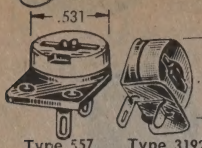
25-VOLT

19F2085	5835-000 Y5U0-103Z	.01	.290	.22	.16	.14	.10	.09	.05
19F2086	5835-000 Y5U0-203Z	.02	.290	.26	.20	.16	.12	.11	.07
19F2087	5855-000-Y5U0-503Z	.05	.437	.32	.24	.20	.15	.14	.08
19F2088	5815-000-Y5U0-104Z	.1	.593	.34	.26	.22	.16	.15	.09
19F2089	5815-000-Y5U0-204Z	.2	.593	.67	.50	.42	.30	.28	.17
19F1707	5865-000-Y5U0-224Z	.22	.895	.52	.39	.32	.23	.22	.13
19F1708	5865-000-Y5U0-474Z	.47	.895	1.01	.76	.63	.46	.43	.25

8

Capacitors and Trimmers

PHENOLIC BASE—TYPE 557



Type 557 Type 3192

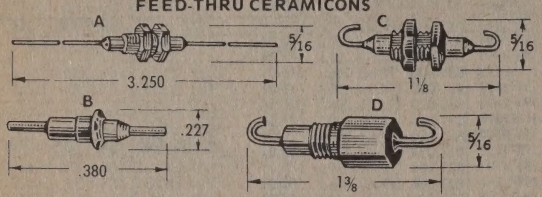
Features .531" dia. ceramic rotor, lapped and silvered on the underside, and a silvered ceramic dielectric stator disc with lapped bearing surface.

Stk. No.	Type	Mmf. Range	Temp. coef.	1-49	50-99	100-249	250-499	500-999
19F2971	557-000A-1.5-7	1.5-7	NPO	1.09	.91	.726	.427	.382
19F2972	557-000A-3-12	3-12	NPO	1.09	.91	.726	.427	.382
19F2973	557-000A-5-25	5-25	NPO	1.09	.91	.726	.427	.382
19F2974	557-000F-10-75	10-75	N1500	1.29	1.07	.857	.503	.450
19F2976	557-000E-5-30	5-30	N750	1.09	.91	.726	.427	.382
19F2977	557-000E-8-50	8-50	N750	1.09	.91	.726	.427	.382
19F2981	557-006F-10-75	10-75	N1500	1.29	1.07	.857	.531	.475
19F2984	557-006E-8-50	8-50	N750	1.09	.91	.726	.455	.407
19F2985	557-013A-1.5-7	1.5-7	NPO	1.09	.91	.726	.402	.359
19F2987	557-013A-5-25	5-25	NPO	1.09	.91	.726	.402	.359
19F2988	557-013F-10-75	10-75	N1500	1.29	1.07	.857	.478	.427
19F3000	557-091A-3-12	3-12	NPO	1.24	1.03	.823	.473	.422
19F3001	557-091A-5-25	5-25	NPO	1.24	1.03	.823	.473	.422
19F3003	557-091B-5-20	5-20	N330	1.24	1.03	.823	.473	.422
19F3005	557-091E-8'50	8-50	N750	1.24	1.03	.823	.473	.422

CERAMIC TRIMMERS — PHENOLIC BASE—TYPE 3192

19F3006	3192-000A-2.5-7	2.5-7	NPO	1.37	1.14	.91	.53	.48
19F3007	3192-000A-4-12	4-12	NPO	1.37	1.14	.91	.53	.48
19F3008	3192-000A-6-25	6-25	NPO	1.37	1.14	.91	.53	.48
19F3009	3192-000F11-75	11-75	N1500	1.37	1.14	.91	.53	.48

FEED-THRU CERAMICONS

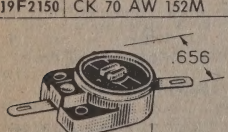


Types 362 and 327 have tie-point terminals; provide point to point wiring. 20% Tol. 500 WVDC. Lock washers available on request. Shpg. wt., 1 oz.

Stk. No.	Type	Fig.	Mmf.	1-49	50-99	100-249	250-499	500-999
19F1780	327-005-X5U0-102M	D	1000	1.62	1.22	1.01	.729	.689
19F1781	327-005-X5U0-152M	D	1500	1.62	1.22	1.01	.729	.689
19F1783	357-000-X5U0-102M	C	1000	1.12	.843	.703	.506	.478
19F1784	357-000-X5U0-152M	C	1500	1.12	.843	.703	.506	.478
19F1785	362-000-X5U0-102M	A	1000	1.12	.843	.703	.506	.478
19F1786	362-000-X5U0-152M	A	1500	1.12	.843	.703	.506	.478
19F1787	2404-000-U2M0-500M	B	50	.22	.17	.14	.101	.095
19F1788	2404-000-X5U0-101M	B	100	.22	.17	.14	.101	.095
19F1789	2404-000-X5U0-102P	B	1000	.22	.16	.14	.101	.095
19F1790	2404-014-X5U0-501M	...	500	.18	.135	.113	.081	.077
19F1791	2404-014-X5U0-102P	...	1000	.18	.135	.113	.081	.077
19F2857	2443-000-X5S0-102M	...	1000	1.36	1.02	.85	.61	.58
19F2861	2499-003-X5S0-102M	...	1000	1.50	1.13	.94	.68	.64
19F2862	2499-003-X5S0-152M	...	1500	1.50	1.13	.94	.68	.64

CK 70 Series Mil-C-11015C Feed-Thru Ceramicons. Tolerance: ±20%. Body style 327. Size 1⅜Hx5/16".

19F2149	CK70 AW 102M	D	1000	1.88	1.41	1.178	.848	.801
19F2150	CK 70 AW 152M	D	1500	1.88	1.41	1.178	.848	.801

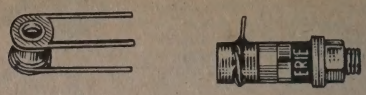


CERAMIC TRIMMER TYPE 503

Provides maximum stability and ease of adjustment. Capacity change constant per degree of rotation. Silver electrodes are fired onto ceramic rotor and base, 500 wkg. volts DC. Size: 503-000: .843"x .656".

Stk. No.	Type	Mmf. Range	1-49	50-99	100-249	250-499	500-999
19F520	503-000A-1.5-7	1.5-7					
19F1746	503-000A-3-12	3-12					
19F1747	503-000B-5-20	5-20					
19F522	503-000C-4-30	4-30					
19F523	503-000C-7-45	7-45	1.33	1.05	.89	.67	.55
19F2899	503-000D-4-30	4-30					
19F2900	503-000D-7-45	7-45					
19F1748	503-000D-5-50	5-50					
19F2901	503-000F-11-110	11-110	1.73	1.38	1.15	.82	.68

GLASS & QUARTZ TRIMMER CAPACITORS



B A

Meets MIL-C-14409. 1000 VDCW from -55°C to 125°C. Life test; 1500VDC for 250 hours @ 125°C. "Q" minimum at 1MC: 500.

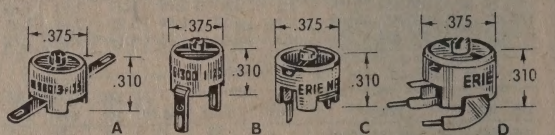
GLASS PANEL MOUNT

Stk. No.	Type	Fig.	Mmf.	1-24	25-49	50-99	100-299	300-499	500-999
19F1756	562-013	A	.8-8.5	3.40	3.05	2.70	2.25	2.15	1.80
19F1757	564-013	A	.7-12	3.75	3.40	2.95	2.45	2.35	2.00
19F1758	566-013	A	.8-18	4.35	3.95	3.40	2.85	2.70	2.35
19F1759	568-013	A	1-30	4.55	4.15	3.60	3.05	2.90	2.40

GLASS PRINTED CIRCUIT MOUNT

Stk. No.	Type	Fig.	Mmf.	1-24	25-49	50-99	100-299	300-499	500-999
19F3364	521-000	B	8-5.5	3.40	3.05	2.75	2.40	2.15	2.00
19F1760	561-013	B	8-4.5	2.80	2.60	2.20	1.85	1.75	1.50
19F1761	563-013	B	8-8.5	3.00	2.75	2.40	2.00	1.90	1.65
19F1763	567-013	B	8-18	3.95	3.60	3.10	2.60	2.45	2.10
19F1764	569-013	B	8-30	4.15	3.80	3.30	2.80	2.65	2.25

MINIATURE CERAMIC DISC TRIMMERS



Stk. No.	Type	Fig.	Mmf. Range	1-49	50-99	100-249	250-499	500-999
19F2090	538-000A-2-8	A	2-8	1.69	1.35	1.125	.675	.563
19F2091	538-000A-5.5-18	A	5.5-18	1.69	1.35	1.125	.675	.563
19F2092	538-000B-2.5-11	A	2.5-11	1.69	1.35	1.125	.675	.563
19F2093	538-000B-7-25	A	7-25	1.69	1.35	1.125	.675	.563
19F2095	538-000C-8-25	A	8-25	1.69	1.35	1.125	.675	.563
19F2096	538-000D-3-15	A	3-15	1.69	1.35	1.125	.675	.563
19F2097	538-000D-9-35	A	9-35	1.69	1.35	1.125	.675	.563
19F2893	538-000F-15-60	A	15-60	1.98	1.59	1.317	.787	.653
19F2098	538-002A-2-8	B	2-8	1.69	1.35	1.125	.675	.563
19F2099	538-002A-5.5-18	B	5.5-18	1.69	1.35	1.125	.675	.563
19F2100	538-002B-2.5-11	B	2.5-11	1.69	1.35	1.125	.675	.563
19F2101	538-002B-7-25	B	7-25	1.69	1.35	1.125	.675	.563
19F2102	538-002C-3-10	B	3-10	1.69	1.35	1.125	.675	.563
19F2103	538-002C-8-25	B	8-25	1.69	1.35	1.125	.675	.563
19F2104	538-002D-3-15	B	3-15	1.69	1.35	1.125	.675	.563
19F2105	538-002D-9-35	B	9-35	1.69	1.35	1.125	.675	.563
19F2894	538-002F-15-60	B	15-60	1.98	1.59	1.317	.787	.653
19F1738	538-011A-2-8	C	2-8	2.05	1.64	1.365	.819	.683
19F1739	538-011A-5.5-18	C	5.5-18	2.05	1.64	1.365	.819	.683
19F1740	538-011B-2.5-11	C	2.5-11	2.05	1.64	1.365	.819	.683
19F1741	538-011B-7-25	C	7-25	2.05	1.64	1.365	.819	.683
19F1742	538-011C-3-10	C	3-10	2.05	1.64	1.365	.819	.683
19F1744	538-011D-3-15	C	3-15	2.05	1.64	1.365	.819	.683
19F1745	538-011D-9-35	C	9-35	2.05	1.64	1.365	.819	.683
19F2895	538-011F-15-60	C	15-60	2.34	1.88	1.557	.931	.773
19F2219	538-006A-2-8	D	2-8	1.86	1.49	1.240	.743	.619
19F2220	538-006A-5.5-18	D	5.5-18	1.86	1.49	1.240	.743	.619
19F2221	538-006B-2.5-11	D	2.5-11	1.86	1.49	1.240	.743	.619
19F2222	538-006B-7-25	D	7-25	1.86	1.49	1.240	.743	.619
19F2223	538-006C-3-10	D	3-10	1.86	1.49	1.240	.743	.619
19F2224	538-006C-8-25	D	8-25	1.86	1.49	1.240	.743	.619
19F2225	538-006D-3-15	D	3-15	1.86	1.49	1.240	.743	.619
19F2226	538-006D-9-35	D	9-35	1.86	1.49	1.240	.743	.619
19F2444	538-006F-15-60	D	15-60	2.15	1.73	1.432	.855	.709

STYLE 503 CERAMIC DISC TRIMMERS TO MIL C-81A

Stk. No.	Mil. Type	Cap. Rnge.	Temp. Coef.	1-49	50-99	100-249	250-499	500-999
19F1072	CV11A070	1.5-7	NP0	1.43	1.14	.980	.759	.638
19F1073	CV11A120	3-12	NP0	1.43	1.14	.980	.759	.638
19F1074	CV11A250	4.5-25	NP0	1.43	1.14	.980	.759	.638
19F1075	CV11B130	3-13	N300	1.43	1.14	.980	.759	.638
19F1076	CV11B200	5-20	N300	1.43	1.14	.980	.759	.638
19F1078	CV11C450	7-45	N500	1.43	1.14	.980	.759	.638
19F1080	CV11D450	7-45	N650	1.43	1.14	.980	.759	.638

Filters and Ceramic Trimmers

SUBMINIATURE CERAMIC TRIMMERS

Occupies less than .007 cu. inches of space. Unique base design permits rigid mounting in both printed circuit and point to point wiring applications. Oper. Temp. —55°C to 125°C. WVDC, 100 Torque, .5-3 oz. in.

Stk. No.	Type	1-49	50-99	100-249	250-499	500-999
19F3440 19F3446 19F3447 17F130	518-000A-5-25 518-000A-2.5-9 518-000A-3.5-20 518-000G-7-40	4.95	4.25	3.75	3.50	2.60

SUBMINIATURE EMI FILTER

Min. Attenuation per Mil.-Std. 220A: 50 db from 200 MC to 2000 MC over range from —55 C to 125 C. Working Voltage: 100VDC.

Stock No.	Type	1-9	10-49	50-99	100-249	250-499
19F3061	1250-003	3.36	3.36	2.86	2.35	2.18

LOW PASS EMI SUPRESSION FILTERS

Temp. range: —55°C to 125°C. Miniaturized line of filters rated at 100WVDC to cover the freq. range from 10khz to 10ghz. Filters hermetically sealed.

Stk. No.	Type	Rdc. ohms	1-9	10-49	50-99	100-249
150 VOLT PI SECTION .778x.406						
17F141	9001-100-1013	.25	14.22	13.27	11.85	11.38
200 VOLT PI SECTION .778x.406						
17F142	9001-100-1021	.25	13.92	12.99	11.60	11.14
125 VOLT PI SECTION 1.170x.667						
17F144	9011-100-1000	.35	24.05	22.44	20.04	19.24
17F145	9011-100-1003	.02	22.65	21.14	18.88	18.12
80 VOLT L TYPES .280x.375						
17F209	9051-100-0000	.008	6.00	5.60	5.00	4.80	4.60
80 VOLT C TYPE CAPACITY 1.4 MFD .430x.315						
17F210	9916-100-6000	.004	10.20	9.52	8.50	8.16	7.82

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LOW PASS, HIGH FREQUENCY FILTERS

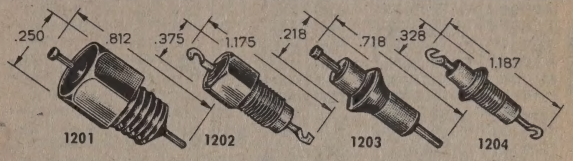
Type 1270. Minimum attenuation 45dB from 200 MHZ to 10 GHZ over temp. range +55°C to +125°C. Capacitance: 1270-009 and -024, 1500 pf. 1270-016 and -025 5000, pf *Denotes nut supplied.

Stock No.	Type	Atten.	1-9	10-49	50-99	100-249	250-499	500-999
19F2455	1270-009*	40 db.	2.20	2.20	1.87	1.54	1.43	1.32
19F2456	1270-016*	40 db.	2.20	2.20	1.87	1.54	1.43	1.32
19F2457	1270-024	50 db.	2.16	1.89	1.62	1.51	1.40	1.30
19F2458	1270-025	50 db.	2.20	2.20	1.87	1.54	1.43	1.32

BROAD BAND EMI FILTERS

Temp. mg.: -55°C. Working volt. 50 VDC at 85°C, 35 VDC @ 105°, 28 VDC at 125°C. Dielectric strength: 110 VDC at 25°C. (50 ma max. changing current.) Thread L—187"

Stk. No.	Type	IDC	1-9	10-49	50-99	100-249	250-499	500-999
19F3048	1200-028	60 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3049	1200-023	150 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3050	1200-024	240 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3051	1200-021	300 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3052	1200-022	450 ma	13.14	12.37	10.82	10.05	9.28	8.50
19F3053	1200-025	10 amps	12.29	11.57	10.12	9.40	8.68	7.95



Specifications for 1201 & 1202. Cap: 1000 mmf. at IKC, .5 to 5 VRMS, 25°C. Working voltage, 200 VDC. Operating temp. range: -55°C to 125°DC. Resistance: 0.01 ohms max. DC and low frequency current 5 amps. max.

Type 1201. Bushing type. Lockwashers and hex nuts supplied. .812 L x .250 Dia.

Type 1202. Same as 1201 but size is 1.175L. x .375 Dia. Hex nuts and lockwashers are supplied.

Stk. No.	Type	1-9	10-49	50-99	100-249	250- 499
19F2452	1201-051	2.40	2.02	1.68	1.56	1.44
19F2110	1201-052	2.40	2.02	1.68	1.56	1.44
19F2112	1202-052	1.84	1.84	1.56	1.29	1.20

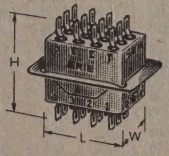
Specifications for 1203 & 1204. Minimum attenuation 50 db from 100 MC to 2000MC over a temp. range of —55°C to 125°C. Cap.: 2000 mmf. min. at 1 KC, 5 to 5 VRMS, 25°C. Working voltage: 500 VDC. DC resistant: 0.10 ohms max. DC and 10W frequency current: 5 amps. max. RF current: 0.25 amps. max.

Type 1203. Miniaturized eyelet type. Size is: .718 L. x .218 Dia.

Type 1204 Eyelet type similar to 1203 but size is: 1.187 L. x .328 Dia.

Stk. No.	Type	1-9	10-49	50-99	100-249	250-499
19F2111	1203-050	1.28	1.28	1.09	.90	.83
19F2113	1204-050	1.20	1.20	1.02	.84	.78

MINIATURE 6 & 12 CHANNEL R.F.I. FILTERS



Minimum attenuation: 45 db from 100-200 Mc, 50 db from 200 Mc to 2000 Mc, over the temp. range of —55°C to +125°C measured in accordance with Mil-Std.-220A. Capacitance: 2500 pf min. at 1Kc, 0.5 to 5 Vrms. 25°C. Working voltage: 350 VDC. Insulation resistance: 20K megohms min. at 100 VDC 25°C (50 ma max. charging current). D.C. resistance: .01 ohms per section. D.C. and low frequency current: 5 amps max. per section.

Type 1212 is 12 channel—**Type 1206** is 6 channel. **Size:** 502—1.125 x .594". 552 and 554—.75 x .437".

Stk. No.	Type	1-9	10-49	50- 99	100-249	250-499
19F3067	1212-502	20.69	20.69	19.21	17.00	16.26
19F3063	1212-554	18.48	17.76	17.05	15.62	14.92
19F3065	1206-502	16.11	16.11	14.96	13.24	13.24
19F3068	1206-554	17.55	16.90	16.20	14.85	14.18

8

MILITARY-TYPE CK05 AND CK06 CAPACITORS

Type CK05 Type CK06

Type CK05 is .200 square by .100 thick. Type CK06 is .300 square by .100 thick. Molded for improved humidity protection and reliability. Tolerance is ±10%. Operating temperature is −55°C to 125°C to meet specifications of MIL-C-11015.

Stock No.	Type	pF	WV DC	1-24	25-49	50-99	100-249	250-499
60F671	CK05BX100K	10	200					
60F673	CK05BX120K	12	200					
60F674	CK05BX150K	15	200	.43	.29	.22	.173	.151
60F676	CK05BX180K	18	200					
60F677	CK05BX220K	22	200					
60F679	CK05BX270K	27	200					
60F680	CK05BX330K	33	200					
60F682	CK05BX390K	39	200	.43	.29	.22	.173	.151
60F683	CK05BX470K	47	200					
60F685	CK05BX560K	56	200					
60F686	CK05BX680K	68	200					
60F688	CK05BX820K	82	200					
60F689	CK05BX101K	100	200	.43	.29	.22	.173	.151
60F691	CK05BX121K	120	200					
60F692	CK05BX151K	150	200					
60F694	CK05BX181K	180	200					
60F695	CK05BX221K	220	200					
60F697	CK05BX271K	270	200	.43	.29	.22	.173	.151
60F698	CK05BX331K	330	200					
60F700	CK05BX391K	390	200					
60F701	CK05BX471K	470	200					
60F703	CK05BX561K	560	200					
60F704	CK05BX681K	680	200	.43	.29	.22	.173	.151
60F706	CK05BX821K	820	200					
60F707	CK05BX102K	1000	200					
60F709	CK05BX122K	1200	100					
12F9145	CK05BX152K	1500	100	.92	.61	.46	.368	.322
12F9146	CK05BX182K	1800	100					
12F9147	CK05BX222K	2200	100					
12F9148	CK05BX272K	2700	100					
12F9149	CK05BX332K	3300	100	.948	.628	.474	.379	.332
12F9150	CK05BX392K	3900	100					
12F9151	CK05BX472K	4700	100					
12F9152	CK05BX562K	5600	100					
12F9153	CK05BX682K	6800	100					
12F9154	CK05BX822K	8200	100	1.10	.729	.550	.440	.385
12F9155	CK05BX103K	10000	100					
12F9156	CK05BX123K	12000	50					
12F9157	CK05BX153K	15000	50	1.21	.803	.606	.485	.424
12F9158	CK05BX183K	18000	50					
12F9159	CK05BX223K	22000	50					
12F9160	CK05BX273K	27000	50	1.21	.803	.606	.485	.424
12F9161	CK05BX333K	33000	50					
12F9162	CK05BX393K	39000	50					
12F9163	CK05BX473K	47000	50	2.04	1.35	1.02	.816	.714
12F9164	CK05BX563K	56000	50	2.36	1.56	1.18	.946	.821
12F9165	CK05BX683K	68000	50	2.36	1.56	1.18	.946	.821
12F9166	CK05BX823K	82000	50	2.71	1.79	1.35	1.08	.95
12F9167	CK05BX104K	1000000	50	3.20	2.12	1.60	1.28	1.12
12F9192	CK06BX122K	1200	200					
60F710	CK06BX152K	1500	200					
60F712	CK06BX182K	1800	200	.66	.44	.33	.264	.231
60F713	CK06BX222K	2200	200					
60F715	CK06BX272K	2700	200					
60F716	CK06BX332K	3300	200					
60F718	CK06BX392K	3900	200					
60F719	CK06BX472K	4700	200	.74	.49	.37	.296	.259
60F721	CK06BX562K	5600	200					
60F722	CK06BX682K	6800	200					
60F724	CK06BX822K	8200	200	.76	.51	.38	.304	.266
60F725	CK06BX103K	10000	200					
12F9168	CK06BX123K	12000	100	.960	.636	.480	.384	.336
12F9169	CK06BX153K	15000	100	.960	.636	.480	.384	.336
12F9170	CK06BX183K	18000	100	1.08	.716	.540	.431	.378
12F9171	CK06BX223K	22000	100	1.08	.716	.540	.431	.378
12F9172	CK06BX273K	27000	100	1.12	.742	.560	.448	.392
12F9173	CK06BX333K	33000	100	1.12	.742	.560	.448	.392
12F9174	CK06BX393K	39000	100	1.32	.875	.660	.528	.462
12F9175	CK06BX473K	47000	100	1.36	.901	.680	.544	.476
12F9176	CK06BX563K	56000	100	1.42	.941	.710	.568	.497
12F9177	CK06BX683K	68000	100	1.42	.941	.710	.568	.497
12F9178	CK06BX823K	82000	100	1.44	.954	.720	.576	.504
12F9179	CK06BX104K	100000	100	1.44	.954	.720	.576	.504
12F9180	CK06BX124K	120000	50	2.20	1.45	1.10	.880	.775
12F9181	CK06BX154K	150000	50	2.20	1.45	1.10	.880	.770
12F9182	CK06BX184K	180000	50	3.04	2.01	1.52	1.21	1.06
12F9183	CK06BX224K	220000	50	3.04	2.01	1.52	1.21	1.06
12F9184	CK06BX274K	270000	50	5.16	3.41	2.58	2.06	1.80
12F9185	CK06BX334K	330000	50	5.16	3.41	2.58	2.06	1.80
12F9186	CK06BX394K	390000	50	7.20	4.77	3.60	2.88	2.52
12F9187	CK06BX474K	470000	50	7.20	4.77	3.60	2.88	2.52
12F9188	CK06BX564K	560000	50	9.20	6.09	4.60	3.68	3.22
12F9189	CK06BX684K	680000	50	9.20	6.09	4.60	3.68	3.22
12F9190	CK06BX824K	820000	50	10.60	7.02	5.30	4.24	3.71
12F9191	CK06BX105K	1000000	50	10.60	7.02	5.30	4.24	3.71

MILITARY CERAMIC DISCS PER MIL-C-11015-C

These general purpose discs rated at 530 VDCW. Units identified by letter A as fifth digit are made to operate from −55° to +85°C. Those with letter B as fifth digit operate from −55°C to +125°C. Tolerances are ±10%, except *±20%. Av. shpg. wt., 2 oz.

Stock No.	Mil. No.	pF	1-99	100-249	250-499	500-999	1000-Up
60F761	CK60BX2R2K	2.2	.08	.06	.05	.04	.03
60F762	CK60BX3R3K	3.3	.08	.06	.05	.04	.03
60F763	CK60BX4R7K	4.7	.08	.06	.05	.04	.03
60F765	CK60BX100K	10.0	.08	.06	.05	.04	.03
60F766	CK60BX150K	15	.08	.06	.05	.04	.03
60F767	CK60BX220K	22	.08	.06	.05	.04	.03
60F768	CK60BX330K	33	.08	.06	.05	.04	.03
60F769	CK60BX330M*	33	.08	.06	.05	.04	.03
60F770	CK60BX470K	47	.08	.06	.05	.04	.03
60F771	CK60BX470M*	47	.08	.06	.05	.04	.03
60F772	CK60BX680K	68	.08	.06	.05	.04	.03
60F773	CK60BX680M*	68	.08	.06	.05	.04	.03
60F774	CK60BX101K	100	.08	.06	.05	.04	.03
60F775	CK60BX101M*	100	.08	.06	.05	.04	.03
60F776	CK60BX151K	150	.08	.06	.05	.04	.03
60F778	CK60BX221K	220	.08	.06	.05	.04	.03
60F779	CK60AX221M*	220	.08	.06	.05	.04	.03
60F780	CK60AX331K	330	.08	.06	.05	.04	.03
60F781	CK60AX331M*	330	.08	.06	.05	.04	.03
60F782	CK60AX471K	470	.08	.06	.05	.04	.03
60F783	CK60AX471M*	470	.08	.06	.05	.04	.03
12F9001	CK60AW471M*	470	.08	.06	.05	.04	.03
60F784	CK60AW681M*	680	.08	.06	.05	.04	.03
60F785	CK60AW821M*	820	.08	.06	.05	.04	.03
60F786	CK60AW102M*	1000	.08	.06	.05	.04	.03
60F787	CK60AW152M*	1500	.08	.06	.05	.04	.03
60F788	CK61BX221K	220	.08	.06	.05	.04	.03
12F9002	CK61BX221M*	220	.08	.06	.05	.04	.03
60F790	CK61BX331K	330	.08	.06	.05	.04	.03
60F791	CK61BX331M*	330	.08	.06	.05	.04	.03
60F792	CK61BX471K	470	.08	.06	.05	.04	.03
60F793	CK61BX471M*	470	.08	.06	.05	.04	.03
60F794	CK61BX681K	660	.08	.06	.05	.04	.03
60F795	CK61BX681M*	680	.08	.06	.05	.04	.03
60F796	CK61AW222M*	2200	.08	.06	.05	.04	.03
60F4030	CK62AY470M*	47	.10	.08	.06	.05	.04
60F4031	CK62AY101M*	100	.10	.08	.06	.05	.04
60F4032	CK62AY221M*	220	.10	.08	.06	.05	.04
60F4033	CK62AY471M*	471	.10	.08	.06	.05	.04
17F1860	CK62BX821K	820	.10	.08	.06	.05	.04
60F799	CK62BX102K	1000	.10	.08	.06	.05	.04
60F800	CK62BX102M*	1000	.10	.08	.06	.05	.04
60F801	CK62BX152K	1500	.10	.08	.06	.05	.04
60F802	CK62BX152M*	1500	.10	.08	.06	.05	.04
60F803	CK62AX222K	2200	.10	.08	.06	.05	.04
60F804	CK62AX222M	2200	.10	.08	.06	.05	.04
60F805	CK62AW322M*	3300	.10	.08	.06	.05	.04
60F806	CK62AW472M*	4700	.10	.08	.06	.05	.04
60F807	CK62AW682M*	6800	.10	.08	.06	.05	.04
60F809	CK63BX222K	2200	.15	.12	.09	.08	.06
60F810	CK63BX222M*	2200	.10	.08	.06	.05	.04
60F811	CK63BX332K	3300	.15	.12	.09	.08	.06
60F812	CK63BX332M*	3300	.10	.08	.06	.05	.04
17F1861	CK63AW472M*	4700	.10	.08	.06	.05	.04
60F813	CK63AW103M*	10,000	.10	.08	.06	.05	.04

Miniature Ceramic Capacitors

AVX

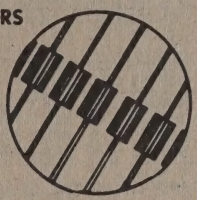
CK12, CK13, CK14, CK15, CK16 CERAMIC DIELECTRIC CAPACITORS

General purpose ceramic dielectric per MIL-C-11015D. Non-conductive material. 1.25 inches long x .004 inches diameter leads. ±10% tolerance.

Stock No.	Type	Volts	Cap. pF	1-24	25-49	50-99	100-249	250-499
16F2130	CK12BX100K	100	10					
12F9241	CK12BX120K	100	12					
16F2131	CK12BX150K	100	15					
12F9242	CK12BX180K	100	18					
16F2132	CK12BX220K	100	22					
12F9243	CK12BX270K	100	27					
12F9244	CK12BX330K	100	33	.86	.57	.43	.342	.295
12F9245	CK12BX390K	100	39					
12F9246	CK12BX470K	100	47					
12F9247	CK12BX560K	100	56					
12F9248	CK12BX680K	100	68					
12F9249	CK12BX820K	100	82					
12F9250	CK12BX101K	100	100					
12F9251	CK12BX121K	100	120					
12F9252	CK12BX151K	100	150					
12F9253	CK12BX181K	100	180					
12F9254	CK12BX221K	100	220					
12F9255	CK12BX271K	100	270					
12F9256	CK12BX331K	100	330					
12F9257	CK12BX391K	100	390					
12F9258	CK12BX471K	100	470					
12F9259	CK12BX561K	100	560					
12F9260	CK12BX681K	100	680					
12F9261	CK12BX821K	100	820	.86	.57	.43	.342	.295
12F9262	CK12BX102K	100	1000					
12F9263	CK12BX122K	100	1200					
12F9264	CK12BX152K	100	1500					
12F9265	CK12BX182K	100	1800					
12F9266	CK12BX222K	100	2200					
12F9267	CK12BX272K	100	2700					
12F9268	CK12BX322K	100	3300					
12F9269	CK12BX392K	100	3900					
12F9270	CK12BX472K	100	4700					
12F9271	CK12BX562K	50	5600					
12F9272	CK12Bx682K	50	6800	.94	.63	.47	.374	.323
12F9273	CK12Bx822K	50	8200	.94	.63	.47	.374	.323
12F9274	CK12Bx103K	50	10000	.94	.63	.47	.374	.323
12F9275	CK13Bx562K	100	5600	.99	.66	.49	.395	.341
12F9276	CK13Bx682K	100	6800	.99	.66	.49	.395	.341
12F9277	CK13Bx822K	100	8200	.99	.66	.49	.395	.341
12F9278	CK13Bx103K	100	10000	.99	.66	.49	.395	.341
12F9279	CK13Bx123K	50	12000	1.09	.73	.55	.437	.377
12F9280	CK13Bx153K	50	15000	1.09	.73	.55	.437	.377
12F9281	CK13Bx183K	50	18000	1.09	.73	.55	.437	.377
12F9282	CK13Bx223K	50	22000	1.09	.73	.55	.437	.377

MC71 CERAMIC CAPACITORS

For automatic insertion into printed circuit boards. Supplied with gold-plated No. 26 gauge dumet leads. 100 VDCW. Cerafil construction. .250" long x .090" diameter. Capacity tolerance: ±10%. Axial leads.



Stock No.	Type No.	Cap. pF	1-24	25-49	50-99	100-249	250-499
12F9113	MC71A100K	10					
12F9114	MC71A120K	12					
12F9115	MC71A150K	15	.99	.66	.49	.395	.346
12F9116	MC71A180K	18					
12F9117	MC71A220K	22					
12F9118	MC71A270K	27					
12F9119	MC71A330K	33	.99	.66	.49	.395	.346
12F9120	MC71A390K	39					
12F9121	MC71A470K	47					
12F9122	MC71A510K	51					
12F9123	MC71A560K	56					
12F9124	MC71A620K	62	.99	.66	.49	.395	.346
12F9125	MC71A680K	68					
12F9126	MC71A750K	75					
12F9127	MC71A820K	82					
12F9128	MC71A910K	91					
12F9129	MC71A101K	100					
12F9130	MC71A121K	120					
12F9131	MC71A151K	150	.99	.66	.49	.395	.346
12F9132	MC71A181K	180					
12F9133	MC71B221K	220					
12F9134	MC71B271K	270					
12F9135	MC71B331K	330					
12F9136	MC71B391K	390	.99	.66	.49	.395	.346
12F9137	MC71B471K	470					
12F9138	MC71B561K	560					
12F9139	MC71B681K	680	.99	.66	.49	.395	.346
12F9140	MC71B821K	820	.99	.66	.49	.395	.346
12F9141	MC71B102K	1000	.99	.66	.49	.395	.346
12F9142	MC71B122K	1200	.99	.66	.49	.395	.346
12F9143	MC71B152K	1500	.99	.66	.49	.395	.340
12F9144	MC71B182K	1800	.99	.66	.49	.395	.346

Stock No.	Type	Volts	Cap pF	1-24	25-49	50-99	100-249	250-499
12F9283	CK13BR273K	50	27000	1.45	.97	.72	.579	.500
12F9284	CK13BR333K	50	33000	1.45	.97	.72	.579	.546
12F9285	CK13BR393K	50	39000	1.58	1.06	.79	.634	.546
12F9286	CK13BR473K	50	47000	1.58	1.06	.79	.634	.622
12F9287	CK14X123K	100	12000	1.80	1.20	.90	.722	.622
12F9288	CK14BX153K	100	15000	1.80	1.20	.90	.722	.622
12F9289	CK14BX183K	100	18000	1.80	1.20	.90	.722	.622
12F9290	CK14X223K	100	22000	1.80	1.20	.90	.722	.622
12F9291	CK14BX273K	100	27000	1.80	1.20	.90	.722	.738
12F9292	CK14BX333K	100	33000	2.14	1.43	1.07	.856	.738
12F9293	CK14BX393K	100	39000	2.14	1.43	1.07	.856	.738
12F9294	CK14BX473K	100	47000	2.14	1.43	1.07	.856	.869
12F9295	CK14BR563K	100	56000	2.52	1.68	1.26	1.008	.869
12F9296	CK14BR683K	100	68000	2.52	1.68	1.26	1.008	.869
12F9297	CK14BR823K	100	82000	2.52	1.68	1.26	1.008	.869
12F9298	CK14BR104K	100	100000	2.52	1.68	1.26	1.008	.869
12F9299	CK14BR124K	50	120000	3.16	2.11	1.58	1.264	1.090
12F9300	CK14BR154K	50	150000	3.16	2.11	1.58	1.264	1.090
12F9301	CK14BR224K	50	220000	4.36	2.91	2.18	1.744	1.504
12F9302	CK14BR274K	50	270000	5.16	3.44	2.58	2.064	1.780
12F9303	CK15BX104K	100	10000	2.79	1.86	1.39	1.115	.962
12F9304	CK15BR124K	100	120000	3.72	2.48	1.86	1.488	1.283
12F9305	CK15BR154K	100	150000	3.72	2.48	1.86	1.488	1.283
12F9306	CK15BR18K	100	180000	4.08	2.72	2.04	1.632	1.408
12F9307	CK15BR224K	100	220000	4.08	2.72	2.04	1.632	1.498
12F9308	CK15BR274K	100	270000	5.80	3.87	2.90	2.320	2.001
12F9309	CK15BR334K	100	330000	5.80	3.87	2.90	2.320	2.001
12F9310	CK15BR474K	50	470000	8.80	5.87	4.40	3.520	3.036
12F9311	CK15BR105K	50	1000000	13.00	8.68	6.50	5.200	4.485
12F9312	CK16BR474K	100	470000	24.64	16.45	12.32	9.856	8.501
12F9313	CK16BR105K	100	1000000	17.22	12.90	10.32	10.32	8.901
12F9314	CK16BR225K	50	2200000	19.22	14.40	11.52	11.52	9.936
12F9315	CK16BR335K	50	3300000	24.03	18.00	14.40	14.40	12.420

ULA CERAMIC CHIP CAPACITORS

Especially suited to hybrid circuitry. Encapsulated ready to solder. 3 temp. coefficients available. A-0± 30 ppm; B—±7.5%; C—±15%. Size: ULA101,105: .075x050x.050.

TOLERANCE 5%

Stock No.	Type ULA	Cap. pF	V.	1-24	25-49	50-99	100-249	250-499
12F9091	101A330J	33	100	.64	.42	.32	.256	.224
12F9092	101A470J	47	100	.64	.42	.32	.256	.224
12F9093	105A680J	68	50	.64	.42	.32	.256	.224
12F9094	105A101J	100	50	.64	.42	.32	.256	.224
12F9095	105A151J	150	50	.64	.42	.32	.256	.224
12F9096	105A221J	220	50	.68	.45	.34	.272	.238
12F9097	101B331J	330	100	.76	.50	.38	.304	.266
12F9098	105B471J	470	50	.68	.45	.34	.272	.238
12F9099	105B681J	680	50	.72	.48	.36	.288	.252
12F9100	105B102J	1000	50	.72	.48	.36	.288	.252

TOLERANCE 10%

12F9101	105B152K	1500	50	.44	.29	.22	.176	.154
12F9102	101C222K	2200	100	.44	.29	.22	.176	.154
12F9103	105C332K	3300	50	.44	.29	.22	.176	.154
12F9104	105C472K	4700	50	.44	.29	.22	.176	.154
12F9105	105C682K	6800	50	.48	.32	.24	.192	.168
12F9106	105C103K	10000	50	.48	.32	.24	.192	.168
12F9107	105C153K	15000	50	.48	.32	.24	.192	.168
12F9108	105C223K	22000	50	.48	.32	.24	.192	.168
12F9109	105C333K	33000	50	.52	.35	.26	.208	.182
12F9110	105C473K	47000	50	.64	.42	.32	.256	.224
12F9111	105C683K	68000	50	.76	.50	.38	.304	.266
12F9112	105C104K	100000	50	.84	.56	.42	.336	.294

8

High Voltage Capacitors

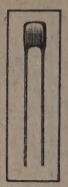
AVX 3400 SKY CAP EPOXY-DIPPED MONOLITHIC CAPACITORS

TEMP. CHARACTERISTIC NPO

Stk. No.	Type	µf	1-49	50-99
20F1300	3417-100A-4R7D	4.7	.22	.176
20F1301	3417-100A-6R8D	6.8	.22	.176
20F1302	3417-100A-100K	10	.22	.176
20F1303	3418-100A-150K	15	.24	.192
20F1304	3418-100A-220K	22	.24	.192
20F1305	3419-100A-330K	33	.30	.24
20F1306	3419-100A-470K	47	.32	.256
20F1307	3419-100A-680K	68	.32	.256
20F1308	3419-100A-101K	100	.34	.272
20F1309	3419-100A-151K	150	.38	.304
20F1310	3419-100A-221K	220	.42	.336
20F1311	3419-100A-331K	330	.50	.40
20F1312	3419-100A-471K	470	.58	.464
20F1313	3419-100A-681K	680	.68	.544
20F1314	3419-100A-102K	1000	.86	.688
20F1315	3420-100A-152K	1500	.68	.544
20F1316	3420-100A-222K	2200	.90	.72
20F1317	3420-100A-332K	3300	1.18	.944
20F1318	3421-100A-472K	4700	1.70	1.36
20F1319	3421-100A-682K	6800	2.32	1.856
20F1320	3421-100A-103K	10000	3.02	2.416

TEMP. CHARACTERISTIC X7R

Stk. No.	Type	µf	1-49	50-99
20F1321	3417-100C-151K	150	.24	.192
20F1322	3417-100C-221K	220	.24	.192
20F1323	3417-100C-331K	330	.24	.192
20F1324	3418-100C-471K	470	.24	.192
20F1325	3418-100C-681K	680	.24	.192
20F1326	3419-100C-102K	1000	.22	.176
20F1327	3419-100C-152K	1500	.26	.208
20F1328	3419-100C-222K	2200	.27	.216
20F1329	3419-100C-332K	3300	.28	.224
20F1330	3419-100C-472K	4700	.30	.24
20F1331	3419-100C-682K	6800	.32	.256
20F1332	3419-100C-103K	10000	.33	.264
20F1333	3420-100C-153K	15000	.38	.304
20F1334	3420-100C-223K	22000	.40	.32
20F1335	3420-100C-333K	33000	.48	.384
20F1336	3420-100C-473K	47000	.52	.416
20F1337	3420-100C-683K	68000	.60	.48
20F1338	3420-100C-104K	100000	.68	.544
20F1339	3421-100C-154K	150000	2.24	1.792
20F1340	3421-100C-224K	220000	2.36	1.888
20F1341	3422-100C-334K	330000	2.96	2.368
20F1342	3422-100C-474K	470000	3.84	3.072



Feature environmental performance to MIL-C-11015 or MIL-C-20. Epoxy-dipped monolithic construction with solder-coated copper leads. Flash test voltage is three times rated voltage.

100 VDC

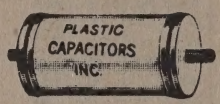
TEMPERATURE CHARACTERISTIC NPO. Cap. Change: ±30 ppm. Temp. Range: -55°C to +125°C. Max. Dissipation: 0.1% initial, 30 pF and higher; 0.2%, 1 V rms post. Tolerance: ±10%.

TEMPERATURE CHARACTERISTIC X7R. Cap. Change: ±15%. Temp. Range: -55°C. to +125°C. Max. Dissipation: 2.0% initial; 2.5%, 1 V rms. Tolerance: ±10% as listed.

PLASTIC CAPACITORS, INC.

TYPE "OF" HIGH VOLTAGE GLASS CAPACITORS

Stk. No	Type OF	Cap. Mfd.	Volts	Size	1-9	10-24	25-49	50-99	100-249
19F700	20-103	.01	2000	13_{16}x19_{32}"	3.65	3.65	3.25	2.94	2.57
19F701	20-503	.05	2000	$1^{3}4$x3^{4}"	3.93	3.93	3.55	3.19	2.77
19F702	20-104	.10	2000	$2^{1}4$x3^{4}"	4.45	4.45	4.01	3.61	3.13
19F703	20-254	.25	2000	$2^{3}4$x$2^{29}32$"	5.07	5.07	4.57	4.08	3.58
19F704	30-103*	.01	3000	$1^{9}16$x$1^{9}32$"	4.01	3.94	3.66	3.36	2.59
19F705	30-203	.02	3000	$1^{3}4$x3^{4}"	4.29	4.21	3.82	3.64	2.77
19F706	30-503	.05	3000	$2^{1}4$x3^{4}"	4.36	4.28	4.01	3.73	2.85
19F707	30-104	.10	3000	$1^{3}4$x$1^{1}8$"	5.12	5.02	4.67	4.33	3.30
19F1290	30-254	.25	3000	2x$1^{3}8$"	5.77	5.67	5.25	4.87	3.71
19F1291	30-504	.50	3000	$2^{3}4$x$1^{5}8$"	7.20	7.06	6.58	6.11	4.63
19F708	50-103	.01	5000	$1^{3}4$x3^{4}"	5.44	5.44	4.88	4.55	3.97
19F709	50-203	.02	5000	$2^{1}4$x3^{4}"	6.06	6.06	5.36	5.06	4.33
19F710	50-503	.05	5000	$2^{1}4$x$2^{29}32$"	6.59	6.59	5.76	5.45	4.66
19F711	50-104	.10	5000	$2^{1}4$x$1^{3}8$"	8.84	8.84	7.80	7.33	6.27
19F1992	50-102	.001*	5000	$1^{3}16$x$1^{9}32$"	5.36	5.36	4.75	4.45	3.84
19F1293	50-502	.005	5000	$1^{5}8$x$1^{9}32$"	5.41	5.41	4.80	4.52	3.90
19F1294	50-254	.25	5000	3x$1^{5}8$"	11.11	11.11	9.83	9.25	7.96
19F1295	50-504	.50	5000	6x$1^{5}8$"	12.80	12.80	11.28	10.68	9.14
19F1296	80-502*	.005	8000	$1^{3}4$x3^{4}"	5.75	5.75	5.06	4.75	4.18
19F1297	80-103	.01	8000	$2^{1}4$x3^{4}"	6.37	6.15	5.45	5.14	4.43
19F1298	80-104	.10	8000	$3^{5}8$x$1^{5}8$"	11.72	10.07	9.40	8.60	7.22
19F712	100-102*	.001	10KV	$1^{5}8$x$1^{9}32$"	5.72	5.72	4.98	4.81	4.21



Plastic film dielectric. Useful for high voltage power filter. Mount in any position. Temperature range—55°C to +185°C. Tolerance ±10%. 3/8x8-32 screw terminals except * marked have tinned copper pigtails. Heavy wall, hard glass case.

Stk. No	Type	Cap. Mfd.	Volts	Size	1-9	10-24	25-49	50-99	100-249
19F713	100-502	.005	10KV	$1^{3}4$x$1^{3}16$"	6.94	6.36	5.75	5.40	4.69
19F714	100-103	.01	10KV	$2^{1}4$x$2^{29}32$"	7.66	7.02	6.36	5.96	5.19
19F715	100-203	.02	10KV	$2^{3}4$x$1^{1}8$"	10.12	9.23	8.34	7.84	6.80
19F1299	150-103	.01	15KV	$3^{3}4$x$1^{1}8$"	12.29	11.23	10.19	9.51	8.32
19F716	200-102	.001	20KV	$3^{1}2$x3^{4}"	11.75	10.70	9.66	8.83	7.55
19F717	200-202	.002	20KV	$3^{1}2$x$1^{3}16$"	12.18	11.07	10.02	9.12	7.85
19F718	200-502	.005	20KV	$3^{1}2$x$1^{1}8$"	13.07	11.90	10.76	9.80	8.45
19F719	200-103	.01	20KV	$4^{1}2$x$1^{1}8$"	15.56	14.14	12.71	11.68	10.02
19F720	300-501*	.0005	30KV	$4^{9}16$x$1^{9}32$	11.84	10.75	9.73	8.95	7.68
19F722	300-202	.002	30KV	5x$2^{9}32$"	18.89	17.30	15.55	14.17	12.14
19F723	300-502	.005	30KV	5x$1^{3}8$"	23.24	21.07	18.60	17.45	15.24
19F724	600-501	.0005	60KV	10x3^{4}"	20.98	19.24	17.48	16.18	13.56
19F725	600-102	.001	60KV	10x$2^{9}32$"	25.30	23.24	20.70	19.56	16.39
19F726	600-202	.002	60KV	10x$1^{3}8$"	27.28	24.98	22.74	21.03	17.62

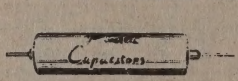
200 WORKING VOLTS DC

Stk. No.	Type	Mfd.	Size	1-24	25-49	50-99	100-249
19F1562	AM2-104	.1	.235x$1^{3}16$	1.47	1.14	1.05	.94
19F1564	AM2-224	.22	.312x$1^{3}16$	1.50	1.18	1.07	.96
19F1568	AM2-105	1.0	.562x$1^{1}8$	2.11	1.65	1.51	1.36
19F1569	AM2-205	2.0	.670x$1^{5}16$	2.89	2.25	2.07	1.85
19F1571	AM2-505	5.0	.750x$1^{1}3_{16}$	3.82	2.96	2.72	2.44
19F1572	AM2-805	8.0	1.000x$1^{1}3_{16}$	5.64	4.38	4.02	3.60
19F1573	AM2-106	10.0	1.000x$2^{5}16$	7.25	5.64	5.19	4.64

300 WORKING VOLTS DC

19F1580	AM3-104	.10	.312x$1^{3}16$	1.48	1.15	1.06	.95
19F1583	AM3-334	.33	.400x$1^{1}8$	1.72	1.33	1.23	1.10
19F1586	AM3-105	1.0	.562x$1^{9}16$	2.37	1.84	1.70	1.51

TYPE AM METAL CLAD MINIATURE CAPACITORS



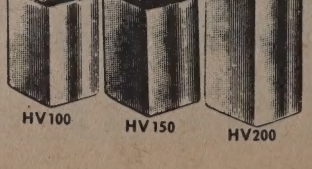
- Metalized MylarFilm
- Solid Dielectric
- Hermetically Sealed
- Non-inductive
- Construction

Type AM metal clad miniature capacitors utilize metalized mylar film as the solid dielectric and are hermetically sealed. High performance exceeding the most rigid tests for humidity and temperature. Windings are extended foil (non inductive) construction. The capacitors are self healing and non-sparking. Tolerance is 20%. Sizes shown are for diameter and length. Power factor is less than 1% at 25°C. Temp. Range +125°C.

HIGH VOLTAGE D.C. POWER PACKS

- Long-life Selenium Rectifiers Provide Instant Operation
- Output from Zero to Rated Voltage by Adjusting Input
- Positive or Negative Polarity • Mount in Any Position

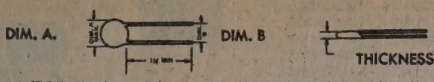
Stk. No.	Type	KV	MA	Size	Wt. Lbs.	NET
19F3673	HV10-103M	0-1	10	$3^{3}4$x$2^{1}4$x$3^{3}8$	2	71.87
19F3675	HV20-152M	0-2	1.5	$3^{3}4$x$1^{3}4$ $3^{3}8$	1	69.47
19F1285	HV20-502M	0-2	5	$3^{3}4$x$2^{1}4$x$3^{3}8$	$2^{1}2$	86.84
19F3677	HV25-103M	0-2.5	10	$3^{3}4$x$2^{1}4$x$3^{3}4$	3	88.64
19F3676	HV50-152M	0-5	1.5	$3^{3}4$x$2^{1}4$x$3^{3}8$	2	72.47
19F1286	HV50-502M	0-5	5	$3^{3}4$x$2^{1}4$x$3^{3}4$	$3^{1}4$	88.40
19F3678	HV50-103M	0-5	10	$3^{3}4$x$4^{9}16$x$5^{7}8$	11	113.79
19F3679	HV100-152M	0-10	1.5	$3^{3}4$x$3^{3}16$x$4^{1}2$	4	95.82
19F1287	HV100-502M	0-10	5	$3^{3}4$x$4^{9}16$x$5^{7}8$	$8^{1}8$	121.58
19F3680	HV100 103M	0-10	10	$3^{3}4$x$4^{9}16$x8	12	155.71
19F3681	HV150-152M	0-15	1.5	$3^{3}4$x$3^{3}15$x$5^{1}2$	5	127.57
19F3682	HV150-502M	0-15	5	$3^{3}4$x$4^{9}16$x$6^{1}8$	11	137.74
19F3684	HV300-502M	0-30	5	$4^{1}1_{16}$x6x$8^{1}2$	22	233.57
19F3686	HV500-502M	0-50	5	$5^{5}8$x$7^{3}8$x$12^{1}8$	40	292.26
19F3687	HV750-152M	0-75	1.5	$5^{5}8$x$7^{3}8$x$12^{1}8$	45	512.66
19F1288	HV200-152M	0-20	1.5	$3^{3}4$x$4^{9}16$x$5^{7}8$	9	129.67
19F1289	HV200-502M	0-20	5	$3^{3}4$x$4^{9}16$x8	12	162.90



Hermetically sealed, oil filled, hot-tinned or lead coated plate steel container with enamel coating. 118 volt 60 Hz input. Output operation from zero to rated voltage by adjusting input. All units have positive or negative polarity. Long life rectifiers requiring no warm-up for rectifier filaments. May be mounted in any position. Max. ambient 85°C. Supplied with footed brackets.

Disc Ceramic/Miniature Aluminum Capacitors

LOW VOLTAGE MINIATURE DISC CERAMIC CAPACITORS



Type TCD designed for low voltage transistor circuitry. All units coated with "Durez" coating. Tinned #22 annealed wire. .156" thick unless otherwise indicated.

SIZE CHART

Code	Dim. A	Dim. B	Code	Dim. A	Dim. B	Code	Dim. A	Dim. B
A	.290"	.250"	G	.276"	.250"	P	.395"	.250"
B	.385"	.250"	H	.315"	.250"	Q	.475"	.250"
C	.590"	.375"	J	.355"	.375"	R	.530"	.250"
D	.690"	.375"	K	.473"	.375"	S	.590"	.375"
E	.394"	.250"	L*	.721"	.375"	T	.750"	.375"
F	.473"	.250"	M	.315"	.250"	(*) .171" Thickness		

50 VDCW ±20% TOL. Z5U

Stk. No.	Type	Mfd.	Size	1-99	100-999	1000-9999
67F300	TCD-103M	.010	E	.21	.052	.045
67F301	TCD-153M	.015	F	.21	.054	.047
67F302	TCD-233M	.022	F	.21	.056	.049
67F303	TCD-333M	.033	F	.23	.062	.054
67F304	TCD-473M	.047	C	.32	.084	.074
67F305	TCD-503M	.050	C	.35	.094	.076

50 VDCW +80, −20% TOL. Z5V

67F306	TCD-502Z	.005	G	.14	.035	.030
67F307	TCD-103Z	.010	H	.14	.036	.031
67F308	TCD-203Z	.020	J	.14	.039	.035
67F309	TCD-253Z	.025	K	.18	.048	.043
67F310	TCD-303Z	.030	K	.21	.052	.045
67F311	TCD-503Z	.050	K	.23	.060	.053
67F312	TCD-683Z	.068	L	.53	.139	.122
67F313	TCD-104Z	.100	L	.57	.147	.129

100 VDCW ±20% TOL. Z5U

67F314	TCP-R005	.005	M	.16	.044	.038
67F315	TCP-R01	.01	P	.18	.048	.043
67F316	TCP-R02	.02	Q	.21	.056	.049
67F317	TCP-R025	.025	R	.30	.079	.069
67F318	TCP-R03	.03	S	.32	.083	.072
67F319	TCP-R05	.05	T	.53	.136	.118

1000 VDCW GENERAL PURPOSE LORCP CAPACITORS

Ceramic disc capacitors with phenolic coating and high temperature wax impregnation. Tol: (*), ±.5pf; (†), GMV, (‡), ±20%. All others ±10%.

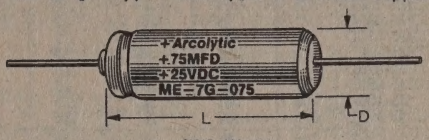
Stk. No.	Type	Pf.	Size	1-24	25-99	100-999	1000-4999
67F320	CCD-3R3	3.3*	A	.18	.15	.047	.043
67F321	CCD-050	5	A	.15	.13	.037	.032
67F322	CCD-6R8	6.8	A	.18	.15	.047	.043
67F323	CCD-080	8	A	.15	.13	.037	.032
67F324	CCD-100	10	A	.15	.13	.037	.032
67F325	CCD-180	18	A	.15	.13	.037	.032
67F326	CCD-200	20	A	.15	.13	.037	.032
67F327	CCD-220	22	A	.15	.13	.037	.032
67F328	CCD-270	27	A	.15	.13	.037	.032
67F329	CCD-300	30	A	.15	.13	.037	.032
67F330	CCD-330	33	A	.15	.13	.037	.032
67F331	CCD-330M	33‡	A	.12	.08	.032	.026
67F332	CCD-390	39	A	.15	.13	.037	.032
67F333	CCD-470	47	A	.15	.13	.037	.032
67F334	CCD-500	50	A	.15	.13	.037	.032
67F335	CCD-510	51	A	.15	.13	.037	.032
67F336	CCD-560	56	A	.15	.13	.037	.032
67F338	CCD-680	68	A	.15	.13	.037	.032
67F339	CCD-750	70	A	.15	.13	.037	.032
67F340	CCD-820	82	A	.15	.13	.037	.032
67F341	CCD-101	100	A	.15	.13	.037	.032
67F343	CCD-121	120	A	.17	.14	.037	.032
67F344	CCD-151	150	A	.17	.14	.037	.032
67F345	CCD-181	180	A	.17	.14	.037	.032
67F346	CCD-201	200	A	.17	.14	.037	.032
67F347	CCD-221	220	A	.17	.14	.037	.032
67F348	CCD-241	240	A	.17	.14	.037	.032
67F349	CCD-251	250	A	.17	.14	.037	.032
67F350	CCD-271	270	A	.17	.14	.037	.032
67F351	CCD-301	300	A	.17	.14	.037	.032
67F352	CCD-331	330	A	.17	.14	.037	.032
67F353	CCD-351	350	A	.17	.14	.037	.032
67F354	CCD-361	360	A	.17	.14	.037	.032
67F355	CCD-391	390	A	.17	.14	.037	.032
67F356	CCD-401	400	A	.17	.14	.037	.032
67F357	CCD-471	470	A	.17	.14	.037	.032
67F358	CCD-501	500	A	.17	.14	.037	.032
67F359	CCD-511	510	A	.17	.14	.037	.032
67F360	CCD-561	560	A	.17	.14	.037	.032
67F361	CCD-601	600	A	.17	.14	.037	.032
67F362	CCD-681	680	A	.17	.14	.037	.032
67F363	CCD-751	750	A	.17	.14	.037	.032
67F364	CCD-801G	800†	A	.17	.14	.037	.032
67F365	CCD-821	820‡	A	.17	.14	.037	.032
67F366	CCD-911	910‡	A	.17	.14	.037	.032
67F367	CCD-102	1000	B	.17	.14	.037	.032
67F368	CCD-102G	1000‡	A	.15	.13	.034	.030

1000 VDCW (Con't)

Stk. No.	Type	Pf.	Size	1-24	25-99	100-999	1000-4999
67F369	CCD-132	1300	B	.18	.15	.037	.032
67F370	CCD-152	1500‡	B	.18	.15	.037	.032
67F371	CCD-152G	1500†	A	.18	.15	.037	.032
67F372	CCD-182	1800‡	B	.18	.15	.037	.032
67F373	CCD-202G	2000†	B	.18	.15	.037	.032
67F374	CCD-222G	2200†	B	.18	.15	.037	.032
67F375	CCD-252G	2500†	B	.19	.16	.047	.043
67F376	CCD-272G	2700†	B	.19	.16	.047	.043
67F377	CCD-302G	3000†	B	.19	.16	.047	.043
67F378	CCD-332G	3300†	C	.19	.16	.059	.056
67F379	CCD-402G	4000†	C	.19	.16	.047	.043
67F380	CCD-472	4700‡	C	.19	.16	.059	.056
67F381	CCD-502	5000	C	.19	.16	.059	.056
67F382	CCD-562G	5600†	C	.19	.16	.065	.062
67F383	CCD-682G	6800†	C	.19	.16	.065	.062
67F384	CCD-822G	8200†	D	.21	.17	.084	.079
67F385	CCD-103	10000‡	D	.21	.17	.084	.079

ME SERIES MINIATURE ALUMINUM ELECTROLYTICS

Designed for latest transistorized circuitry. All-welded construction. Insulated. Temp Range: −30 to 85°C. Tol: −10%, +100%. Axial lead Length: 1¼" minimum, #20 or 22 tinned copper.



SIZE CHART

Code	Dia.	Lgth.	Code	Dia.	Lgth.
A	.219"	.563"	E	.406"	.844"
B	.250"	.625"	F	.406"	1.188"
C	.344"	.750"	G	.331"	.625"
D	.406"	1.031"			

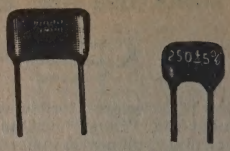
Stk. No.	Type	Mfd.	VDCW	Size	1-49	50-99	100-Up
67F386	ME4A125	125	3	C	.46	.36	.31
67F387	ME4A150	150	3	E	.49	.38	.33
67F388	ME4A200	200	3	E	.51	.40	.33
67F389	ME7A300	300	3	E	.66	.51	.43
67F390	ME7A400	400	3	E	.66	.51	.43
67F391	ME7A500	500	3	F	.76	.59	.49
67F392	ME2B030	30	6	B	.44	.35	.30
67F393	ME2B040	40	6	B	.44	.35	.30
67F394	ME2B050	50	6	B	.46	.36	.31
67F395	ME2B060	60	6	B	.46	.36	.31
67F396	ME3B075	75	6	C	.46	.36	.31
67F397	ME3B100	100	6	C	.46	.36	.31
67F398	ME6B125	125	6	C	.49	.38	.33
67F399	ME8B300	300	6	E	.68	.53	.43
67F400	ME8B400	400	6	E	.70	.54	.45
67F401	ME8B500	500	6	F	.76	.59	.49
67F402	ME1E005	5	15	A	.42	.33	.28
67F403	ME1E006	6	15	A	.42	.33	.28
67F404	ME1E008	8	15	A	.42	.33	.28
67F405	ME2E015	15	15	B	.44	.35	.30
67F406	ME2E020	20	15	B	.44	.35	.30
67F407	ME2E025	25	15	B	.44	.35	.30
67F408	ME3E030	30	15	C	.46	.36	.31
67F409	ME3E035	35	15	C	.46	.36	.31
67F410	ME3E040	40	15	C	.46	.36	.31
67F411	ME3E050	50	15	C	.46	.36	.31
67F412	ME4E100	100	15	E	.51	.40	.33
67F413	ME6E150	150	15	F	.58	.47	.39
67F414	ME6E200	200	15	F	.58	.47	.39
67F415	ME8E250	250	15	F	.58	.47	.39
67F416	ME1G003	3	25	A	.42	.33	.28
67F417	ME1G004	4	25	A	.42	.33	.28
67F418	ME2G008	8	25	B	.44	.35	.30
67F419	ME2G010	10	25	B	.44	.35	.30
67F420	ME3G015	15	25	C	.44	.35	.30
67F421	ME3G020	20	25	C	.46	.36	.31
67F422	ME3G025	25	25	G	.46	.36	.31
67F423	ME3G030	30	25	C	.46	.36	.31
67F424	ME4G035	35	25	C	.46	.36	.31
67F425	ME4G040	40	25	E	.46	.36	.31
67F426	ME4G050	50	25	E	.46	.36	.31
67F427	ME7G075	75	25	E	.51	.40	.33
67F428	ME7G100	100	25	F	.51	.40	.33
67F429	ME1J001	1	50	A	.42	.33	.28
67F430	ME1J002	2	50	B	.42	.33	.28
67F431	ME2J003	3	50	B	.42	.33	.28
67F432	ME2J004	4	50	B	.42	.33	.28
67F433	ME2J005	5	50	B	.44	.35	.30
67F434	ME2J006	6	50	B	.44	.35	.30
67F435	ME3J008	8	50	C	.44	.35	.30
67F436	ME3J010	10	50	G	.44	.35	.30
67F437	ME4J015	15	50	E	.46	.36	.31
67F438	ME4J020	20	50	E	.46	.36	.31
67F439	ME4J025	25	50	E	.46	.36	.31
67F440	ME4J030	30	50	D	.51	.40	.33
67F441	ME7J035	35	50	D	.51	.40	.33
67F442	ME7J040	40	50	D	.51	.40	.33
67F443	ME7J050	50	50	F	.51	.40	.33

8

Arco ELMENCO Capacitors

DIPPED-MICA CAPACITORS

The Dipped Mica is a silvered mica capacitor with a plastic coating. It combines excellence in stability, dielectric strength, "Q", dielectric constant, chemical inertness, moisture resistance and puncture resistance. Operating temperature range —55°C to 150°C. Standard tolerance ±5% except (*) Min. tolerance ±0.5 Pf. DM5 capacitors are stamped with capacitance values in pf. followed by a letter signifying capacitance tolerance. (J) means ±5%, while (A) signifies ±1% pf. D = ±.5 pf. All ELMENCO dipped mica capacitors meet or exceed requirements set forth in MIL-C-S specifications. Portions of the ELMENCO DM series are the specific values and case sizes tabulated in the MIL-C-5/18 detail specifications. All capacitors rated at 500 volts, except (†), 100 volts and (‡), 300 volts.



SIZE CHART (INCHES)

Dual-Marked With MIL and Commercial Type Nos.

DM-10	.360x.330x.190 to .380x.380x.220	DM-19/ CMO6	.650x.520x.220 to .680x.550x.280
DM-15/ CMO5	.450x.360x.170 to .490x.420x.240	DM-30/ CMO7	.780x.870x.300 to .800x.890x.340

Stk. No.	Type	Pf.	1-9	10-90	100-490	500-990
14F1262	DM5-010D	1*	.38	.19	.17	.16
14F1263	DM5-020D	2*	.38	.19	.17	.16
14F1264	DM5-030D	3*	.38	.19	.17	.16
14F1265	DM5-040D	4*	.38	.19	.17	.16
14F1266	DM5-050D	5*	.38	.19	.17	.16
14F1267	DM5-060D	6	.40	.20	.18	.17
14F1268	DM5-070D	7	.40	.20	.18	.17
14F1269	DM5-080D	8	.40	.20	.18	.17
14F1270	DM5-100J	10‡	.40	.20	.18	.17
14F1271	DM5-120J	12‡	.42	.21	.19	.18
14F1272	DM5-150J	15‡	.42	.21	.19	.18
14F1273	DM5-180J	18‡	.42	.21	.19	.18
14F1274	DM5-200J	20‡	.28	.14	.13	.12
14F1275	DM5-220J	22‡	.30	.15	.14	.13
14F1276	DM5-240J	24‡	.30	.15	.14	.13
14F1277	DM5-270J	27‡	.30	.15	.14	.13
14F1278	DM5-300J	30‡	.30	.15	.14	.13
14F1279	DM5-330J	33‡	.32	.16	.14	.13
14F1280	DM5-360J	36‡	.34	.17	.15	.14
14F1281	DM5-390J	39‡	.34	.17	.15	.14
14F1282	DM5-430J	43‡	.34	.17	.15	.14
14F1283	DM5-470J	47‡	.34	.17	.15	.14
14F1284	DM5-500J	50‡	.34	.17	.15	.14
14F1285	DM5-510J	51‡	.36	.18	.16	.15
14F1286	DM5-560J	56‡	.38	.19	.17	.16
14F1287	DM5-620J	62‡	.40	.20	.18	.17
14F1288	DM5-680J	68‡	.42	.21	.19	.18
14F1289	DM5-750J	75‡	.42	.21	.19	.18
14F1291	DM5-910J	91‡	.50	.25	.23	.21
14F1292	DM5-101J	100‡	.52	.26	.24	.22
14F1294	DM5-121J	120‡	.42	.21	.19	.18
14F1295	DM5-131J	130‡	.50	.25	.23	.21
14F1296	DM5-151J	150‡	.56	.28	.25	.24
14F1297	DM5-161J	160‡	.58	.29	.26	.25
14F1298	DM5-181J	180‡	.64	.32	.29	.27
14F1151	DM10-020D	2*	.32	.16	.15	.14
14F1152	DM10-030D	3*	.32	.16	.15	.14
14F1153	DM10-050D	5*	.32	.16	.15	.14
14F1154	DM10-100J	10	.32	.16	.15	.14
14F1155	DM10-120J	12	.34	.17	.15	.14
14F1156	DM10-150J	15	.34	.17	.15	.14
14F1157	DM10-180J	18	.34	.17	.15	.14
14F1158	DM10-200J	20	.26	.13	.12	.11
14F1159	DM10-220J	22	.26	.13	.12	.11
14F1160	DM10-240J	24	.26	.13	.12	.11
14F1161	DM10-270J	27	.26	.13	.12	.11
14F1162	DM10-300J	30	.26	.13	.12	.11
14F1163	DM10-330J	33	.26	.13	.12	.11
14F1164	DM10-360J	36	.28	.14	.13	.12
14F1166	DM10-430J	43	.28	.14	.13	.12
14F1167	DM10-470J	47	.26	.14	.13	.12
14F1168	DM10-500J	50	.26	.13	.12	.11
14F1169	DM10-510J	51	.28	.14	.13	.12
14F1170	DM10-560J	56	.28	.14	.13	.12
14F1171	DM10-620J	62	.28	.14	.13	.12
14F1172	DM10-680J	68	.30	.15	.14	.12
14F1173	DM10-750J	75	.30	.15	.14	.12
14F1174	DM10-820J	82	.28	.14	.13	.12
14F1176	DM10-101J	100	.30	.15	.14	.13
14F1177	DM10-111J	110	.30	.15	.14	.13
14F1178	DM10-121J	120	.32	.16	.15	.14
14F1179	DM10-131J	130	.30	.15	.14	.13
14F1180	DM10-151J	150	.32	.16	.15	.14
14F1182	DM10-181J	180	.38	.19	.17	.16
14F1183	DM10-201J	200	.40	.20	.18	.17
14F1184	DM10-221J	220	.42	.21	.19	.18
14F1185	DM10-241J	240	.44	.22	.20	.19
14F1186	DM10-251J	250	.44	.22	.20	.19
14F1187	DM10-271J	270‡	.42	.21	.19	.18
14F1188	DM10-301J	300‡	.46	.23	.21	.20
14F1189	DM10-331J	330†	.44	.22	.20	.19
14F1190	DM10-361J	360†	.46	.23	.21	.20
14F1200	DM10-391J	390†	.50	.25	.23	.21
14F549	DM15-010D	1*	.26	.13	.12	.11
14F550	DM15-020D	2*				
14F551	DM15-030D	3*				
14F552	DM15-050D	5*				
14F553	DM15-100J	10				
14F554	DM15-120J	12				
14F555	DM15-150J	15				
14F556	DM15-180J	18				
14F557	DM15-200J	20	.24	.12	.11	.10
14F558	DM15-220J	22				
14F559	DM15-240J	24				
14F560	DM15-270J	27				
14F561	DM15-300J	30				
14F562	DM15-330J	33				
14F563	DM15-360J	36				
14F564	DM15-390J	39				
14F565	DM15-430J	43				
14F566	DM15-470J	47				
14F567	DM15-500J	50				
14F568	DM15-510J	51				
14F569	DM15-560J	56				
14F570	DM15-620J	62	.24	.12	.11	.10
14F571	DM15-680J	68				
14F572	DM15-750J	75				
14F573	DM15-820J	82				
14F574	DM15-910J	91				
14F575	DM15-101J	100				
14F576	DM15-111J	110	.24	.12	.11	.10
14F577	DM15-121J	120	.24	.12	.11	.10
14F578	DM15-131J	130	.26	.13	.12	.11
14F579	DM15-151J	150	.26	.13	.12	.11
14F580	DM15-161J	160	.26	.13	.12	.11
14F581	DM15-181J	180	.26	.13	.12	.11
14F582	DM15-201J	200	.26	.13	.12	.11
14F583	DM15-221J	220	.28	.14	.13	.12
14F584	DM15-241J	240	.30	.15	.14	.13
14F585	DM15-251J	250	.30	.15	.14	.13
14F586	DM15-271J	270	.30	.15	.14	.13
14F587	DM15-301J	300	.32	.16	.15	.14
14F588	DM15-331J	330	.36	.18	.16	.15
14F589	DM15-361J	360	.36	.18	.16	.15
14F590	DM15-391J	390	.38	.19	.17	.16
14F591	DM15-431J	430	.40	.20	.18	.17
14F592	DM15-471J	470	.42	.21	.19	.18
14F593	DM15-501J	500	.42	.21	.19	.18
14F594	DM15-511J	510	.44	.22	.20	.19
14F595	DM15-561J‡	560	.44	.22	.20	.19
14F596	DM15-621J‡	620	.48	.24	.21	.20
14F597	DM15-681J‡	680	.52	.26	.23	.22
14F598	DM15-751J‡	750	.56	.28	.25	.23
14F599	DM15-821J‡	820	.60	.30	.27	.26
14F1116	DM15-911J†	910	.52	.26	.23	.22
14F1117	DM15-102J†	1000	.56	.28	.25	.24
14F458	DM19-221J	220	.22	.11	.10	.09
14F460	DM19-251J	250	.22	.11	.10	.09
14F461	DM19-271J	270	.26	.13	.12	.11
14F463	DM19-331J	330	.26	.13	.12	.11
14F464	DM19-361J	360	.28	.14	.13	.12
14F465	DM19-391J	390	.28	.14	.13	.12
14F467	DM19-471J	470	.30	.15	.14	.13
14F468	DM19-501J	500	.30	.15	.14	.13
14F470	DM19-561J	560	.30	.15	.14	.13
14F472	DM19-681J	680	.34	.17	.15	.14
14F474	DM19-821J	820	.38	.19	.18	.17
14F477	DM19-112J	1100	.46	.23	.21	.19
14F478	DM19-122J	1200	.48	.24	.22	.21
14F479	DM19-132J	1300	.50	.25	.24	.22
14F480	DM19-152J	1500	.56	.28	.27	.25
14F481	DM19-162J	1600	.56	.28	.27	.25
14F482	DM19-182J	1800	.60	.30	.29	.27
14F483	DM19-202J	2000	.66	.33	.31	.29
14F484	DM19-222J	2200	.72	.36	.34	.32
14F1201	DM19-242J	2400	.74	.37	.35	.33
14F1202	DM19-252J	2500	.78	.39	.37	.35
14F1203	DM19-272J	2700	.84	.42	.40	.37
14F1204	DM19-302J	3000	.92	.46	.43	.41
14F1205	DM19-332J	3300	.98	.49	.46	.43
14F1206	DM19-362J	3600	1.06	.53	.50	.47
14F1207	DM19-392J	3900	1.12	.56	.52	.49
14F1208	DM19-432J	4300	1.24	.62	.56	.54
14F1209	DM19-472J	4700	1.32	.66	.60	.59
14F1210	DM19-502J	5000	1.40	.70	.65	.63
14F1211	DM19-512J	5100	1.44	.72	.66	.64

8

Ceramic Capacitors

NYTRONICS

"DECI-CAP"

Epoxy-molded subminiature ceramic capacitor. Operating range: —55°C to +125°C. High density cordwood packaging. Capacitance range: 4.7-27,000 pf. Size: all 0.100" dia. x 0.250", Tolerance: ±10%. Working voltage 4.7-470 pf: 200 volts DC. 560 pf to 27,000 pf: 100 volts DC. Meets MIL-C-11015C.

Stk. No.	Type	pF	1-24	25-49	50-99	100-249	250-499	500-999
35F1700	DC-047	4.7						
35F1701	DC-056	5.6						
35F1702	DC-068	6.8						
35F1703	DC-082	8.2						
35F1704	DC-100	10						
35F1705	DC-120	12						
35F1706	DC-150	15						
35F1707	DC-180	18						
35F1708	DC-220	22						
35F1709	DC-270	27						
35F1710	DC-330	33	.58	.46	.40	.36	.34	.32
35F1711	DC-390	39						
35F1712	DC-470	47						
35F1713	DC-560	56						
35F1714	DC-680	68						
35F1715	DC-820	82						
35F1716	DC-101	100						
35F1717	DC-121	120						
35F1718	DC-151	150						
35F1719	DC-181	180						
35F1720	DC-221	220						
35F1721	DC-271	270						
35F1722	DC-331	330						
35F1723	DC-391	390	.58	.46	.40	.36	.34	.32
35F1724	DC-471	470	.58	.46	.40	.36	.34	.32
35F1725	DC-561	560	.99	.78	.68	.62	.57	.53
35F1726	DC-681	680	.99	.78	.68	.62	.57	.53
35F1727	DC-821	820	.99	.78	.68	.62	.57	.53
35F1728	DC-102	1000	1.34	1.07	.92	.84	.78	.73
35F1729	DC-122	1200	1.47	1.18	1.02	.92	.86	.80
35F1730	DC-152	1500	1.51	1.20	1.05	.96	.88	.81
35F1731	DC-182	1800	1.66	1.34	1.16	1.06	.98	.90
35F1732	DC-222	2200	1.68	1.35	1.18	1.07	.99	.91
35F1733	DC-272	2700	1.87	1.50	1.30	1.19	1.10	1.02
35F1734	DC-332	3300	1.97	1.57	1.38	1.24	1.14	1.07
35F1735	DC-392	3900	2.06	1.65	1.43	1.30	1.20	1.12
35F1736	DC-472	4700	2.12	1.72	1.47	1.34	1.23	1.16
35F1737	DC-562	5600	2.40	1.91	1.66	1.52	1.41	1.30
35F1738	DC-682	6800	2.64	2.12	1.84	1.67	1.55	1.44
35F1739	DC-822	8200	2.89	2.31	2.00	1.83	1.68	1.57
35F1740	DC-103	10000	3.18	2.55	2.21	2.01	1.86	1.74
35F1741	DC-123	12000	3.32	2.66	2.30	2.10	1.94	1.80
35F1742	DC-153	15000	3.63	2.90	2.52	2.29	2.12	1.97
35F1743	DC-183	18000	3.63	2.90	2.52	2.29	2.12	1.97
35F1744	DC-223	22000	3.69	2.69	2.56	2.33	2.16	2.00
35F1745	DC-273	27000	4.15	3.32	2.88	2.63	2.42	2.26

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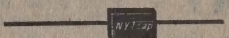
HY-CAP

The HY-CAP is a high capacity ceramic capacitor for design application in coupling, by-pass, and filter circuits where temperature stability and high capacitance are mandatory. Capacitance range is .01μf. to 2.5μf. Less than ±15% capacitance change from —55°C to +125°C. Working voltage is 100 volts D.C. with no derating to 125°C. Lite test is 1000 hours at 125°, under twice rated voltage. Tol: ±20%. This ceramic capacitor meets the requirements of Mil-C-11015.

Stk.No.	Type HC	Mfd.	H. Max.	W. Max.	T Max.	1-24	25-49	50-99	100-249	250-499
35F1746	A-103-M	.01	0.175	0.225	0.110	1.57	1.25	1.10	1.00	.92
35F1748	A-153-M	.015	0.175	0.225	0.110	1.96	1.57	1.36	1.23	1.19
35F1750	A-223-M	.022	0.175	0.225	0.110	2.38	1.90	1.65	1.51	1.40
35F1751	A-273-M	.027	0.175	0.225	0.110	2.85	2.28	1.98	1.80	1.66
35F1752	A-333-M	.033	0.175	0.225	0.110	3.20	2.56	2.23	2.02	1.88
35F1753	B-393-M	.039	0.310	0.325	0.150	3.64	2.92	2.53	2.30	2.13
35F1754	B-473-M	.047	0.310	0.325	0.150	3.84	3.07	2.67	2.42	2.24
35F1758	B-104-M	.100	0.310	0.325	0.150	4.96	3.97	3.44	3.14	2.90
35F1759	C-124-M	.12	0.310	0.325	0.150	4.98	3.99	3.47	3.15	2.93
35F1760	C-154-M	.15	0.355	0.670	0.150	5.08	4.07	3.53	3.22	2.98
35F1762	C-224-M	.22	0.355	0.670	0.150	5.60	4.48	3.89	3.53	3.28
35F1764	C-334-M	.33	0.355	0.670	0.150	6.70	4.99	4.33	3.95	3.66
35F1765	C-394-M	.39	0.355	0.670	0.150	6.72	5.37	4.66	4.25	3.93
35F1766	C-474-M	.47	0.355	0.670	0.150	7.25	5.80	5.04	4.59	4.25
35F1767	D-105-M	1.0	0.550	0.800	0.225	11.44	9.15	7.96	7.24	6.70

HIGH STABILITY CERAMIC MOLDED CAPACITORS

NYT-CAP. This ceramic capacitor has ultra-high stability. Capacitance range is 4.7 pf. to 4700pf. Working voltage is 200 Volts D.C. Miniature molded epoxy case suitable for high component density applications. For use in oscillators, filters, and other critical circuitry. Tolerance ±10%.



NYT-CAP

Cap Range	Size	1-24	25-49	50-99	100-249	250-499	500-999
4.7-82pf	.1" dia.x.25 l.	1.60	1.29	1.11	1.02	.94	.87
100-220pf	.1" dia.x.25 l.	1.68	1.36	1.18	1.07	.99	.91
270-470pf	.35"x.25"x.1"	2.76	2.22	1.93	1.75	1.62	1.51
560-1000pf	.35"x.25"x.1"	3.80	3.04	2.63	2.40	2.21	2.06
1200-4700pf	.35"x.25"x.1"	4.76	3.82	3.31	3.01	2.78	2.60

Stk.No.	Type	pf	Stk.No.	Type	pf
35F1771	NC-047	4.7	35F1787	NC-101	100
35F1772	NC-056	5.6	35F1788	NC-121	120
35F1773	NC-068	6.8	35F1790	NC-181	180
35F1774	NC-082	8.2	35F1791	NC-221	220
35F1775	NC-100	10	35F1792	NC-271	270
35F1776	NC-120	12	35F1793	NC-331	330
35F1778	NC-180	18	35F1795	NC-471	470
35F1779	NC-220	22	35F1796	NC-561	560
35F1780	NC-270	27	35F1798	NC-821	820
35F1781	NC-330	33	35F1799	NC-102	1000
35F1782	NC-390	39	35F1800	NC-122	1200
35F1783	NC-470	47	35F1801	NC-152	1500
35F1784	NC-560	56	35F1802	NC-182	1800
35F1785	NC-680	68	35F1805	NC-332	3300
35F1786	NC-820	82			

HIGH STABILITY CHIP CAPACITORS

NYT-CHIP. A monolithic NPO slug form capacitor with wrap around all surface termination adaptable to integrated circuits, thick and thin film circuits and printed circuits. Capacitance range: 4.7 pF to 4700 pF. Tolerance: ±10%.

NYT-CHIP

Cap Range	Size	1-24	25-49	50-99	100-249	250-499	500-999
4.7-82pf	.17"x.065"x.07"	1.54	1.23	1.06	.97	.88	.81
100-220pf	.17"x.065"x.07"	1.63	1.30	1.12	1.01	.92	.86
270-470pf	.28"x.195"x.07"	2.71	2.17	1.77	1.68	1.56	1.45
560-1000pf	.28"x195"x.07"	3.74	2.98	2.57	2.34	2.16	1.90
1200-4700pf	.28"x.195"x.07"	4.70	3.76	3.26	2.96	2.73	2.54

Stk.No.	Type	pf	Stk.No.	Type	pf
35F1814	NCU-150	15	35F1827	NCU-181	180
35F1815	NCU-180	18	35F1828	NCU-221	220
35F1816	NCU-220	22	35F1831	NCU-391	390
35F1817	NCU-270	27	35F1832	NCU-471	470
35F1818	NCU-330	33	35F1833	NCU-561	560
35F1819	NCU-390	39	35F1835	NCU-821	820
35F1820	NCU-470	47	35F1836	NCU-102	1000
35F1821	NCU-560	56	35F1840	NCU-222	2200
35F1822	NCU-680	68	35F1841	NCU-272	2700
35F1824	NCU-101	100	35F1842	NCU-332	3300
35F1825	NCU-121	120	35F1844	NCU-472	4700

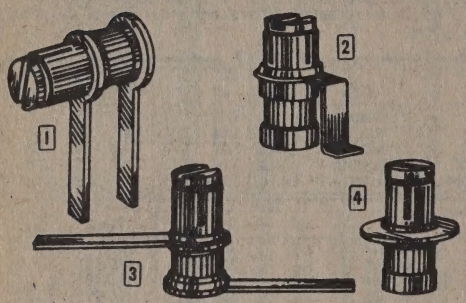
Johanson Capacitors

HIGH Q VARIABLE AIR CAPACITORS

Ultra high Q variable air capacitors afford the ultimate in a miniature package. Features the new integral contact slotted rotor which provides unparalled tuning stability with virtually no dynamic tuning noise. Capacitors are ideal for UHF and VHF applications. Rugged design provides positive protection against shock, fungus, salt spray and humidity. With the addition of extended range capacitor series 5450, 5750 and 5850, the selection listed offers broad capacity ranges and sizes to meet every requirement. The following lists each series and its temperature co-efficient: 5200, 5700, 5800, 0±15 ppm /°C; 5400, 5500, 5600, 0±30 ppm /°C; 5450, 5750, 5850, 0±50 ppm /°C.

Stock No.	Type	Figure	Q Factor @ 100 MHZ	Capacitance Range	Size L x D	1-24	25-49	50-99	100-299
17F153	5200	1	> 5000	0.8-10.0 pf	.47″ x .28″	4.55	3.75	3.20	2.65
17F154	5201	2	> 5000	0.8-10.0 pf	.47″ x .28″	4.55	3.75	3.20	2.65
17F155	5202	3	> 5000	0.8-10.0 pf	.47″ x .28″	4.55	3.75	3.20	2.65
17F159	5400	1	> 3000	1.0-14.0 pf	.47″ x .28″	5.70	5.15	4.65	4.00
17F160	5401	2	> 3000	1.0-14.0 pf	.47″ x .28″	5.70	5.15	4.65	4.00
17F161	5402	3	> 3000	1.0-14.0 pf	.47″ x .28″	5.70	5.15	4.65	4.00
17F165	5500	1	> 1500	1.0-20.0 pf	.75″ x .28″	7.35	6.50	5.60	5.15
17F166	5501	2	> 1500	1.0-20.0 pf	.75″ x .28″	7.35	6.50	5.60	5.15
17F167	5502	3	> 1500	1.0-20.0 pf	.75″ x .28″	7.35	6.50	5.60	5.15
19F001	5600	1	> 750	1.0-30.0 pf	.94″ x .28″	9.95	8.10	7.25	6.70
19F002	5601	2	> 750	1.0-30.0 pf	.94″ x .28″	9.95	8.10	7.25	6.70
19F003	5602	3	> 750	1.0-30.0 pf	.94″ x .28″	9.95	8.10	7.25	6.70
19F004	5700	1	>10,000	.6- 6.0 pf	.48″ x .22″	6.80	6.05	5.25	4.90
17F182	5701	2	>10,000	.6- 6.0 pf	.48″ x .22″	6.80	6.05	5.25	4.90
17F183	5702	3	>10,000	.6- 6.0 pf	.48″ x .22″	6.80	6.05	5.25	4.90
17F173	5800	4	>10,000	.35- 3.5 pf	.48″ x .15″	6.15	5.45	4.70	4.45
17F174	5801	2	>10,000	.35- 3.5 pf	.48″ x .15″	6.15	5.45	4.70	4.45
17F175	5802	3	>10,000	.35- 3.5 pf	.48″ x .15″	6.15	5.45	4.70	4.55
19F005	5450	1	> 3000	1.0-16.0 pf	.48″ x .28″	6.55	5.90	5.35	4.60
19F006	5451	2	> 3000	1.0-16.0 pf	.48″ x .28″	6.55	5.90	5.35	4.60
19F007	5452	3	> 3000	1.0-16.0 pf	.48″ x .28″	6.55	5.90	5.35	4.60
19F008	5750	1	> 7500	.8-10.0 pf	.52″ x .22″	7.25	6.35	5.60	5.15
17F213	5751	2	> 7500	.8-10.0 pf	.52″ x .22″	7.25	6.35	5.60	5.15
17F214	5752	3	> 7500	.8-10.0 pf	.52″ x .22″	7.25	6.35	5.60	5.15
17F210	5850	4	> 7500	.5- 5.0 pf	.52″ x .15″	7.25	6.35	5.60	5.15
17F211	5851	2	> 7500	.5- 5.0 pf	.52″ x .15″	7.25	6.35	5.60	5.15
17F212	5852	3	> 7500	.5- 5.0 pf	.52″ x .15″	7.25	6.35	5.60	5.15
19F009	S-669	Contains 3 each 5451, 5452, 5751, 5752, 5851, 5852 and 2 tuning tools				55.00			

GIGA-TRIM CAPACITORS

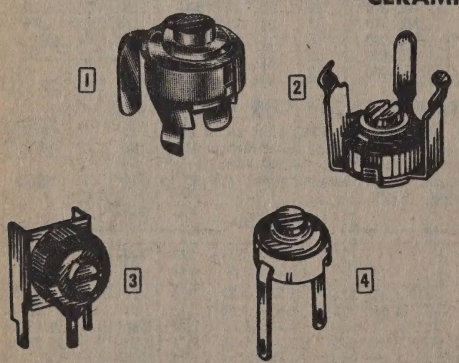


Kit S-667 with 3 each 7261, 7263, 7271, 7284, 7285 and a tuning tool.
19F009. NET **65.00**

Giga-Trim variable capacitors provide a means for series and shunt high resolution trimming of transistor MIC's, impedance matching in transistor amplifiers, fine tuning crystal oscillators and "gag-trimming" of microstrips. Replaces cut-and-try adjustment techniques and trimming by interchange of fixed capacitors. Non-shorting press fit design allows resoldering repeatedly without damage. Temperature co-efficient specification 50+50 ppm/°C.

Stock No.	Type	Figure	Q Factor @ 250 MHz	Capacitance Range	Size L x D″	1-24	25-49	50-99	100-299
19F010	7261	1	>4000	.3-1.2 pf	.210 x .075″	7.25	6.45	5.65	5.15
19F011	7263	2	>4000	.3-1.2 pf	.210 x .075″	7.25	6.45	5.65	5.15
19F012	7264	3	>4000	.3-1.2 pf	.210 x .075″	7.25	6.45	5.65	5.15
19F013	7265	4	>4000	.3-1.2 pf	.210 x .075″	7.25	6.45	5.65	5.15
19F014	7271	1	>2000	.6-4.5 pf	.31 x .118″	7.85	6.95	5.95	5.50
19F015	7273	2	>2000	.6-4.5 pf	.31 x .118″	7.85	6.95	5.95	5.50
19F016	7274	3	>2000	.6-4.5 pf	.31 x .118″	7.85	6.95	5.95	5.50
19F017	7275	4	>2000	.6-4.5 pf	.31 x .118″	7.85	6.95	5.95	5.50
19F018	7281	1	>3000	.4-2.5 pf	.21 x .118″	7.55	6.75	5.80	5.35
19F019	7283	2	>3000	.4-2.5 pf	.21 x .118″	7.55	6.75	5.80	5.35
19F020	7284	3	>3000	.4-2.5 pf	.21 x .118″	7.55	6.75	5.80	5.35
19F021	7285	4	>3000	.4-2.5 pf	.21 x .118″	7.55	6.75	5.80	5.35

CERAMIC TRIMMER CAPACITORS



9300 Series. Top tuning style. Size: .276″ Dia., .315″ above board height.
9320 Series. Bottom tuning style allowing "through the board" adjustment. Size: .396″ Dia., .328″ above board height.
9330 Series. Side tuning style allowing adjustment where PC cards are rack mounted. Size: .296″ Lng., .350″ W, .356″ above board height.
9350 Series. Sub-miniature size and drop in replacement for other units available. Size: .218″ Dia., .175″ above board height.

For applications such as crystal oscillators and filters, tuning CATV amplifiers, as well as various broadband uses in communications and test equipment. The precision designed rotor assembly incorporates specially formulated ceramic materials which provide long life and environmental stability.

Stock No.	Type	Figure	Q @ 10 MHz (†100)	Capacitance Range	Temp. PPM °C Coefficient	1-24	25-49	50-99	100-249
17F195	9300*	1	>500	1.7- 6.0 pf	NPO ±250	1.75	1.35	1.05	.80
17F196	9301	1	>500	1.7-10.0 pf	NPO ±250	1.75	1.35	1.05	.80
17F197	9302*	1	>500	2.3-20.0 pf	—450 ±250	1.75	1.35	1.05	.80
17F198	9303	1	>300	3.8-30.0 pf	—550 ±250	1.85	1.45	1.15	.90
17F199	9304	1	>200	4.0-40.0 pf	—1400 ±800	1.95	1.55	1.25	.95
17F200	9305*	1	>200	4.5-50.0 pf	—1400 ±800	1.95	1.55	1.25	.95
19F022	9320	2	>500	1.7- 6.0 pf	NPO ±250	1.95	1.50	1.15	.90
19F023	9321	2	>500	1.7-10.0 pf	NPO ±250	1.95	1.50	1.15	.90
19F024	9322	2	>500	2.3-20.0 pf	—450 ±250	1.95	1.50	1.15	.90
19F025	9323	2	>300	3.8-30.0 pf	—550 ±250	2.05	1.65	1.30	1.05
19F026	9324	2	>200	4.0-40.0 pf	—1400 ±800	2.15	1.70	1.35	1.05
19F027	9325	2	>200	4.5-50.0 pf	—1400 ±800	2.15	1.70	1.35	1.05
19F028	9330	3	>500	1.7- 6.0 pf	NPO ±250	1.95	1.50	1.15	.90
19F029	9331	3	>500	1.7-10.0 pf	NPO ±250	1.95	1.50	1.15	.90
19F030	9332	3	>500	2.3-20.0 pf	—450 ±250	1.95	1.50	1.15	.90
19F031	9333	3	>300	3.8-30.0 pf	—550 ±250	2.05	1.65	1.30	1.05
19F032	9334	3	>200	4.0-40.0 pf	—1400 ±800	2.15	1.70	1.35	1.05
19F033	9335	3	>200	4.5-50.0 pf	—1400 ±800	2.15	1.70	1.35	1.05
19F034	9350	4	>500†	1.0- 3.0 pf	50 ±50	3.25	2.75	2.25	1.75
19F035	9351	4	>500†	2.0- 5.0 pf	NPO ±200	3.25	2.75	2.25	1.75
19F036	9352*	4	>300†	3.0-10.0 pf	N600 ±300	3.25	2.75	2.25	1.75
19F037	9353	4	>100†	3.5-18.0 pf	N800 ±300	3.25	2.75	2.25	1.75
19F038	9354*	4	>100†	5.0-25.0 pf	N1400 ±500	3.25	2.75	2.25	1.75
19F040	S-671	Kit contains 10 each of type marked with * and 3 each of 9332 and 9334				47.50			

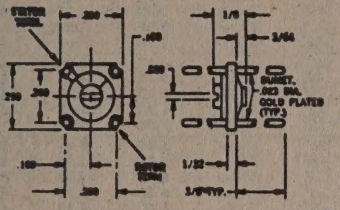
MODUTRIM CERAMIC VARIABLE CAPACITORS

MT SERIES ELECTRICAL DATA

Types		Cap. Range (pF)	Temp. Coeff. ppm/°C	WVDC
MT306	.....	1.1 to 5.0	NPO	50
MT309	.....	1.6 to 9.0	NPO	50
MT330	.....	5.0 to 30.0	N450	50
MT340	.....	6.5 to 40.0	N550	50
.....	MT460 MT560	12.0 to 60.0	N650	50

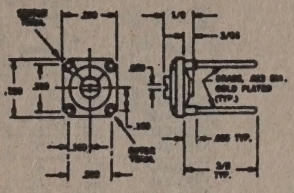
PRICES

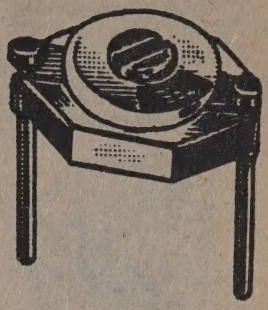
Stk. No.	Type	1-24	25-99	100-199	200-299	300-499
19F3283	MT306					
19F3284	MT309					
19F3287	MT330	6.00	5.40	4.00	4.50	4.00
19F3288	MT340					
19F3301	MT460					
19F3314	MT560	4.80	4.30	3.85	3.35	3.20



MT400

MT300





500 Series

Microminiature. Offer a choice of wide ΔCs in extremely small and stable units. Unique rotor design utilizes proprietary ceramic material in a monolithic structure. **MT400** (with 4 feed-through leads, 2 dummy leads) for cordwood and channel-mount applications. **MT300**, with 4 "legged" configuration, 2 dummy terminals, is for printed, microminiature, module circuits **MT500** designed to fit .100 grid spaced PC boards at lower cost than comparable units. −55°C to +85°C. Wt.: .026 oz.

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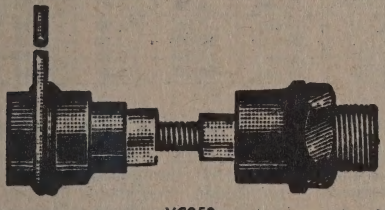
SUBMINIATURE VC900 SERIES

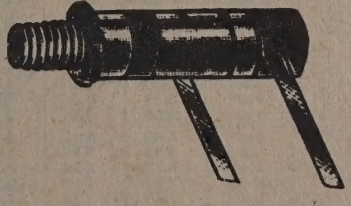


VC950

Larger range of capacity adjustment in a smaller size than previously available with low Temperature Coefficient. VC960- green glass dielectric higher "Q"—expanded range. 17/64" diameter all units..

Stock No.	Type	Cap. Pf Max.	Min.	L	1-24	25-49	50-99	100-199	200-299	300-499
19F3158	VC951	1.2-16.0		15/32	6.20	5.60	5.05	4.45	4.45	4.05
19F3159	VC960	1-10		17/64	3.80	3.40	3.05	2.65	2.65	2.40

JFD LC TUNERS



Combine precision variable piston capacitor with metallized inductor, to provide compact, tunable LC circuit. Offer more circuit in less space, economy, and faster assembly. Panel mount style.

Stk. No.	Type	Min. MC	Max. MC	Size	1-24	25-99	100-199	200-299
19F1870	LC-334	300	550	.86x¼"	3.75	3.38	3.13	2.81
19F1872	LC-339	150	375	1.71x¼"	4.20	3.78	3.50	3.15

MINIATURE SERIES

JFD Miniature Trimmer Series features exclusive telescoping tuning assembly for miniaturization. Up to 50% savings in length for a given capacitance range. Mechanical stops at both ends of adjustment. VC glass dielectric, ¼ dia. "Y" series directly interchangeable with standard VC units, with added feature of longer life and lower cost. Operating temperature: −55°C to +125°C. Low T.C., low loss of inductance. Uses 7104-5 tool.

PANEL MOUNT TYPES

Stock No.	Type	Cap. pF Range	1-24	25-49	50-99	100-299	300-499
19F1462	VC21GY	.8- 4.5	3.20	2.95	2.50	2.10	2.00
19F1463	VC22GY	.8-12.0	3.75	3.40	2.95	2.45	2.35

PRINTED CIRCUIT TYPES * LUG MTG. † WIRE MTG.

19F1459	VC9GY*	.8- 8.5	3.00	2.75	2.40	2.00	1.90
19F1466	VC31GY*	.8-12.0	3.35	3.05	2.65	2.20	2.10
19F1468	VC43GY*	1.0-30.0	4.15	3.80	3.30	2.80	2.65
19F1469	VC9GWY†	.8- 8.5	3.00	2.75	2.40	2.00	1.90
19F1470	VC10GWY†	.8- 4.5	2.80	2.60	2.20	1.85	1.75

MAX-C SEALED CAP CAPACITOR

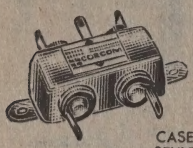
Max-C embedded electrode technique gives 3 times more capacity than standard metalizing in standard glass. Sealed cap. construction. "Y" series reduces Max-C, has added advantage of Hi-Life mechanism and is directly interchangeable with standard MC units. Panel mount style.

Stock No.	Type	Cap. pF	1-24	25-49	50-99	100-299	300-499
19F3127	MC604Y	1.0-42.0	6.80	6.10	5.50	4.80	4.35

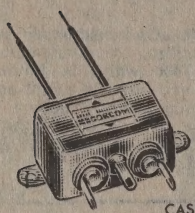
RFI Powerline Filters

SERIES B FILTERS

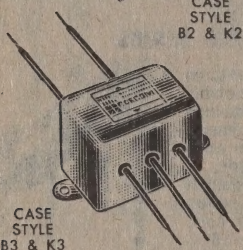
Series B general purpose filters effectively provide RFI control of line to ground noise in a small size at low cost. Designed to meet a variety of electronic and electrical applications. These general purpose filters are available in a broad selection of current ratings and termination styles. All are UL recognized.



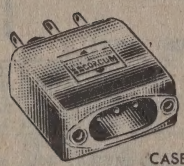
CASE STYLE B1 & K1



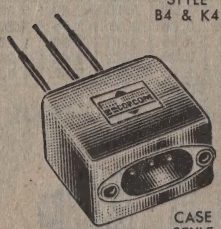
CASE STYLE B2 & K2



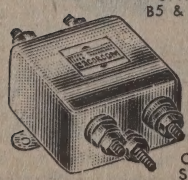
CASE STYLE B3 & K3



CASE STYLE B4 & K4



CASE STYLE B5 & K5



CASE STYLE B6 & K6

1 TO 30 AMPS; 115/250 VOLTS, 50-60 HZ AC

Stock No.	Type	Case Style	Size LxWxH Inches	Max. Line Current	EACH 1-24	25-49	50-99	100-Up
15F2400	1B1	B1	2.50 x 2.25 x .65"	1 amp	5.85	4.77	4.24	3.71
15F2401	1B2	B2	2.50 x 1.56 x .65"	1 amp	5.95	4.86	4.32	3.78
15F2402	1B3	B3	2.50 x .94 x .65"	1 amp	6.05	4.95	4.40	3.85
15F2403	1B4	B4	2.00 x 2.50 x .75"	1 amp	6.70	5.49	4.88	4.27
15F2404	1B5	B5	2.00 x 1.85 x .75"	1 amp	6.80	5.58	4.96	4.34
15F2405	2B1	B1	2.50 x 2.25 x .65"	2 amp	5.30	4.32	3.84	3.36
15F2406	2B2	B2	2.50 x 1.56 x .65"	2 amp	5.35	4.36	3.88	3.39
15F2407	2B3	B3	2.50 x .94 x .65"	2 amp	5.40	4.41	3.92	3.43
15F2408	2B4	B4	2.00 x 2.50 x .75"	2 amp	6.05	4.95	4.40	3.85
15F2409	2B5	B5	2.00 x 1.85 x .75"	2 amp	6.15	5.04	4.48	3.92
15F2410	3B1	B1	2.50 x 2.60 x .75"	3 amp	6.05	4.95	4.40	3.85
15F2411	3B2	B2	2.50 x 1.94 x .75"	3 amp	6.15	5.04	4.48	3.92
15F2412	3B3	B3	2.50 x 1.31 x .75"	3 amp	6.40	5.22	4.64	4.06
15F2413	3B4	B4	2.00 x 2.75 x .75"	3 amp	6.95	5.67	5.04	4.41
15F2414	3B5	B5	2.00 x 2.06 x .75"	3 amp	7.05	5.76	5.12	4.48
15F2415	5B1	B1	2.50 x 2.50 x .75"	5 amp	5.40	4.41	3.92	3.43
15F2416	5B2	B2	2.50 x 1.94 x .75"	5 amp	5.55	4.54	4.04	3.53
15F2417	5B3	B3	2.50 x 1.31 x .75"	5 amp	5.70	4.68	4.16	3.64
15F2418	5B4	B4	2.00 x 2.75 x .75"	5 amp	6.30	5.13	4.56	3.99
15F2419	5B5	B5	2.00 x 2.06 x .75"	5 amp	6.40	5.22	4.64	4.06
15F2420	10B1	B1	2.50 x 2.60 x 1.13"	10 amp	5.95	4.86	4.32	3.78
15F2421	10B2	B2	2.50 x 1.94 x 1.13"	10 amp	6.05	4.95	4.40	3.85
15F2422	10B3	B3	2.50 x 1.31 x 1.13"	10 amp	6.15	5.04	4.48	3.92
15F2423	10B4	B4	2.00 x 2.75 x 1.13"	10 amp	6.80	5.58	4.96	4.34
15F2424	10B5	B5	2.00 x 2.16 x 1.13"	10 amp	6.95	5.67	5.04	4.41
15F2425	10B6	B6	2.50 x 2.57 x 1.13"	10 amp	7.25	5.90	5.24	4.60
15F2426	20B1	B1	2.78 x 3.35 x 1.13"	20 amp	10.00	8.12	7.23	6.34
15F2427	20B6	B6	2.78 x 3.38 x 1.13"	20 amp	11.25	9.13	8.13	7.13
15F2428	30B6	B6	4.12 x 5.13 x 1.50"	30 amp	20.00	16.24	14.46	12.68

SERIES K FILTERS WITH LINE-TO-LINE CAPACITORS

The K series EMI powerline filters are similar to the B series. They have the added feature of being extremely effective in the control of line to line as well as line to ground RFI interference. The K series EMI filters are particularly suited where pulsed, continuous and/ or intermittent RFI interference is present in your application. They should be used where line to line interference protection is also required in your equipment. All are recognized by UL.

1 TO 30 AMPS; 115/250 VOLTS, 50-60 HZ AC

Stock No.	Type	Case Style	Size LxWxH Inches	Max. Line Current	EACH 1-24	25-49	50-99	100-Up
15F2429	1K1	K4	2.78 x 3.13 x .875"	1 amp	6.85	5.77	5.24	4.71
15F2430	1K2	K2	2.78 x 2.47 x .875"	1 amp	6.95	5.86	5.32	4.78
15F2431	1K3	K3	2.78 x 1.81 x .875"	1 amp	7.05	5.95	5.40	4.85
15F2432	1K4	K4	2.00 x 2.75 x .875"	1 amp	7.70	6.49	5.88	5.27
15F2433	1K5	K5	2.00 x 2.06 x .875"	1 amp	7.80	6.58	5.96	5.34
15F2434	2K1	K1	2.78 x 3.13 x .875"	2 amp	6.30	5.32	4.84	4.36
15F2435	2K2	K2	2.78 x 2.47 x .875"	2 amp	6.35	5.36	4.88	4.39
15F2436	2K3	K3	2.78 x 1.81 x .875"	2 amp	6.40	5.41	4.92	4.43
15F2437	2K4	K4	2.00 x 2.75 x .875"	2 amp	7.05	5.95	5.40	4.85
15F2438	2K5	K5	2.00 x 2.05 x .875"	2 amp	7.15	6.04	5.48	4.92
15F2439	3K1	K1	2.78 x 3.13 x 1.13"	3 amp	7.05	5.95	5.40	4.85
15F2440	3K2	K2	2.78 x 2.47 x 1.13"	3 amp	7.15	6.04	5.48	4.92
15F2441	3K3	K3	2.78 x 1.81 x 1.13"	3 amp	7.40	6.22	5.64	5.06
15F2442	3K4	K4	2.00 x 2.75 x 1.13"	3 amp	7.95	6.67	6.04	5.41
15F2443	3K5	K5	2.00 x 2.06 x 1.13"	3 amp	8.05	6.76	6.12	5.48
15F2444	5K1	K1	2.78 x 3.13 x 1.13"	5 amp	6.40	5.41	4.92	4.43
15F2445	5K2	K2	2.78 x 2.47 x 1.13"	5 amp	6.55	5.54	5.04	4.53
15F2446	5K3	K3	2.78 x 1.81 x 1.13"	5 amp	6.70	5.68	5.16	4.64
15F2447	5K4	K4	2.00 x 2.75 x 1.13"	5 amp	7.30	6.13	5.56	4.99
15F2448	5K5	K5	2.00 x 2.06 x 1.13"	5 amp	7.40	6.22	5.64	5.06
15F2449	10K1	K1	2.78 x 3.38 x 1.13"	10 amp	6.95	5.86	5.32	4.78
15F2450	10K2	K2	2.78 x 2.72 x 1.13"	10 amp	7.05	5.95	5.40	4.85
15F2451	10K3	K3	2.78 x 2.06 x 1.13"	10 amp	7.15	6.04	5.48	4.92
15F2452	10K6	K6	2.78 x 3.25 x 1.13"	10 amp	8.25	6.90	6.24	5.60
15F2453	20K1	K1	3.32 x 3.38 x 1.50"	20 amp	11.00	9.12	8.23	7.34
15F2454	20K6	K6	3.32 x 3.38 x 1.50"	20 amp	12.25	10.13	9.13	8.13
15F2455	30K6	K6	4.12 x 5.13 x 1.50"	30 amp	21.00	17.24	15.46	13.68

THESE FILTERS ARE RECOGNIZED UNDER THE COMPONENTS PROGRAM OF UNDERWRITERS LABORATORIES, INC.

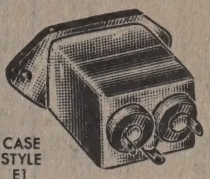
RFI Powerline Filters

SERIES EF INTERNATIONAL FILTERS

The EF International series of RFI power line filters incorporates the special IEC (International Electrotechnical Commission) power line connector. This connector has 4mm minimum pin spacing and complies with all current and proposed requirements for industrial and test equipment in the European market where a detachable power cord is part of the equipment design. The EF series features extremely low leakage current; meets IEC, BSI, VDE, CSA and ASA requirements for data processing. These international series filters are recognized by Underwriters Laboratories, Inc.

1 TO 6 AMPS; 115-250 VOLTS, 50-60 HZ AC

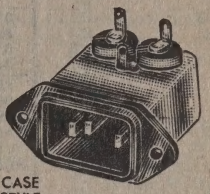
Stock No.	Type	Case Style	Size LxWxH Inches	Max. Line Current	EACH 1-24	25-49	50-99	100-Up
15F2456	1EF1	E1	1.97 x 1.97 x .79	1 amp	9.75	8.30	7.80	7.30
15F2457	3EF1	E1	1.97 x 1.97 x .79	3 amp	9.00	7.65	7.20	6.75
15F2458	6EF1	E1	1.97 x 1.97 x .79	6 amp	8.25	7.00	6.60	6.20
15F2459	1EF2	E2	1.97 x 1.55 x 1.31	1 amp	9.75	8.30	7.80	7.30
15F2460	3EF2	E2	1.97 x 1.55 x 1.31	3 amp	9.00	7.65	7.20	6.75
15F2461	6EF2	E2	1.97 x 1.55 x 1.31	6 amp	8.25	7.00	6.60	6.20



CASE STYLE E1

SERIES R FILTERS

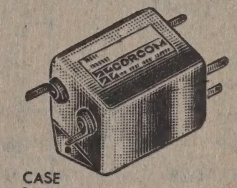
The R series dual T section RFI power line filters provide premium performance at moderate cost. They are well suited for low impedance loads where noisy RFI environments are present. At frequencies as low as 150 KHz the R series has an insertion loss as high as 45 DB. They control pulsed, continuous and/or intermittent interference insuring protection of your equipment from power line noise in addition to protecting the line from equipment noise. The R series is an ideal replacement for Pi type filters while incorporating the "value added" concept. Pi filters have used large capacitors to eliminate low frequency RFI, resulting in high line to ground leakage current. The R series dual T type provides extremely low leakage current without deterioration of insertion loss characteristics.



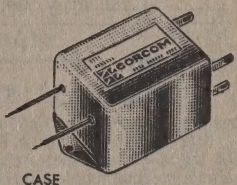
CASE STYLE E2

TWO "T" SECTIONS—1 TO 20 AMPS; 115/250 VOLTS, 50-60 HZ AC

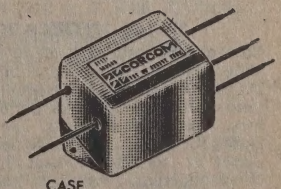
Stock No.	Type	Case Style	Size LxWxH Inches	Max. Line Current	EACH 1-24	25-49	50-99	100-Up
15F2462	1R1	R1	3.38 x 1.75 x 1.13	1 amp	10.80	8.82	7.83	6.87
15F2463	1R2	R2	3.06 x 1.75 x 1.13	1 amp	10.90	8.91	7.92	6.92
15F2464	1R3	R3	2.75 x 1.75 x 1.13	1 amp	11.00	9.00	8.00	7.00
15F2465	2R1	R1	3.38 x 1.75 x 1.13	2 amp	10.25	8.38	7.44	6.51
15F2466	2R2	R2	3.06 x 1.75 x 1.13	2 amp	10.35	8.42	7.48	6.55
15F2467	2R3	R3	2.75 x 1.75 x 1.13	2 amp	10.45	8.46	7.60	6.65
15F2468	3R1	R1	3.88 x 2.00 x 1.13	3 amp	11.00	9.00	8.00	7.00
15F2469	3R2	R2	3.56 x 2.00 x 1.13	3 amp	11.10	9.09	8.08	7.07
15F2470	3R3	R3	3.32 x 2.00 x 1.13	3 amp	11.30	9.27	8.24	7.21
15F2471	5R1	R1	3.88 x 2.00 x 1.13	5 amp	10.35	8.47	7.52	6.57
15F2472	5R2	R2	3.56 x 2.00 x 1.13	5 amp	10.45	8.56	7.60	6.69
15F2473	5R3	R3	3.32 x 2.00 x 1.13	5 amp	10.65	8.74	7.76	6.78
15F2474	10R1	R1	3.88 x 2.00 x 1.50	10 amp	10.90	8.91	7.92	6.93
15F2475	10R2	R2	3.56 x 2.00 x 1.50	10 amp	11.00	9.00	8.00	7.00
15F2476	10R3	R3	3.32 x 2.00 x 1.50	10 amp	11.10	9.08	8.08	7.07
15F2477	10R6	R6	3.80 x 2.00 x 1.50	10 amp	12.10	9.90	8.77	7.67
15F2478	20R1	R1	3.88 x 2.00 x 1.50	20 amp	22.75	18.60	16.53	14.46
15F2479	20R6	R6	5.13 x 4.12 x 1.50	20 amp	24.00	19.62	17.44	15.26



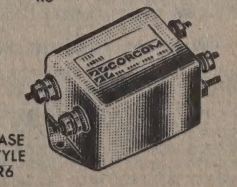
CASE STYLE R1



CASE STYLE R2

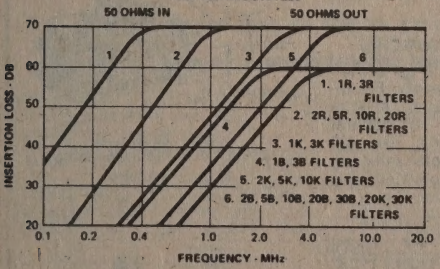


CASE STYLE R3

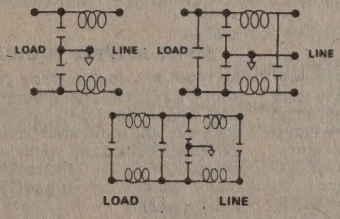


CASE STYLE R6

TYPICAL INSERTION LOSS VS FREQUENCY
TEST PER MIL STD. 220



FILTER ELECTRICAL SCHEMATICS



3-CONDUCTOR LINE CORDS

Type 80-1255. Mates with "B" and "K" filters.

15F2480. 1-49 ..... Each 1.70

50-Up ..... Each 1.34

Type 80-1245. Mates with EF International filters.

15F2481. 1-49 ..... Each 3.12

50-Up ..... Each 2.50

Specifications	B, K, & R Series	EF Series
Rated Voltage	115/250 VAC	115/250 VAC
Maximum leakage current, each line to ground @ 115/250 VAC 60 Hz	0.5 MA	0.25 MA
Capacitance line to ground	10,000 pF	5,000 pfd
Operating Frequency	50-400 Hz	50-400 Hz
High Pot Test	2,100 VDC	2,100 VDC

THESE FILTERS ARE RECOGNIZED UNDER THE COMPONENTS PROGRAM OF UNDERWRITERS LABORATORIES INC.

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9

T-Bar INCORPORATED — SWITCHES FOR MULTIPOLE, HI-DENSITY SWITCHING

Designed especially for general purpose and 10-level manual switching. Capability of switching up to 72 circuits at one time. Replaces rotary switches, slave relays, diode mazes, patch panels and patch cables. Uses include interfacing, program selection, "all-call" requirements and switching in communication equipment, computers, aircraft, telemetry and business machines. Toggle and pushbutton switches mate with snap-on, crimp type T-Bar connectors (see index under T-Bar relays).

SWITCH SPECIFICATIONS

Contacts: Series 800—general purpose gold plated; Series 900—low-level bifurcated gold plated. Contact Rating: Series 800—5 amps max. resistive to 150 watts; Series 900—1 amp max. resistive to 50 watts. Life Expectancy: Series 800—50,000 cycles; Series 900—50,000 cycles at 20 CPM. Contact Resistance: 20 milliohms typical. Ambient Temp.: −55°C to +85°C. Terminals: Mate with T-Bar Connectors. Dielectric Strength: 1000 VRMS @ 60 cycles/sec. Insulation: 5000 megohms min.

SERIES 803 PUSHBUTTON SWITCHES

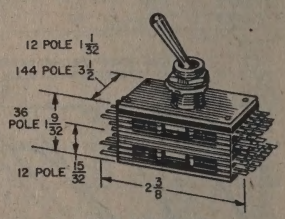
Button travel, .07". Switches from 4 to 36 circuits. Electrically same as 802.

Stk. No.	Type	Action	1-24	25-49	50-74	75-99
59F732	803- 4C	4PDT	7.13	6.77	6.43	6.13
59F733	803- 8C	8PDT	9.54	9.06	8.61	8.20
59F734	803-12C	12PDT	10.77	10.23	9.72	9.26
59F737	803-24C	24PDT	22.96	21.81	20.72	19.75
59F740	803-36C	36PDT	32.50	30.88	29.32	27.95

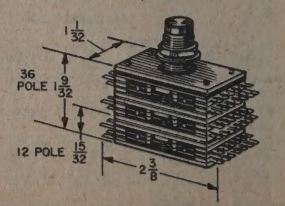
SERIES 802/902 TOGGLE SWITCHES

All types are double throw (Form C). Switch from 8 to 72 circuits simultaneously. For low-level applications (less than 1 amp), specify the new 902 bifurcated series. For general purpose, hi-current applications, use 802 series. The 8, 12, 24 and 36 pole units are single stacks. The 48 and 72 pole units are double stacks.

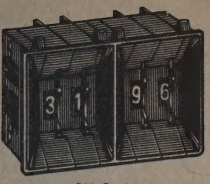
Stock No.	Type No.	Pole Units	1-4	5-9	10-24
59F728	802- 8C	8	11.78	11.78	11.78
59F726	802-12C	12	13.06	13.06	13.06
59F729	802-24C	24	25.61	25.61	25.61
59F731	802-36C	36	35.43	35.43	35.43
59F744	802-48C	48	57.98	52.18	46.96
59F746	802-72C	72	87.54	78.61	70.75
23F1160	902- 8C	8	13.03	13.03	13.03
23F1161	902-12C	12	14.31	14.31	14.31
23F1162	902-24C	24	28.11	28.11	28.11
23F1163	902-36C	36	39.18	39.18	39.18
23F1164	902-48C	48	62.98	57.18	51.96
23F1165	902-72C	72	94.84	86.11	78.25



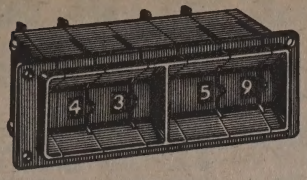
PANEL CUTOUT FOR TOGGLE AND PUSH-BUTTON SWITCHES



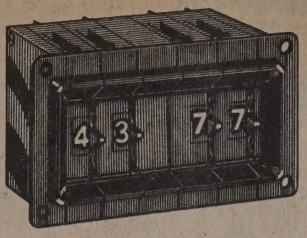
Printed Circuit Thumbwheel Switches



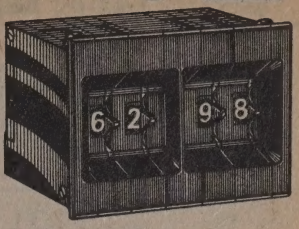
SM Series



E Series



IR Series



IF Series

Low-cost printed circuit thumbwheel switches for industrial uses where adverse environmental conditions are not usually encountered. Permits selection of more functions in smaller panel space than older wafer switches.

Each module provides numerical indication of switch function. Special interlocking feature and the use of two threaded rods at the rear permit construction of complete module banks enabling the user to take advantage of maximum custom design flexibility. Divider plates and blank modules separate the banks into clearly defined sections. Current: 0.5 amp per switch. Voltage: 200 volts, maximum power of 24 watts with 12 watts energized output. Insulation resistance: 1000 megohms. Contact resistance: 0.10 ohm. Life: 1,000,000 detent operations. Available with 10-position decimal, BCD, or BCD-with-complements outputs. Black body with white characters on black wheel.

SUBMINIATURE SWITCH-FRONT MOUNT

Slim thumbwheel switch where high panel packing is required. Switches have clear white characters on black background. 1¼" high x .312" wide x 1¾" deep. Shpg. wt., ½ oz.

Stock No.	Type	Description	1-24	25-99	100-249	250-499
39F3304	SM110ND	10 Pos. Decimal	2.50	2.38	2.25	2.13
39F3305	SMB10N1248	10 Pos. BCD	2.50	2.38	2.25	2.13
39F3306	SMB10N1248E	10 Pos. BCD, extended board for diodes	3.00	2.85	2.70	2.55
39F3307	SMBC10N1248	10 Pos. BCD, with complements	4.00	3.80	3.60	3.40
39F3308	SMBC10N1248E	10 Pos. BCD, with complements, extended diode board for diodes	4.25	4.04	3.82	3.61
39F3309	SMDP	Divider plates (pair)	1.25	1.19	1.13	1.06
39F3310	SMBB	Blank body	.30	.29	.27	.26
39F3311	SMEP	End plates (pair)	1.00	.95	.90	.85

INTERMEDIATE SWITCH—FRONT MOUNT

Intermediate size switch mounts from front of panel with clips requiring no mounting hardware. Have large numerals white on black background. Face height (including flange) 2.125", requires panel cutout 1.925" high. Switch is .500" wide and extends 1.824" from front of panel. Wt., 1 oz.

Stock No.	Type	Description	1-24	25-99	100-249	250-499
39F3259	1F110ND	10 Pos. Decimal	3.50	3.33	3.15	2.97
39F3261	1FB10N1248	10 Pos. BCD	3.25	3.09	2.93	2.76
39F3262	1FB10N1248E	10 Pos. BCD, extended board	3.50	3.33	3.15	2.97
39F3263	1FBC10N1248	10 Pos. BCD, with complements	4.75	4.52	4.28	4.04
39F3264	1FBC10N1248E	10 Pos. BCD, with complements, extended diode board	5.25	4.99	4.73	4.47
39F3312	1FDP	Divider Plate	.50	.48	.45	.43
39F3313	1FBB	Blank Body	.50	.48	.45	.43
39F3267	1FEP	End Plates (pr)	1.50	1.43	1.35	1.28

MINIATURE SWITCH—REAR MOUNT

Miniature switches are used where panel space restrictions are a problem. Switches are edge-operated and have white characters on a black background. Miniature switch face is .960" high; single switch occupies 0.500" width and extends 1.52" from rear of panel. Av. shpg. wt., ½ oz.

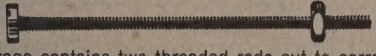
Stock No.	Type	Description	1-24	25-99	100-249	250-499
39F3295	E110ND	10 Pos. Decimal	3.00	2.85	2.70	2.55
39F3297	EB10N1248	10 Pos. BCD	2.75	2.61	2.48	2.34
39F3298	EB10N1248E	10 Pos. BCD, extended board	3.25	3.09	2.93	2.76
39F3299	EBC10N1248	10 Pos. BCD, with complements	4.25	4.04	3.83	3.61
39F3300	EBC10N1248E	10 Pos. BCD, with complements, extended diode board	4.50	4.28	4.05	3.83
39F3301	EDP	Divider Plate	.75	.71	.68	.65
39F3302	EBB	Blank Body	.50	.48	.45	.43
39F3303	EEP	End Plates (pr)	.75	.71	.68	.65

INTERMEDIATE SWITCH—REAR MOUNT

Module mounts from rear. End plates have mounting screw holes pre-drilled. Large numerals are white on black background. Face height 1.350" (panel cut-out approx. 1.355"). Switch width is .500" and extends 2.080" from rear of panel. Av. shpg. wt., 1 oz.

Stock No.	Type	Description	1-24	25-99	100-249	250-499
39F3268	R110ND	10 Pos. Decimal	3.50	3.33	3.15	2.97
39F3270	RB10N1248	10 Pos. BCD	3.25	3.09	2.93	2.76
39F3271	RB10N1248E	10 Pos. BCD, extended board	3.50	3.33	3.15	2.97
39F3972	RBC10N1248	10 Pos. BCD, with complements	4.75	4.52	4.28	4.04
39F3973	RBC10N1248E	10 Pos. BCD, with complements, extended diode board	5.25	4.99	4.73	4.47
39F3323	RDP	Divider Plate	.50	.48	.45	.43
39F3275	RHB	Blank Body	.50	.48	.45	.43
39F3267	REP	End Plates (pr)	1.50	1.43	1.35	1.28

ASSEMBLY HARDWARE FOR SM TYPE



Each package contains two threaded rods cut to correct length and two nuts for quick assembly. *Indicates number of switch modules that can be assembled.

Stock No.	Mfr's. Type	*	Stock No.	Mfr's. Type	*	Stock No.	Mfr's. Type	*
39F3314	SMH-1	1	39F3317	SMH-4	4	39F3320	SMH-7	7
39F3315	SMH-2	2	39F3318	SMH-5	5	39F3321	SMH-8	8
39F3316	SMH-3	3	39F3319	SMH-6	6	39F3322	SMH-9	9

1-24	25-99	100-249	250-499
1.25	1.19	1.13	1.06

ASSEMBLY HARDWARE FOR E, IF AND IR TYPES

Package contains two hollow threaded rods cut to correct length and four screws. *In table indicates number of modules that can be assembled.

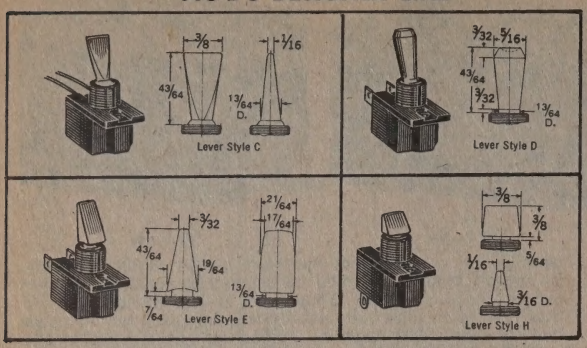
Stock No.	Mfr's Type	*	Stock No.	Mfr's Type	*	Stock No.	Mfr's Type	*
39F3277	IH-1	1	39F3280	IH-4	4	39F3283	IH-7	7
39F3278	IH-2	2	39F3281	IH-5	5	39F3284	IH-8	8
39F3279	IH-3	3	39F3282	IH-6	6	39F3285	IH-9	9

1-24	25-99	100-249	250-499
.75	.72	.68	.64

NEWARK carries complete lines of top quality electronic equipment. Newark can supply all your needs, whether or not they are listed in this catalog.

Cutler-Hammer AC-DC Switches

AC-DC DESIGNER LINE



Designer line switches employ standard utility mechanism with additon of nylon toggles. Are available in eight styles, and in seven colors on special order. Standard levers C and D are listed below. All are double insulated and feature quick-make, quick-break contact mechanism. Nylon bushing in 15/32"-32, 1"/32" long. Furnished with all necessary mounting hardware. Designer line facenuts optional UL and CSA approved. Note: switches with other than standard bushing length (1"/32), for dry circuit applications, with other than listed ampere ratings, terminations, descriptions and colors-available on request.

ONE POLE (ON-OFF)

Stock No.	Type	125V AC-DC	250V AC-DC	Lever Color	1-24	25-49	50-99	100-499	500-Up
41F460	8280K21C	.....	3A	White					
41F461	8280K22C	.....	3A	Red					
41F462	8280K26C	.....	3A	Blue	1.30	1.04	.91	.78	.59
41F463	8280K27C	.....	3A	Black					
41F464	8280K27E	.....	3A	Black					
41F465	8280K27H	.....	3A	Black					
23F450	8381K21C	6A	3A	White					
23F455	8381K21D	6A	3A	White					
23F451	8381K22C	6A	3A	Red	1.45	1.16	1.02	.87	.65
23F456	8381K22D	6A	3A	Red					
23F452	8381K23C	6A	3A	Grey					
23F453	8381K24C	6A	3A	Green					
23F458	8381K24D	6A	3A	Green					
41F508	8381K25C	6A	3A	Yellow					
41F509	8381K25D	6A	3A	Yellow	1.45	1.16	1.02	.87	.65
23F454	8381K27C	6A	3A	Black					
41F466	8381K27E	6A	3A	Black					
23F464	8381K27H	6A	3A	Black					

ONE POLE (ON-ON)

23F465	8282K21C	3A	1A	White					
23F466	8282K22C	3A	1A	Red					
23F468	8282K24C	3A	1A	Green	1.58	1.26	1.11	.95	.71
41F510	8282K25C	3A	1A	Yellow					
23F469	8282K27C	3A	1A	Black					
23F474	8282K27D	3A	1A	Black					

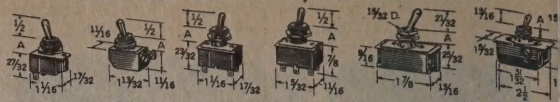
TWO POLE (ON-OFF)

23F480	8370K21C	6A	3A	White					
23F481	8370K22C	6A	3A	Red					
23F486	8370K22D	6A	3A	Red					
23F483	8370K24C	6A	3A	Green	2.30	1.84	1.61	1.38	1.04
41F512	8370K25C	6A	3A	Yellow					
23F484	8370K27C	6A	3A	Black					
23F489	8370K27D	6A	3A	Black					

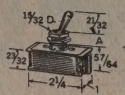
TWO POLE (ON-ON)

41F469	8363K21C	.....	3A	White	2.45	1.96	1.72	1.47	1.10
41F470	8363K27E	.....	3A	Black	2.45	1.96	1.72	1.47	1.10
23F501	8373K21C	6A	3A	White					
23F506	8373K21D	6A	3A	White					
23F502	8373K22C	6A	3A	Red					
23F507	8373K22D	6A	3A	Red					
23F504	8373K24C	6A	3A	Green	2.61	2.09	1.83	1.57	1.18
41F514	8373K25C	6A	3A	Yellow					
41F467	8373K26C	6A	3A	Blue					
23F505	8373K27C	6A	3A	Black					
23F510	8373K27D	6A	3A	Black					
41F468	8373K27E	6A	3A	Black					

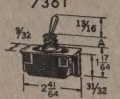
AC-DC QUICK-MAKE, QUICK-BREAK



8280 8396 8282 8363 8373 7320 7321 7323 8690



7360 7361



7402

Designed for small motor loads and radio appliances. Quick-make, quick-break mechanism. Reduces pitting of contact surfaces due to high arcing on overload currents. Impossible to "tease" the switch due to over center spring construction. Phenolic housing. Terminals well separated to reduce possibility of electrical creepage and to facilitate wiring. Super structure and bushing bright nickel plated. Large contact surfaces to reduce pitting.

ONE POLE (ON-OFF)

Stock No.	Type	125V AC-DC	250V AC-DC	Bush Lt.	Term.	1-24	25-49	50-99	100-499	500-Up
23F219	8280K14	3A	3A	1/4	Solder	1.27	1.02	.89	.76	.57
23F385	8280K15	3A	3A	1 1/32	Solder	1.27	1.02	.89	.76	.57
23F220	8280K16	3A	3A	1 5/32	Solder	1.27	1.02	.89	.76	.57
41F451	8290K14	3A	3A	1/4	Wire	1.53	1.22	1.07	.92	.69
23F391	8290K15	3A	3A	1 1/32	Wire	1.53	1.22	1.07	.92	.69
23F335	8290K16	3A	3A	1 5/32	Wire	1.53	1.22	1.07	.92	.69
23F336	8295K7	3A	3A	1 1/32	Screw	1.53	1.22	1.07	.92	.69
23F337	8295K8	3A	3A	1 5/32	Screw	1.53	1.22	1.07	.92	.69
41F520	8381K7	6A	3A	1 1/32	Solder	1.46	1.17	1.02	.88	.66
23F221	8381K8	6A	3A	1 5/32	Solder	1.46	1.17	1.02	.88	.66
41F521	8391K7	6A	3A	1 1/32	Wire	1.73	1.38	1.21	1.04	.78
23F338	8391K8	6A	3A	1 5/32	Wire	1.73	1.38	1.21	1.04	.78
41F522	8396K7	6A	3A	1 1/32	Screw	1.73	1.38	1.21	1.04	.78
23F228	8396K8	6A	3A	1 5/32	Screw	1.73	1.38	1.21	1.04	.78
41F452	8391K6	6A	3A	1/4	Wire	1.73	1.38	1.21	1.04	.78
41F523	7321K2	16A	8A	1 1/32	Screw	2.74	2.19	1.92	1.64	1.23
23F252	7321K3	16A	8A	1 5/32	Screw	2.74	2.19	1.92	1.64	1.23
41F453	7361K4	20A	10A	1 1/32	Screw	4.61	3.69	3.23	2.77	2.08
41F524	7361K5	20A	10A	1 5/32	Screw	4.61	3.69	3.23	2.77	2.08
41F525	7403K2	20A	20A	1 5/32	Screw	6.12	4.90	4.28	3.67	2.75

ONE POLE (ON-ON)

41F526	8282K12	3A	1A	1/4	Solder	1.61	1.29	1.13	.97	.73
23F395	8282K13	3A	1A	1 1/32	Solder	1.61	1.29	1.13	.97	.73
23F222	8282K14	3A	1A	1 5/32	Solder	1.61	1.29	1.13	.97	.73
23F259	8284K14	3A	1A	1 5/32	Solder	1.68	1.34	1.18	1.01	.76
41F450	8297K8	3A	1A	1 5/32	Screw	2.02	1.62	1.41	1.21	.91

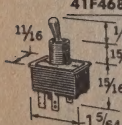
TWO POLE (ON-OFF)

23F392	8360K6	3A	3A	1/4	Solder	2.29	1.83	1.60	1.37	1.03
23F393	8360K8	3A	3A	1 1/32	Solder	2.29	1.83	1.60	1.37	1.03
23F223	8360K7	3A	3A	1 5/32	Solder	2.29	1.83	1.60	1.37	1.03
41F454	8360K38	3A	3A	1 5/32	Solder	2.29	1.83	1.60	1.37	1.03
23F225	8370K8	6A	3A	1 1/32	Solder	2.46	1.97	1.72	1.48	1.11
23F227	8370K7	6A	3A	1 5/32	Solder	2.46	1.97	1.72	1.48	1.11
23F339	8372K7	6A	3A	1 5/32	Screw	3.00	2.40	2.10	1.80	1.35
41F456	8371K7	6A	3A	1 5/32	Wire	3.18	2.54	2.23	1.91	1.43
23F250	7320K2	16A	8A	1 1/32	Screw	2.56	2.05	1.79	1.54	1.15
23F251	7320K3	16A	8A	1 5/32	Screw	2.56	2.05	1.79	1.54	1.15
23F270	7360K7	20A	10A	1 1/32	Screw	4.41	3.53	3.09	2.65	1.99
23F253	7360K8	20A	10A	1 5/32	Screw	4.41	3.53	3.09	2.65	1.99
41F527	7402K3	20A	22A	1 1/32	Screw	5.93	4.74	4.15	3.56	2.67
23F255	7402K4	20A	22A	1 5/32	Screw	5.93	4.74	4.15	3.56	2.67

TWO-POLE (ON-ON)

23F394	8363K6	3A	3A	1/4	Solder	2.64	2.11	1.85	1.58	1.19
23F209	8363K8	3A	3A	1 1/32	Solder	2.64	2.11	1.85	1.58	1.19
23F224	8363K7	3A	3A	1 5/32	Solder	2.64	2.11	1.85	1.58	1.19
41F455	8363K38	3A	3A	1 5/32	Solder	2.64	2.11	1.85	1.58	1.19
23F275	8365K7	3A	3A	1 5/32	Screw	3.47	2.78	2.43	2.08	1.56
41F457	8373K6	6A	3A	1/4	Solder	2.83	2.26	1.98	1.70	1.27
23F263	8373K8	6A	3A	1 1/32	Solder	2.83	2.26	1.98	1.70	1.27
23F226	8373K7	6A	3A	1 5/32	Solder	2.83	2.26	1.98	1.70	1.27
23F340	8375K7	6A	3A	1 5/32	Screw	3.64	2.91	2.55	2.18	1.64
41F458	8374K7	6A	3A	1 5/32	Wire	3.87	3.10	2.71	2.32	1.74
41F459	8386K1	6A	3A	1 5/32	Solder	3.79	3.03	2.65	2.27	1.71
41F528	8680K1	5A	5A	1 1/32	Screw	7.62	6.10	5.33	4.57	3.43
41F529	8680K2	5A	5A	1 5/32	Screw	7.62	6.10	5.33	4.57	3.43
41F530	8690K1	15A	10A	1 1/32	Screw	9.23	7.38	6.46	5.54	4.15
23F229	8690K2	15A	10A	1 5/32	Screw	9.23	7.38	6.46	5.54	4.15

DRY CIRCUIT

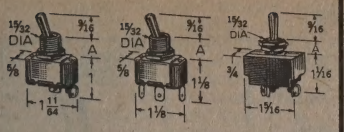


Circuits below 50 millivolts where contact resistance must not exceed 200 ohms or 10 millivolts at 50 ohms without unsatisfactory operation. Employ same AC-DC quick-make, quick-break mechanism with either coin silver or gold contacts and terminals. Switches use mechanical wiping contact mechanism.

Stock No.	Type	125-250V AC-DC	Action	Term.	1-24	25-49	50-99	100-499	500-Up
41F516	8376K1	5—3A	DPST	Silver	2.98	2.38	2.09	1.79	1.34
41F517	8376K2	5—3A	DPDT	Silver	3.42	2.74	2.39	2.05	1.54
41F518	8377K1	5—3A	DPST	Gold	4.03	3.22	2.82	2.42	1.81
41F519	8377K2	5—3A	DPDT	Gold	4.47	3.58	3.13	2.68	2.01

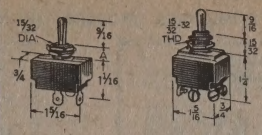
Cutler-Hammer AC Switches

ONE POLE



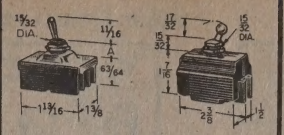
7500 7508-10 7576

TWO POLE



7561 7568-69

THREE POLE



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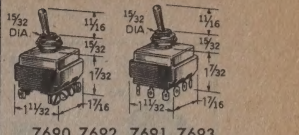
FOUR POLE



7690, 7692, 7691, 7693, 7694 7695

General purpose light and heavy duty AC switches for power appliances. Employ slow make—slow break rocker type contact mechanism. Combination phenolic-metallic housing. All are one hole mount type. One hexagon locknut and one knurled facenut furnished unassembled. Terminals in rear of base facilitate wiring and reduce possibility of electrical creepage.

Visible metals parts are bright nickel plated (except for 8320 which is zinc with aluminum ball). UL, CSA approved. ¼" spade terminals. Movable contact actuated by compression spring which provides positive contact pressure in closed position and firmly positions contactor in open position. (*) Momentary in one position. (**) Momentary in two positions.

SPST (ON-OFF)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
41F531	7580K5	6A	3A	....	15/32	Screw	1.34	1.07	.94	.80	.60
23F341	7580K4	6A	3A	....	15/32	Screw	1.34	1.07	.94	.80	.60
41F532	7580K7	6A	3A	....	11/32	Solder	1.16	.93	.81	.70	.52
23F342	7580K6	6A	3A	....	15/32	Solder	1.16	.93	.81	.70	.52
23F371	7580K9	6A	3A	....	11/32	Q.C.	1.16	.93	.81	.70	.52
41F533	7580K8	6A	3A	....	15/32	Spade	1.16	.93	.81	.70	.52
41F471	7517K4	10A	5A	....	11/32	Plug in	1.27	1.02	.89	.76	.57
41F534	7506K4*	....	10A	½	15/32	Screw	2.01	1.61	1.47	1.21	.91
23F233	7506K3*	....	10A	½	15/32	Screw	1.81	1.45	1.27	1.09	.82
23F377	7500K13	15A	10A	¾	11/32	Screw	1.53	1.22	1.07	.92	.69
23F247	7500K14	15A	10A	¾	15/32	Screw	1.53	1.22	1.07	.92	.69
23F369	7501K12	15A	10A	¾	11/32	Solder	1.34	1.07	.94	.80	.60
23F230	7501K13	15A	10A	¾	15/32	Solder	1.34	1.07	.94	.80	.60
23F378	7501K14	15A	10A	¾	11/32	Q.C.	1.34	1.07	.94	.80	.60
41F535	7501K15	15A	10A	¾	15/32	Spade	1.34	1.07	.94	.80	.60
41F472	7576K2	....	25A	....	15/32	Screw	2.69	2.15	1.88	1.61	1.21

SPDT (ON-ON)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
23F345	7582K4	6A	3A	....	15/32	Screw	1.53	1.22	1.07	.92	.69
41F473	7582K7	6A	3A	....	11/32	Screw	1.25	1.00	.88	.75	.56
23F346	7582K6	6A	3A	....	15/32	Solder	1.25	1.00	.88	.75	.56
41F474	7582K9	6A	3A	....	11/32	Q.C.	1.25	1.00	.88	.75	.56
41F475	7582K8	6A	3A	....	15/32	Q.C.	1.25	1.00	.88	.75	.56
41F541	7504K3	15A	10A	¾	11/32	Screw	1.80	1.44	1.26	1.08	.81
23F380	7504K4	15A	10A	¾	15/32	Screw	1.80	1.44	1.26	1.08	.81
41F542	7505K3	15A	10A	¾	11/32	Solder	1.53	1.22	1.07	.92	.69
23F232	7505K4	15A	10A	¾	15/32	Solder	1.53	1.22	1.07	.92	.69
41F476	7505K5	15A	10A	¾	11/32	Q.C.	1.53	1.22	1.07	.92	.69
41F543	7505K6	15A	10A	¾	15/32	Spade	1.53	1.22	1.07	.92	.69
41F477	7510K7*	....	10A	½	15/32	Screw	2.34	1.87	1.64	1.40	1.05
41F478	7510K9*	....	10A	½	15/32	Q.C.	2.05	1.64	1.44	1.23	.92

SPDT (ON-OFF-ON)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
23F343	7581K4	6A	3A	¾	15/32	Screw	1.53	1.22	1.07	.92	.69
41F538	7581K7	6A	3A	¾	11/32	Solder	1.25	1.00	.88	.75	.56
23F344	7581K6	6A	3A	¾	15/32	Solder	1.25	1.00	.88	.75	.56
23F372	7581K9	6A	3A	¾	11/32	Q.C.	1.25	1.00	.88	.75	.56
23F383	7502K12	15A	10A	¾	11/32	Screw	1.80	1.44	1.26	1.08	.81
23F265	7502K13	15A	10A	¾	15/32	Screw	1.80	1.44	1.26	1.08	.81
41F539	7503K12	15A	10A	¾	11/32	Solder	1.53	1.22	1.07	.92	.69
23F231	7503K13	15A	10A	¾	15/32	Solder	1.53	1.22	1.07	.92	.69
41F540	7503K14	15A	10A	¾	11/32	Spade	1.53	1.22	1.07	.92	.69
41F479	7503K15	15A	10A	¾	11/32	Q.C.	1.53	1.22	1.07	.92	.69
41F537	7509K5**	....	10A	½	15/32	Screw	2.34	1.87	1.64	1.40	1.05

DPST (ON-OFF)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
23F347	7590K4	6A	3A	....	15/32	Screw	2.04	1.63	1.43	1.22	.92
41F545	7590K7	6A	3A	....	11/32	Solder	1.66	1.33	1.16	1.00	.75
23F348	7590K6	6A	4A	....	15/32	Solder	1.66	1.33	1.16	1.00	.75
41F546	7590K9	6A	3A	....	15/32	Spade	1.66	1.33	1.16	1.00	.75
41F480	7593K6*	6A	3A	....	15/32	Lug	2.53	2.02	1.77	1.52	1.14
41F547	7560K6	15A	10A	¾	11/32	Screw	2.42	1.94	1.69	1.45	1.09
23F267	7560K5	15A	10A	¾	15/32	Screw	2.42	1.94	1.69	1.45	1.09
23F268	7561K5	15A	10A	¾	11/32	Solder	2.04	1.63	1.43	1.22	.92
23F235	7561K4	15A	10A	¾	15/32	Solder	2.04	1.63	1.43	1.22	.92
41F481	7561K7	15A	10A	¾	11/32	Q.C.	2.04	1.63	1.43	1.22	.92
23F381	7561K6	15A	10A	¾	15/32	Spade	2.04	1.63	1.43	1.22	.92
23F368	7566K5*	15A	10A	½	15/32	Screw	3.30	2.64	2.31	1.98	1.49
41F483	7599K1	.....	20A	....	15/32	Q.C.	2.27	1.82	1.59	1.36	1.02

DPDT (ON-ON)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
23F357	7592K4	6A	3A	....	15/32	Screw	2.42	1.94	1.69	1.45	1.09
41F550	7592K7	6A	3A	....	11/32	Solder	1.87	1.50	1.31	1.12	.84
23F358	7592K6	6A	3A	....	15/32	Solder	1.87	1.50	1.31	1.12	.84
23F376	7592K8	6A	3A	....	15/32	Spade	1.87	1.50	1.31	1.12	.84
41F484	7595K6*	6A	3A	....	15/32	Lug	2.71	2.17	1.90	1.63	1.22
41F554	7564K7	15A	10A	¾	11/32	Screw	2.98	2.38	2.09	1.79	1.34
23F266	7564K6	15A	10A	¾	15/32	Screw	2.98	2.38	2.09	1.79	1.34
41F555	7565K6	15A	10A	¾	11/32	Solder	2.42	1.94	1.69	1.45	1.09
23F236	7565K5	15A	10A	¾	15/32	Solder	2.42	1.94	1.69	1.45	1.09
41F485	7565K8	15A	10A	¾	11/32	Q.C.	2.42	1.94	1.69	1.45	1.09
23F382	7565K7	15A	10A	¾	15/32	Spade	2.42	1.94	1.69	1.45	1.09
41F495	7570K5*	15A	10A	½	15/32	Screw	3.89	3.11	2.72	2.33	1.75
41F486	7570K7*	15A	10A	½	15/32	Q.C.	3.30	2.64	2.31	1.98	1.49

DPDT (ON-OFF-ON)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
23F349	7591K4	6A	3A	....	15/32	Screw	2.42	1.94	1.69	1.45	1.09
23F374	7591K7	6A	3A	....	11/32	Solder	1.87	1.50	1.31	1.12	.84
23F356	7591K6	6A	3A	....	15/32	Solder	1.87	1.50	1.31	1.12	.84
41F487	7596K6*	6A	3A	....	15/32	Screw	2.71	2.17	1.90	1.63	1.22
41F488	7597K6**	6A	3A	....	15/32	Lug	2.71	2.17	1.90	1.63	1.22
41F551	7562K5	15A	10A	¾	11/32	Screw	2.98	2.38	2.09	1.79	1.34
23F246	7562K4	15A	10A	¾	15/32	Screw	2.98	2.38	2.09	1.79	1.34
41F552	7563K5	15A	10A	¾	11/32	Solder	2.42	1.94	1.69	1.45	1.09
23F237	7563K4	15A	10A	¾	15/32	Solder	2.42	1.94	1.69	1.45	1.09
41F489	7563K7	15A	10A	¾	11/32	Q.C.	2.42	1.94	1.69	1.45	1.09
41F553	7563K6	15A	10A	¾	15/32	Spade	2.42	1.94	1.69	1.45	1.09
41F490	7568K2*	15A	10A	½	15/32	Screw	3.89	3.11	2.72	2.33	1.75
41F491	7569K2**	15A	10A	½	15/32	Lug	3.89	3.11	2.72	2.33	1.75
41F548	7569K1**	15A	10A	½	15/32	Solder	3.30	2.64	2.31	1.98	1.49

3PST (ON-OFF)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
41F557	7600K3	15A	10A	1	Flush	Screw	4.64	3.71	3.25	2.78	2.09
41F492	8337K2	15A	10A	1	OBM	Screw	8.48	6.78	5.94	5.09	3.82
23F271	7610K2	15A	10A	2	15/32	Screw	4.64	3.71	3.25	2.78	2.09
23F240	7611K2	15A	10A	1	15/32	Solder	3.99	3.19	2.79	2.39	1.80
41F558	7611K4	15A	10A	1	15/32	Spade	3.99	3.19	2.79	2.39	1.80
41F559	8320K1	....	20A	2	15/32	Screw	8.48	6.78	5.94	5.09	3.82

3PDT (ON-ON)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
23F257	7614K2	15A	10A	1	15/32	Screw	5.89	4.71	4.12	3.53	2.65
23F243	7615K2	15A	10A	1	15/32	Solder	4.90	3.92	3.43	2.94	2.21
23F276	7615K4	15A	10A	1	15/32	Spade	4.90	3.92	3.43	2.94	2.21
41F493	7618K2*	15A	10A	1	15/32	Screw	6.25	5.00	4.38	3.75	2.81

3PDT (ON-OFF-ON)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
41F560	7602K2	15A	10A	1	Flush	Screw	5.89	4.71	4.12	3.53	2.65
23F256	7612K2	15A	10A	1	15/32	Screw	5.89	4.71	4.12	3.53	2.65
23F241	7613K2	15A	10A	1	15/32	Solder	4.90	3.92	3.43	2.94	2.21
41F561	7613K4	15A	10A	1	15/32	Spade	4.90	3.92	3.43	2.94	2.21

4PST (ON-OFF)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
41F562	7690K8	15A	10A	¾	15/32	Screw	6.67	5.34	4.67	4.00	3.00
23F242	7691K14	15A	10A	1	15/32	Lug	6.02	4.82	4.21	3.61	2.71

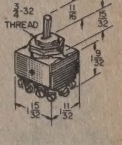
4PDT (ON-ON)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
41F564	7694K4	15A	10A	¾	15/32	Screw	8.31	6.65	5.82	4.99	3.74
41F565	7695K5	15A	10A	1	15/32	Lug	7.32	5.86	5.12	4.39	3.29

4PDT (ON-OFF-ON)

Stk. No.	Type	125 VAC	250 VAC	250 HP	Bush Lt.	Term	1-24	25-49	50-99	100-499	500-Up
41F563	7692K13	15A	10A	¾	15/32	Screw	8.31	6.65	5.82	4.99	3.74
41F494	7693K2	15A	10A	¾	15/32	Lug	8.31	6.65	5.82	4.99	3.74

HESISTATION SWITCH



Three position center off, hesitation, positive stop, or positive off switches; restrict operation from one "on" position to the other "on" position without a stop in the center position. Use with reversing motors; prevent damage by high currents from reversing. A mechanical interlock in switch prohibits toggle action through center position until pressure is momentarily relieved from lever.

Stk. No.	Type	A.H. & H	Action	Bush Dia.	1-24	25-49	50-99	100-499	500-999
23F1152	7992K10		DPDT	15/32	10.82	8.66	7.57	6.49	4.87
23F1153	7992K20	80638-D	DPDT	¾	10.82	8.66	7.57	6.49	4.87
23F1154	7991K10		3PDT	15/32	13.51	10.81	9.46	8.11	6.08
23F1155	7991K20	80983	3PDT	¾	13.51	10.81	9.46	8.11	6.08
23F1156	7990K10		4PDT	15/32	15.14	12.11	10.60	9.08	6.81
23F1157	7990K20	80985	4PDT	¾	15.14	12.11	10.60	9.08	6.81

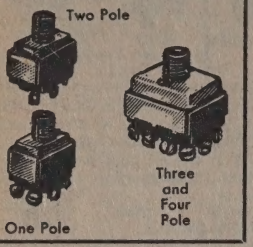
9

Cutler-Hammer Design Switches

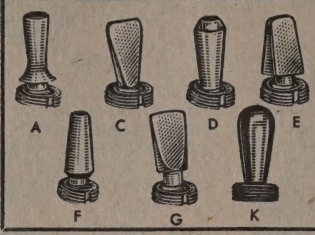
AC "DESIGNER LINE"

SELECTION TABLE FOR COMPOSITE ORDERING NUMBER

BASIC SWITCH TYPE



LEVER SHAPE SUFFIX NO. (Select One)



Lever Color

21. (White)
22. (Red)
23. (Gray)
24. (Green)
25. (Yellow)
26. (Blue)
27. (Black)

COMPLETE SWITCH

EXAMPLE

7562K54 BASIC SWITCH TYPE	+	C LEVER STYLE	+	23 COLOR	=	7562K54C23 COMPLETE ORDERING NUMBER

Note: You must make the complete ordering number when placing your order. Switches employ standard slow-make, slow-break rocker type mechanism with nylon toggles epoxied on to the metal actuator. One hole mounting, one hexagon locknut and one knurled facenut furnished unassembled. **Caution:** These are assembled special order switches as per your requirements. Care is advised in choosing correct part numbers. (*) Indicates momentary operation in that position (spring return).

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ONE POLE

SCREW TERMINALS

Type	125 VAC	250 VAC	1-24	25-49	50-99	100-499	500-Up	Circuit
7590K73XXX	6A	3A	1.20	1.11	.93	.83	.74	On-Off
7591K73XXX	6A	3A	1.40	1.30	1.08	.97	.86	On-Off-On
7592K73XXX	6A	3A	1.40	1.30	1.08	.97	.86	On-On
7597K73XXX	6A	3A	1.81	1.67	1.39	1.25	1.11	On*-Off-On*
7560K73XXX	15A	10A	1.40	1.30	1.08	.97	.86	On-Off
7562K73XXX	15A	10A	1.70	1.57	1.31	1.18	1.05	On-Off-On
7564K73XXX	15A	10A	1.70	1.57	1.31	1.18	1.05	On-On
7566K73XXX	15A	10A	1.87	1.73	1.44	1.30	1.15	Off-On*

SOLDER LUG TERMINALS

Type	125 VAC	250 VAC	1-24	25-49	50-99	100-499	500-Up
7590K74XXX	6A	3A	.99	.92	.77	.68	.61
7591K74XXX	6A	3A	1.11	1.02	.85	.77	.68
7592K74XXX	6A	3A	1.11	1.02	.85	.77	.68
7597K74XXX	6A	3A	1.56	1.44	1.20	1.08	.96
7561K74XXX	15A	10A	1.20	1.11	.93	.83	.74
7563K74XXX	15A	10A	1.40	1.30	1.08	.97	.86
7565K74XXX	15A	10A	1.40	1.30	1.08	.97	.86
7566K74XXX	15A	10A	1.66	1.54	1.28	1.15	1.02

TWO POLE

SCREW TERMINALS

7590K53XXX	6A	3A	1.44	1.33	1.11	1.00	.89	On-Off
7591K53XXX	6A	3A	1.65	1.52	1.27	1.14	1.12	On-Off-On
7592K53XXX	6A	3A	1.65	1.52	1.27	1.14	1.02	On-On
7569K53XXX	15A	10A	2.44	2.25	1.88	1.69	1.50	*On-Off-On*
7560K53XXX	15A	10A	1.65	1.52	1.27	1.14	1.02	On-Off
7562K53XXX	15A	10A	1.95	1.80	1.50	1.35	1.20	On-Off-On
7564K53XXX	15A	10A	1.95	1.80	1.50	1.35	1.20	On-On
7566K53XXX	15A	10A	2.12	1.96	1.63	1.47	1.30	Off-On*

SOLDER LUG TERMINALS

7590K54XXX	6A	3A	1.24	1.15	.95	.86	.76
7591K54XXX	6A	3A	1.35	1.24	1.04	.93	.83
7592K54XXX	6A	3A	1.35	1.24	1.04	.93	.83
7569K54XXX	15A	10A	2.12	1.96	1.63	1.48	1.30
7561K54XXX	15A	10A	1.44	1.33	1.11	1.00	.89
7563K54XXX	15A	10A	1.65	1.52	1.27	1.14	1.02
7565K54XXX	15A	10A	1.65	1.52	1.27	1.14	1.02
7566K54XXX	15A	10A	1.91	1.76	1.47	1.32	1.18

THREE POLE

SCREW TERMINALS

7690K73XXX	15A	10A	3.97	3.66	3.05	2.75	2.44	On-Off
7692K73XXX	15A	10A	4.28	3.95	3.30	2.97	2.64	On-Off-On
7694K73XXX	15A	10A	4.36	4.02	3.35	3.02	2.68	On-On

FOUR POLE

SCREW TERMINALS

7692K53XXX	15A	10A	5.16	4.76	3.97	3.57	3.18	On-Off-On

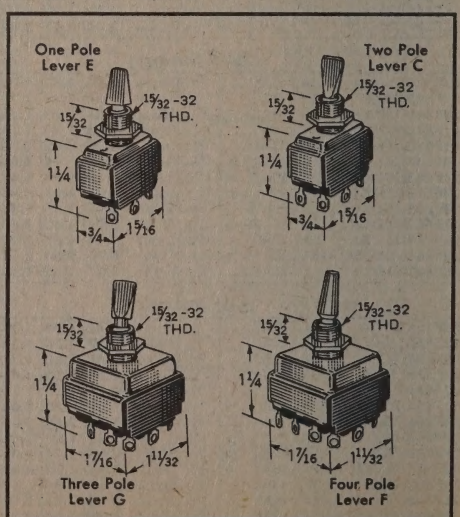
OPTIONAL "DESIGNER LINE" FACE NUTS

Knurled

Bevel

Switch w/colored Cap Assembled

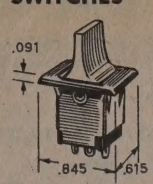
Stk. No.	Type	Color	Style	1-24	25-49	50-99	100-499	500-Up
41F501	15-1048-3	Black	Knrl.	.14	.13	.11	.10	.09
41F501	15-1048-7	Cl. Alum.	Knrl.					
41F502	15-1048-12	Bronze	Knrl.					
41F503	15-1048-22	Avocado	Knrl.					
41F504	15-1049-3	Black	Bev.					
41F505	15-1049-7	Cl. Alum.	Bev.					
41F506	15-1049-12	Bronze	Bev.					
41F507	15-1049-22	Avocado	Bev.					



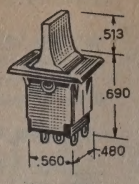
Cutler Hammer "Rockette" Switches

MINIATURE SNAP-IN PADDLE ROCKER SWITCHES

Ultra compact snap-in mounted paddle operated switches employ slow-make, slow-break contact with substantial current carrying capability. Designed for AC and low voltage DC (up to 28V) circuits. Rated 5A at 125VAC or 28 VDC. Mounts in .040-.120" thick panel with bezel. All switches have solder lug type terminals. Decorative nylon bezels snap over metal mounting ears of switch. Available in four colors. Factory assembled. Basic switch, paddle color, and bezel color may all be intermixed to satisfy your particular requirements. Price listed is for complete unit.

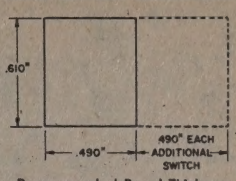


ONE POLE



TWO POLE

PANEL CUT-OUT DIMENSIONS



Recommended Panel Thickness .040-.120" with Bezel.

Combine Three Codes (Ten Alpha Numeric Digits) for Complete Part Number

Basic Switch		
Circuit	No. of Poles	Code
On-Off-On	1	SC3BX18
On-On	1	SC3CX18
On-Off-On*	1	SC3FX18
On-On	1	SC3GX18
On*-Off-On	1	SC3HX18
On-Off-On	2	SC4BX18
On-On	2	SC4CX18
On-Off-On*	2	SC4FX18
On-On*	2	SC4GX18
On*-Off-On*	2	SC4HX18

+

Paddle	
Color	Code
White	1
Red	2
Black	5
Gray	8

+

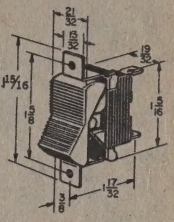
Bezel	
Color	Code
White	–91
Red	–92
Black	–96
Gray	–95

(*) Momentary contact.

PRICE OF BASIC SWITCH

Basic Switch	1-24	25-99	100-499	500-999	1000-4999
SC3BX18	2.55	1.71	1.53	1.28	1.20
SC3CX18	2.35	1.58	1.41	1.18	1.11
SC3FX18	2.55	1.71	1.53	1.28	1.20
SC3GX18	2.55	1.71	1.53	1.28	1.20
SC3HX18	2.55	1.71	1.53	1.28	1.20

Basic Switch	1-24	25-99	100-499	500-999	1000-4999
SC4BX18	2.92	1.96	1.75	1.46	1.37
SC4CX18	2.50	1.68	1.50	1.25	1.18
SC4FX18	2.92	1.96	1.75	1.46	1.37
SC4GX18	2.92	1.96	1.75	1.46	1.37
SC4HX18	2.92	1.96	1.75	1.46	1.37



ROCKETTE SWITCHES

Low profile styling, momentary or maintained operation, serrated white rocker. Panel mounted. Mounting frame has #6-32 tapped holes. UL and CSA listed. AC voltage only. Spade terminals are ¼" wide. (*) Indicates momentary.

ONE POLE

Stock No.	Type	Rating 125V	Rating 250V	Circuit	Terminals	1-24	25-49	50-99	100-499	500-Up
23F433	8134K20A1M52	6A	3A	On-Off-On	Spade	.83	.76	.64	.57	.51
67F1611	8134K21A1M52	6A	3A	On-Off	Spade	.77	.71	.60	.54	.48
67F1612	8135K21A1M52	6A	3A	*On-Off	Spade	.95	.88	.73	.66	.58
67F1613	8136K20A1M52	6A	3A	*On-Off-On*	Spade	1.00	.92	.77	.69	.61
23F434	8144K20A1M52	15A	10A	On-Off-On	Spade	.98	.91	.76	.68	.60
23F365	8144K21A1M50	15A	10A	On-Off	Screw	.95	.88	.73	.66	.58
23F399	8144K21A1M52	15A	10A	On-Off	Spade	.87	.80	.67	.60	.54
41F566	8144K22A1M52	15A	10A	On-On	Spade	.98	.91	.76	.68	.60
41F567	8146K20A1M52	15A	10A	*On-Off-On*	Spade	1.16	1.07	.89	.80	.71

TWO POLE

Stock No.	Type	Rating 125V	Rating 250V	Circuit	Terminals	1-24	25-49	50-99	100-499	500-Up
23F437	8132K20E6M52	6A	3A	On-Off-On	Spade	1.24	1.15	.96	.86	.76
23F435	8132K21E6M52	6A	3A	On-Off	Spade	1.14	1.05	.88	.79	.70
67F1734	8138K20E6M52	6A	3A	*On-Off-On*	Spade	1.68	1.55	1.29	1.16	1.03
23F438	8142K20E6M52	15A	10A	On-Off-On	Spade	1.64	1.51	1.26	1.13	1.01
23F366	8142K21E6M50	15A	10A	On-Off	Screw	1.51	1.39	1.16	1.04	.93
23F436	8142K21E6M52	15A	10A	On-Off	Spade	1.34	1.24	1.03	.93	.82
41F568	8142K22E6M52	15A	10A	On-Off	Spade	1.64	1.51	1.26	1.13	1.01
67F1614	8147K21E6M52	15A	10A	*On-Off	Spade	1.78	1.64	1.37	1.23	1.09
67F1610	8148K20E6M52	15A	10A	*On-Off-On*	Spade	1.91	1.76	1.47	1.32	1.18

ILLUMINATED ROCKETTE

Same as standard Rockette except entire surface of rocker illuminated. With On-Off circuit light shines in On position. With On-Off-On circuit light shines in either or both On positions. All have spade terminals. Rated 15A at 28VDC. UL and CSA listed as 15A at 125VSC, 10A at 250 VAC.

ONE POLE

Stock No.	Type	Circuit	Bulb Voltage	Rocker Color	1-24	25-49	50-99	100-499	500-Up
67F1615	8175K10E121T52	On-Off-On	110 VAC	Red	2.18	2.01	1.68	1.51	1.34
67F1616	8175K10E321G52	On-Off-On	14 VDC	Green	2.18	2.01	1.68	1.51	1.34
67F1617	8175K10E321T52	On-Off-On	14 VDC	Red	2.18	2.01	1.68	1.51	1.34
67F1600	8175K11E321G52	On-Off	14 VDC	Green	2.09	1.93	1.61	1.45	1.28

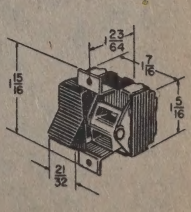
TWO POLE

Stock No.	Type	Circuit	Bulb Voltage	Rocker Color	1-24	25-49	50-99	100-499	500-Up
67F1601	8173K10H123T52	On-Off-On	110 VAC	Red	3.31	3.05	2.54	2.29	2.04
67F1602	8173K10H323G52	On-Off-On	14 VDC	Green	3.31	3.05	2.54	2.29	2.04
67F1603	8173K10H323T52	On-Off-On	14 VDC	Red	3.31	3.05	2.54	2.29	2.04
67F1604	8173K11H123T52	On-Off	110 VAC	Red	2.79	2.57	2.15	1.93	1.72
67F1605	8173K11H323G52	On-Off	14 VDC	Green	2.79	2.57	2.15	1.93	1.72
67F1606	8173K11H323T52	On-Off	14 VDC	Red	2.79	2.57	2.15	1.93	1.72

THREE POLE

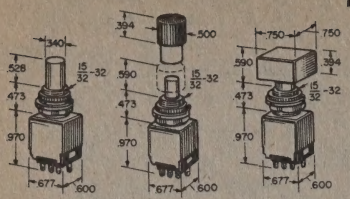
Stock No.	Type	Circuit	Bulb Voltage	Rocker Color	1-24	25-49	50-99	100-499	500-Up
67F1607	8171K10H329G52	On-Off-On	14 VDC	Green	4.91	4.54	3.78	3.40	3.02
67F1608	8171K11H329G52	On-Off	14 VDC	Green	4.03	3.72	3.10	2.79	2.48
67F1609	8171K11H329T52	On-Off	14 VDC	Red	4.03	3.72	3.10	2.79	2.48

One Pole


Two & Three Pole

Illuminated Switches

ILLUMINATED PUSHBUTTON SWITCHES



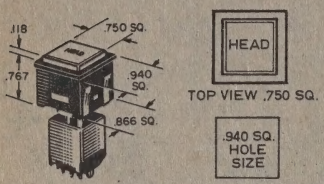
.340" Round ½" Round ¾" Square

Two Pole (ON-On) design. Rated 5 amps @ 125 VAC and 28 VDC. Positive detent. Solder lug terminals. Independent lamp circuit. Snap-in bulbs replaceable from front panel. Hardware furnished unassembled. Choice of operator styles and colors. Bushing 15/32"-32 dia. Price listed is for complete unit.

COMBINE FOUR CODES (TEN ALPHA NUMERIC DIGITS) FOR COMPLETE PART NUMBER

Basic Switch		Each		Bulb			Cap Style			Cap Color	
Operation	Code	1-24	+	Voltage	Code	+	Style	Code	+	Color	Code
Momentary	SB1DDX	5.45		6	1		¾" Square	91		White	—1
Push-Push	SB1DEX	5.45		14	2		½" Round	92		Red	—2
				28	4		.340" Round	93		Green	—3
										Amber	—4

ILLUMINATED SNAP-IN PUSHBUTTON SWITCHES



Snap-In Pushbutton Switch

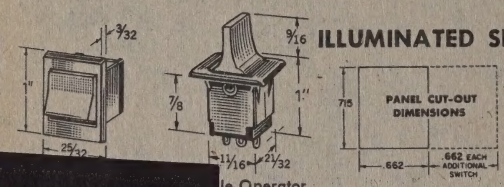
Two Pole, Double Throw design. Rated 5 amps @ 125 VAC and 28 VDC. Positive detent. Solder lug terminals. Incandescent bulbs replaceable from front panel. Hardware furnished unassembled. Choice of operator styles and colors. Independent lamp circuit. Superstructure mounts in .870" sq. panel opening. Bushing 15/32"-32 dia. Price listed is for complete unit.

COMBINE FOUR CODES (TWELVE ALPHA NUMERIC DIGITS) FOR COMPLETE PART NUMBER

Basic Switch		Each		Bulb			Cap Color			Bezel Color	
Operation	Code	1-24	+	Voltage	Code	+	Color	Code	+	Color	Code
Momentary	SB1DDX	6.60		6	1		White	93-1		White	A1
Push-Push	SB1DEX	6.60		14	2		Red	93-2		Red	A2
				28	4		Green	93-3		Green	A5
							Amber	93-4		Black	A6

9

ILLUMINATED SNAP-IN ROCKER SWITCHES



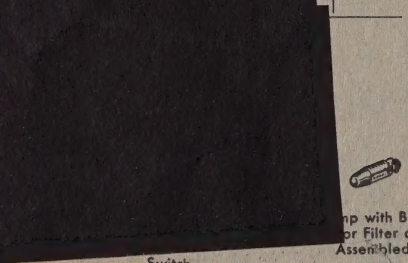
le Operator

Slow-make, slow-break contact mechanism. Rated 5 amps @ 125 VAC and 28 VDC. Solder lug terminals. Independent lamp circuit. Snap-in bulbs replaceable from front panel. Smooth, polycarbonate resin translucent rocker or paddle operators and indicator light lenses. Mounts in .040-.120 with bezel. Nylon bezels snap over metal mounting flanges of switch or indicator light. Price listed is for complete unit. (*) Momentary.

INE FOUR CODES (ELEVEN ALPHA NUMERIC DIGITS) FOR COMPLETE PART NUMBER

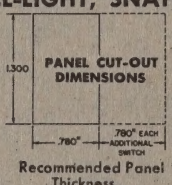
	Each		Bulb			Operators (select only one)				Bezel	
	1-24	+	Voltage	Code	+	Color	Rocker Code	OR	Paddle Code	Color	Code
	4.87		6	E1		White	91		81	White	—91
	4.87		14	M1		Red	92		82	Red	—92
	5.00		18	J1		Green	93		83	Green	—93
	5.00		28	L1		Amber	94		84	Amber	—94
	5.00					Blue	97		87	Black	—96
						Yellow	98		88	Blue	—97
										Yellow	—98

DUAL-LIGHT, SNAP-IN ROCKER SWITCHES



np with Bulb
or Filter cap
Assembled.

Switch



Recommended Panel Thickness .040-.120 with Bezel.

Two Pole Double Throw. Solder lug terminals. Bulbs electrically independent of switch circuit. Can also be wired in parallel with load to indicate operation. Removable rocker for front of panel bulb replacement. Color coded bulb filter caps provide even dispersion of color over entire rocker face when illuminated. Designed for installation in .040-.150" thick panels. Rated 10 Amps @ 125 VAC, 6 Amps @ 250 VAC, and 5 Amps @ 28 VDC. Price listed is for complete unit. (*) Momentary.

Basic Switch		Each		Two Bulbs			Bulb Caps			Bezel	
Circuit	Code	1-24	+	Voltage	Code	+	Color	Code	+	Color	Code
ON-Off-On	SC5DBP	7.98		6	19		None	1-9		White	A1
On---------On	SC5DCP	7.38		14	29		1 Red	1-2		Red	A2
On-Off-On*	SC5DFP	8.75		18	39		2 Red	1-12		Green	A3
On-------On*	SC5DGP	8.75		28	59		1 Green	1-3		Amber	A4
On*-Off-On*	SC5DHP	8.75					2 Green	1-13		Gray	A5
							1 Amber	1-4		Black	A6
							2 Amber	1-14			
							Green/Red	1-5			
							Red/Amber	1-6			
							Green/Amber	1-7			

Call your nearest Newark facility for quantity pricing

Cutler-Hammer Switches

AC/DC PUSHBUTTON SWITCHES

Quick-made, Quick-break, "tease-proof" mechanism. Hexagon locknut, knurled facenut furnished unassembled. Visible metal parts bright nickel plated. 6" long wire leads, skinned ¾". ¼" spade terminals, tin plated for easy soldering.

One Pole—Momentary—Normally Open

Stock No.	Type	Fig.	Rating 125V	Rating 250V	Button Color	Terms.	1-24	25-49	50-99	100-499	500-Up
41F608	8410K3	A	¾A	¼A	Black	Screw	1.23	.98	.86	.74	.55
23F260	8411K11	B	¾A	¼A	Black	Spade	.86	.69	.60	.52	.39
23F439	8411K12	B	¾A	¼A	Black	Screw	1.02	.82	.71	.61	.46
23F359	8411K13	B	¾A	¼A	Red	Spade	.86	.69	.60	.52	.39
67F1618	8424K1	....	¾A	¼A	White	Spade	.70	.56	.49	.42	.32
23F444	7190K1	C	6A	3A	Nickel	S. Lug	2.57	2.06	1.80	1.54	1.16
23F363	7196K1	D	6A	3A	Nickel	Screw	2.84	2.27	1.99	1.70	1.28
67F1619	7193K1	D	6A	3A	Nickel	Wires	2.84	2.27	1.99	1.70	1.28

One Pole—Momentary—Normally Closed

67F1620	8410K1	A	¾A	¼A	Black	Screw	.95	.76	.66	.57	.43
23F440	8411K7	B	¾A	¼A	Black	Screw	.84	.67	.59	.50	.38
23F261	8411K8	B	¾A	¼A	Black	S. Lug	.63	.50	.44	.38	.28
67F1621	8423K1	C	¾A	¼A	White	Spade	.57	.46	.40	.34	.26

One Pole—Push On/Push Off

67F1622	7206K4	....	6A	3A	Nickel	S. Lug	1.91	1.53	1.34	1.15	.86
67F1623	7207K4	....	6A	3A	Nickel	Wires	2.18	1.74	1.53	1.31	.98
23F364	7208K4	....	6A	3A	Nickel	Screw	2.18	1.74	1.53	1.31	.98

Two Pole Double Throw—Momentary

41F606	7199K2	....	6A	3A	Nickel	S. Lug	4.61	3.69	3.23	2.77	2.08

AC PUSHBUTTON SWITCHES

Slow-make, Slow-break momentary contact mechanism. Bright nickel plated button. Mounting hardware furnished unassembled. 15/32" diameter bushing.

One Pole—Normally Open

Stock No.	Type	Fig.	Rating 125V	Rating 250V	125V 250V	Terms.	1-24	25-49	50-99	100-499	500-Up
23F262	8440K2	F	3A	.....	.....	S. Lug	1.76	1.41	1.23	1.06	.79
23F441	8440K3	F	3A	.....	.....	Screw	2.03	1.62	1.42	1.22	.91
67F1624	8442K2	G	6A	3A	.....	Spade	1.70	1.36	1.19	1.02	.77
23F360	8442K4	H	6A	3A	.....	Screw	1.93	1.54	1.35	1.16	.87
67F1625	8444K2	G	15A	10A	½ HP	Spade	1.86	1.49	1.30	1.12	.84
23F443	8444K3	G	15A	10A	½ HP	Screw	2.08	1.66	1.46	1.25	.94
23F361	8444K4	H	15A	10A	½ HP	Screw	2.08	1.66	1.48	1.25	.94

One Pole—Double Throw

41F609	8446K2	G	15A	10A	½ HP	Screw	2.38	1.90	1.67	1.43	1.07

Two Pole—Normally Open

23F362	8448K2	K	15A	10A	.....	Screw	2.98	2.38	2.09	1.79	1.34

PORTABLE ELECTRIC TOOL SWITCHES

Designed to mount directly in the handle of portable electric tools. On plug-in terminals devices, connections are made by plugging lead wires into switch body. Plug-in holes will accommodate #18 or #20 tin dipped stranded wire leads, skinned 3/8", or maximum diameter of .120" (over insulation). Release hole, provided for each access wire, will accept .052" maximum diameter tool. On screw terminal devices, screws furnished unassembled. All have plastic levers for safety. **½ Wave Speed Control:** Bi-Ristor static circuit; speed range 0 to full RPM; speed increases as trigger is depressed; furnished with 2" wire leads, skinned 3/8".

AC Rated—One Pole—Plug in Terminals

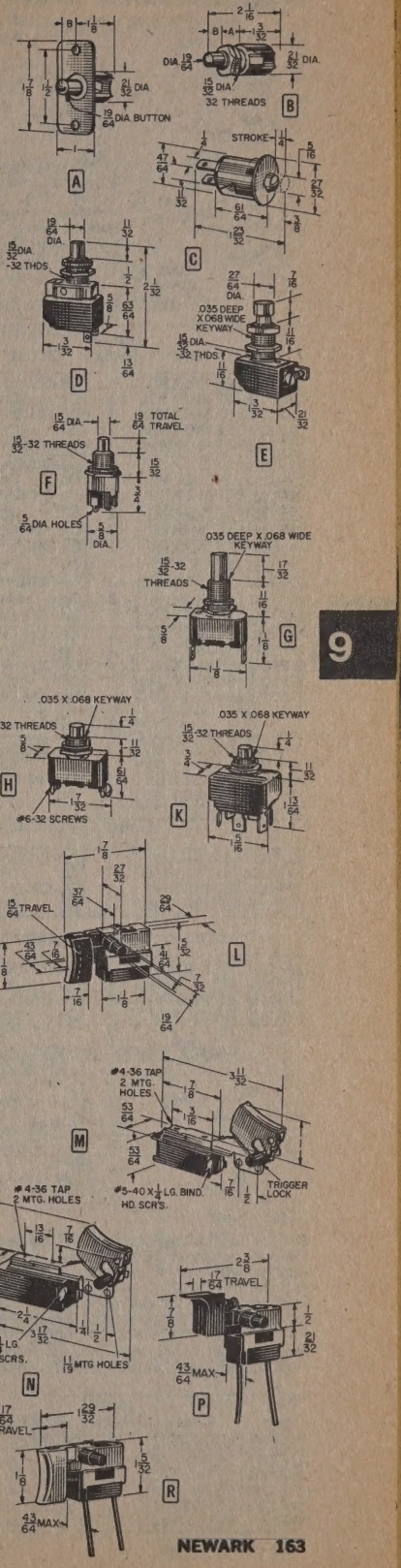
Stock No.	Type	Fig.	Ratings 125V	Ratings 250V	Ratings 125V	Ratings 250V	Features	1-24	25-49	50-99	100-249	500-Up
67F1626	8327K3	L	6A	3A	.....	.....		1.16	.93	.81	.70	.52
67F1627	8327K2	L	6A	3A	.....	.....	Lock-On	1.25	1.00	.88	.75	.56
67F1628	8332K3	L	12A	6A	½ HP	.....		1.44	1.15	1.01	.86	.65

AC-DC Rated—Two Pole—Screw Terminals

67F1629	8632K15	M	16A	8A	1 HP	¾ HP		3.81	3.05	2.67	2.29	1.72
67F1630	8632K18	M	16A	8A	1 HP	¾ HP	Lock-On	3.59	2.87	2.51	2.15	1.62
67F1631	8652K7	N	20A	10A	.....	1 HP		5.83	4.66	4.08	3.50	2.62
67F1632	8652K8	N	20A	10A	.....	1 HP	Lock-On	5.61	4.49	3.93	3.37	2.53

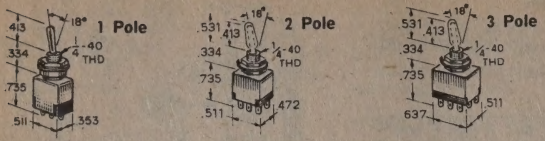
Speed Control—One Pole—Wire Leads

67F1633	8346K1	P	4	.....	.....	Lock-On	9.91	7.93	6.94	5.95	4.46
67F1634	8348K3	R	4	.....	.....	Lock-On	9.91	7.93	6.94	5.95	4.46



Miniature and Ultra-miniature Toggle Switches

MINIATURE TOGGLE SWITCHES



Switches feature miniaturized toggle lever, ¼ inch diameter bushing. Supplied with locking ring, internal tooth lockwasher, and two hexagon locknuts unassembled. Rated 5 Amps @ 125 VAC, 5 Amps @ 28 VDC except On-On circuit, rated 10 Amps @ 125 VAC, 5 Amps @ 28 VDC.
(*) Momentary contact.

STANDARD SMALL LEVER .413 IN. LONG

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
29F2274	SF1SBX191	1	On-Off-On	1.78	1.19	1.07	.89
29F2275	SF1SCY191	1	On On	1.52	1.02	.91	.76
29F2276	SF1SFX191	1	On-Off-On*	1.78	1.19	1.07	.89
29F2277	SF1SGX191	1	On On*	1.78	1.19	1.07	.89
29F2278	SF1SHX191	1	On*-Off-On*	1.78	1.19	1.07	.89
29F2279	SF2SBX191	2	On-Off-On	2.35	1.58	1.41	1.18
29F2280	SF2SCY191	2	On On	1.98	1.33	1.19	.99
29F2281	SF2SFX191	2	On-Off-On*	2.35	1.58	1.41	1.18
29F2282	SF2SGX191	2	On On*	2.35	1.58	1.41	1.18
29F2283	SF2SHX191	2	On*-Off-On*	2.35	1.58	1.41	1.18
29F2284	SF3SBX191	3	On-Off-On	3.78	2.53	2.27	1.89
29F2285	SF3SCY191	3	On On	3.55	2.38	2.13	1.78
29F2286	SF3SFX191	3	On-Off-On*	3.78	2.53	2.27	1.89
29F2287	SF3SGX191	3	On On*	3.78	2.53	2.27	1.89
29F2288	SF3SHX191	3	On*-Off-On*	3.78	2.53	2.27	1.89
29F2289	SF4SGX191	4	On-Off-On	4.90	3.28	2.94	2.45
29F2290	SF4SCY191	4	On On	4.45	2.98	2.67	2.23
29F2291	SF4SFX191	4	On-Off-On*	4.90	3.28	2.94	2.45
29F2292	SF4SGX191	4	On On*	4.90	3.28	2.94	2.45
29F2293	SF4SHX191	4	On*-Off-On*	4.90	3.28	2.94	2.45

FLATTED LEVER .448 IN. LONG

67F1649	SF1SBX195	1	On-Off-On	2.61	1.75	1.57	1.31
67F1650	SF1SCY195	1	On On	2.35	1.58	1.41	1.18
67F1651	SF2SBX195	2	On-Off-On	3.18	2.13	1.91	1.59
67F1652	SF2SCY195	2	On On	2.81	1.88	1.69	1.41

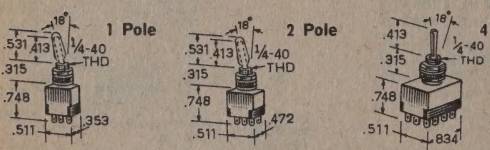
LONG LEVER .840 IN. LONG

67F1653	SF1SBX196	1	On-Off-On	1.78	1.19	1.07	.89
67F1654	SF1SCY196	1	On On	1.52	1.02	.91	.76
67F1655	SF2SBX196	2	On-Off-On	2.35	1.58	1.41	1.18
67F1656	SF2SCY196	2	On On	1.98	1.33	1.19	.99

STANDARD LEVER/GOLD OVER SILVER CONTACTS

67F1657	SF1SBX291	1	On-Off-On	2.25	1.51	1.35	1.13
67F1658	SF1SCY291	1	On On	1.99	1.33	1.19	.94
67F1659	SF2SBX291	2	On-Off-On	3.30	2.21	1.98	1.65
67F1660	SF2SCY291	2	On On	2.93	1.96	1.76	1.47

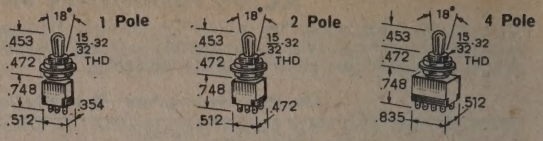
SMALL LEVER WATERTIGHT SWITCHES



Similar to Standard Miniature Toggle Switches except fitted with internal neoprene "O" ring seal around the base of the lever to restrict entrance of moisture into switch body. Seal designed to withstand a 3.3 ft. (1 meter) head of water for fifteen minutes at temperatures of 25° and 65° C. "O" ring bushing seal also provided for mounting under facenut as panel seal. Bushing on these switches flatted to prevent rotation of switch in panel.
Mounting hardware, consisting of internal tooth lockwasher, "O" ring bushing seal and hexagon facenut, furnished unassembled.

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
29F2250	SF1WBX191	1	On-Off-On	2.55	1.71	1.53	1.28
29F2251	SF1WCY191	1	On On	1.95	1.31	1.17	.98
29F2252	SF2WBX191	2	On-Off-On	3.15	2.11	1.89	1.58
29F2253	SF2WCY191	2	On On	2.55	1.71	1.53	1.28
29F2256	SF4WBX191	4	On-Off-On	5.95	3.99	3.57	2.98
29F2257	SF4WCY191	4	On On	5.35	3.59	3.21	2.68

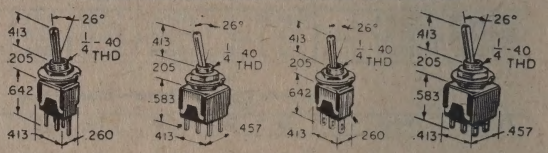
MINIATURE LARGE LEVER SWITCHES



Behind-the-panel space saving feature of Standard Miniature Toggle with front-of-panel appearance of regular size switches. Except for the larger .453 inch high lever and 15/32 inch bushing diameter, these switches have same mechanical and electrical characteristics as Standard Miniature Toggle line. Mounting hardware, consisting of hexagon locknut and hexagon facenut, furnished unassembled.

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
29F2258	SF1GBX191	1	On-Off-On	2.75	1.84	1.65	1.38
29F2259	SF1GCY191	1	On On	2.15	1.44	1.29	1.08
29F2260	SF2GBX191	2	On-Off-On	3.35	2.25	2.01	1.68
29F2261	SF2GCY191	2	On On	2.75	1.84	1.65	1.38
29F2264	SF4GBX191	4	On-Off-On	6.15	4.12	3.69	3.08
29F2265	SF4GCY191	4	On On	5.55	3.72	3.33	2.78

ULTRA MINIATURE TOGGLE SWITCHES



3-amp contact rating at 115 VAC/28 VDC. ¼" Cadmium plated brass bushing designed for one hole mounting; silver contacts. Initial contact resistance of only 0.010 ohm maximum; Polyestal case partially jacketed in steel. Lug or printed circuit (P,C,) terminals.

PC TERMINALS

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
67F1671	SF11SBT691	1	On-Off-On	1.88	1.26	1.13	.94
67F1672	SF11SCT691	1	On On	1.62	1.09	.97	.81
67F1673	SF11SFT691	1	On-Off-On*	1.88	1.26	1.13	.94
67F1674	SF11SGT691	1	On On	1.88	1.26	1.13	.94
67F1675	SF11SHT691	1	On*-Off-On*	1.88	1.26	1.13	.94
67F1676	SF12SBT691	2	On-Off-On	2.55	1.71	1.53	1.28
67F1677	SF12SCT691	2	On On	2.18	1.46	1.31	1.09
67F1678	SF12SFT691	2	On-Off-On*	2.55	1.71	1.53	1.28
67F1679	SF12SGT691	2	On On	2.55	1.71	1.53	1.28
67F1680	SF12SHT691	2	On*-Off-On*	2.55	1.71	1.53	1.28

SOLDER LUG

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
67F1681	SF11SBT191	1	On-Off-On	1.78	1.19	1.07	.89
67F1682	SF11SCT191	1	On On	1.52	1.02	.91	.76
67F1683	SF11SFT191	1	On-Off-On*	1.78	1.19	1.07	.89
67F1684	SF11SGT191	1	On On*	1.78	1.19	1.07	.89
67F1685	SF11SHT191	1	On*-Off-On*	1.78	1.19	1.07	.89
67F1686	SF12SBT191	2	On-Off-On	2.35	1.58	1.41	1.18
67F1687	SF12SCT191	2	On On	1.98	1.33	1.19	.99
67F1688	SF12SFT191	2	On-Off-On*	2.35	1.58	1.41	1.18
67F1689	SF12SGT191	2	On On	2.35	1.58	1.41	1.18
67F1690	SF12SHT191	2	On*-Off-On*	2.35	1.58	1.41	1.18

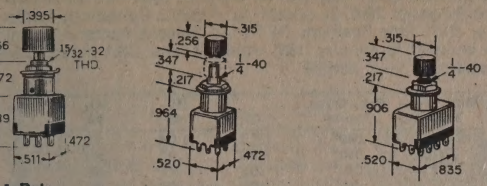
DECORATIVE LEVER CAPS

Stk. No.	Type	Color	1-24	25-99	100-499	500-999
29F2212	SW49AA1*	White	.04	.03	.024	.02
29F2213	SW49AA2*	Red				
29F2214	SW49AA3*	Black				
29F2215	SW49AA4*	Blue				
29F2216	SW49AA5*	Yellow				
29F2217	SW49AA6*	Green				
67F1661	SW49AA31†	White	.04	.03	.024	.02
67F1662	SW49AA32†	Red				
67F1663	SW49AA33†	Black				
67F1664	SW49AA34†	Blue				
67F1665	SW49AA11**	White	.06	.04	.036	.03
67F1666	SW49AA12**	Red				
67F1667	SW49AA13**	Black				
67F1668	SW49AA14**	Blue				
67F1669	SW49AA15**	Yellow				
67F1670	SW49AA16**	Green				

(*) Small plastic lever, round top cap. (†) Small plastic, lever, flat top cap. (**) Large lever, vinyl.

Miniature and Ultra-Miniature Pushbutton Switches

MINIATURE PUSHBUTTON SWITCHES



1 Pole 2 Pole 4 Pole

lder lug terminals with .047" dia. holes. Rated 5 Amps @ 125 VAC 28 VDC. ¼" dia. bushing with keyway. Mounting hardware, nsisting of hexagon facenut, internal tooth lockwasher and locking ng, furnished unassembled. Switches with gold over silver con-cts are otherwise identical. Screw-on cap must be ordered at right, low, .315" or .395" diameter.

STANDARD PUSHBUTTON SWITCHES

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
F2245	SA21SDX1	1	Momentary	2.05	1.37	1.23	1.03
F2246	SA21SEX1	1	Push-Push	2.05	1.37	1.23	1.03
F2247	SA22SDX1	2	Momentary	2.85	1.91	1.71	1.43
F2248	SA22SEX1	2	Push-Push	2.85	1.91	1.71	1.43
F2249	SA24SDX1	4	Momentary	5.35	3.59	3.21	2.68
F2296	SA24SEX1	4	Push-Push	5.35	3.59	3.21	2.68

MINIATURE PUSHBUTTON/GOLD OVER SILVER CONTACTS

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
7F1691	SA21SDX2	1	Momentary	2.52	1.69	1.51	1.26
7F1692	SA21SEX2	1	Push-Push	2.52	1.69	1.51	1.26
7F1693	SA22SDX2	2	Momentary	3.80	2.55	2.28	1.90
7F1694	SA22SEX2	2	Push-Push	3.80	2.55	2.28	1.90

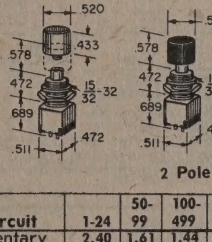
MINIATURE WATERTIGHT PUSHBUTTON SWITCHES

milar to Standard line except fitted with internal "O" ring seal ated around pushbutton plunger. "O" ring bushing seal also ovided for mounting under facenut as panel seal. Mounting hard-are furnished unassembled. **Screw-on caps must be ordered at ght, below, .315" or .395" diameter.**

Stock No.	Type	No. of Poles	Circuit	1-24	25-99	100-499	500-999
F2200	SA21WDX1	1	Momentary	2.45	1.64	1.47	1.23
F2201	SA21WEX1	1	Push-Push	2.45	1.64	1.47	1.23
F2202	SA22WDX1	2	Momentary	3.35	2.25	2.01	1.68
F2203	SA22WEX1	2	Push-Push	3.35	2.25	2.01	1.68
F2204	SA24WDX1	4	Momentary	5.85	3.92	3.51	2.93
F2205	SA24WEX1	4	Push-Push	5.83	3.92	3.51	2.93

MINIATURE LARGE BUSHING SWITCHES

ame as Standard line except 15/32" ushing diameter and .520" ameter plastic operator caps. ombine behind-the-panel space ving features of Standard line ith front-of-panel appearance of egular full size switch. Mounting ardware furnished unassembled. crew on caps must be ordered right, below, .520" diameter.

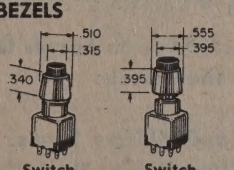


2 Pole

Stock No.	Type	No. of Poles	Circuit	1-24	50-99	100-499	500-999
F1695	SA21GDX1	1	Momentary	2.40	1.61	1.44	1.20
F1696	SA21GEX1	1	Push-Push	2.40	1.61	1.44	1.20
F1697	SA22GDX1	2	Momentary	3.00	2.01	1.80	1.50
F1698	SA22GEX1	2	Push-Push	3.00	2.01	1.80	1.50

DECORATIVE BEZELS

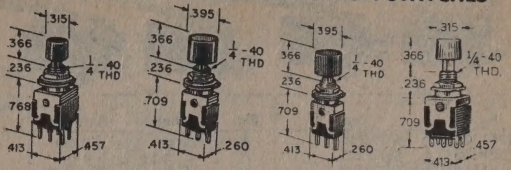
ecorative mounting bezel for ¼ ch bushing switches. Bright ckel plated. Bezels slip over ushbuttons providing an at-active front-of-panel appearance. lso serve as button shroud. W2AA10 -.340" high, .510 outside ameter. SW2AA37- .395" high, 55" outside diameter.



Switch with SW2AA10 Switch with SW2AA37

Stock No.	Type	Button Diameter	1-24	50-99	100-499	500-999
F1699	SW2AA10	.315"	.25	.17	.15	.13
F1700	SW2AA37	.395"	.40	.27	.24	.20

ULTRA-MINIATURE PUSHBUTTON SWITCHES



PC 1 Pole PC 2 Pole Solder 1 Pole Solder 2 Pole

Rectangular base. ¼" cadmium plated brass bushing designed for one hole mounting. Rated 3 Amps @ 125 VAC and 28 VDC. Polyestal case partially jacketed in steel. Solder lug or printed circuit terminals. **Screw-on cap must be ordered below, .315" or .395" diameter.**

PC TERMINALS

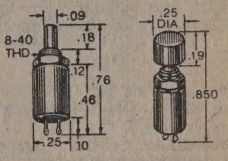
Stock No.	Type	No. of Poles	Circuit	1-24	50-99	100-499	500-999
67F1701	SA31SDT6	1	Momentary	2.15	1.44	1.29	1.08
67F1702	SA31SET6	1	Push-Push	2.15	1.44	1.29	1.08
67F1703	SA32SDT6	2	Momentary	3.05	2.04	1.83	1.53
67F1704	SA32SET6	2	Push-Push	3.05	2.04	1.83	1.53

SOLDER LUG TERMINALS

Stock No.	Type	No. of Poles	Circuit	1-24	50-99	100-499	500-999
67F1705	SA31SDT1	1	Momentary	2.05	1.37	1.23	1.03
67F1706	SA31SET1	1	Push-Push	2.05	1.37	1.23	1.03
67F1707	SA32SDT1	2	Momentary	2.85	1.91	1.71	1.43
67F1708	SA32SET1	2	Push-Push	2.85	1.91	1.71	1.43

ULTRA-MINIATURE PUSHBUTTON SWITCHES

Round base. Rated .750 Amps, 125 VAC with normally open contacts; .50 Amps, 125 VAC with normally closed contacts. Gold plated contacts. Nickel plated brass case. Thermosetting plastic base. Molded nylon operator button and button cap. Terminal to terminal and terminal to case voltage breakdown rating of 1000 VAC.



Standard With Cap

Stock No.	Type	Button Color	Normal Circuit	1-24	50-99	100-499	500-999
41F574	SA1RV20	Red	NO	.95	.64	.57	.48
41F575	SA1BV20	Black	NO	.95	.64	.57	.48
41F576	SA1RW20	Red	NC	.95	.64	.57	.48
41F577	SA1BW20	Black	NC	.95	.64	.57	.48

OPTIONAL SLIP-ON CAPS

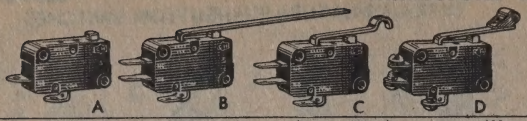
Stock No.	Type	Button Color	1-24	50-99	100-499	500-999
41F578	SW53AA1	Red	.13	.09	.08	.07
41F579	SW53AA2	Black	.13	.09	.08	.07
41F580	SW53AA3	Dark Blue	.13	.09	.08	.07
67F1709	SW53AA4	Light Blue	.13	.09	.08	.07
41F581	SW53AA5	Dark Green	.13	.09	.08	.07
67F1710	SW53AA6	Light Green	.13	.09	.08	.07
67F1711	SW53AA7	Pink	.13	.09	.08	.07
67F1712	SW53AA8	Grey	.13	.09	.08	.07
41F582	SW53AA9	White	.13	.09	.08	.07
41F583	SW53AA10	Yellow	.13	.09	.08	.07

SCREW-ON CAPS

Stock No.	Type	Dia.	Color	1-24	25-99	100-499	500-999
67F1713	SW53AA21	.315	White	.05	.034	.030	.025
67F1714	SW53AA22	.315	Red	.05	.034	.030	.025
67F1715	SW53AA23	.315	Black	.05	.034	.030	.025
67F1716	SW53AA24	.315	Blue	.05	.034	.030	.025
67F1718	SW53AA25	.315	Yellow	.05	.034	.030	.025
67F1719	SW53AA26	.315	Green	.05	.034	.030	.025
67F1720	SW53AA71	.395	White	.05	.034	.030	.025
67F1721	SW53AA72	.395	Red	.05	.034	.030	.025
67F1722	SW53AA73	.395	Black	.05	.034	.030	.025
67F1723	SW53AA74	.395	Blue	.05	.034	.030	.025
67F1724	SW53AA75	.395	Yellow	.05	.034	.030	.025
67F1725	SW53AA76	.395	Green	.05	.034	.030	.025
67F1726	SW53AA81	.520	White	.10	.07	.06	.05
67F1727	SW53AA82	.520	Red	.10	.07	.06	.05
67F1728	SW53AA83	.520	Black	.10	.07	.06	.05
67F1729	SW53AA84	.520	Blue	.10	.07	.06	.05
67F1730	SW53AA85	.520	Yellow	.10	.07	.06	.05
67F1732	SW53AA87	.520	Amber	.10	.07	.06	.05
67F1733	SW53AA88	.520	Gray	.10	.07	.06	.05

9

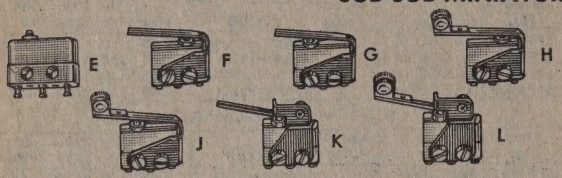
MINIATURE SNAP SWITCHES



Single-pole, double-throw. Rated 15 Amps, ½ HP @ 125-250 VAC and 10 Amps @ 28VDC. −100°F to +185°F. Operating Position: .578″ ± .015″. Free Position: .640″ max. Release Force: 4 oz. min. Quick connect terminals, .188″ wide. UL and CSA listed. Silver contacts.

Stock No.	Type	Fig.	Terminals	Actuator	Max. Operating Force	Max. Pre-Travel	Min. Over Travel	1-24	25-49	50-99	100-Up
23F1132	SS12ET10	A	Screw	Plunger	14 oz.	.047″	.040″	1.15	1.04	.92	.81
23F1133	SS12ET20	A	S. Lug	Plunger	14 oz.	.047″	.040″	1.00	.90	.80	.70
23F1134	SS12ET30	A	Q.C.	Plunger	14 oz.	.047″	.040″	.85	.77	.68	.60
23F1135	SS12ET30-2L1	B	Q.C.	0.84″	14 oz.	.060″	.040″	1.00	.90	.80	.70
23F1136	SS12ET30-2L2	B	Q.C.	1.40″	8 oz.	.125″	.090″	1.00	.90	.80	.70
23F1137	SS12ET30-2L6	B	Q.C.	2.34″	4 oz.	.260″	.150″	1.00	.90	.80	.70
23F1138	SS12ET30-2L14	B	Q.C.	2.75″	3 oz.	.330″	.170″	1.00	.90	.80	.70
23F1141	SS12ET30-12L5	C	Q.C.	1.285″	8 oz.	.125″	.080″	1.05	.95	.84	.74
23F1139	SS12ET30-102L3	D	Q.C.	0.81″	14 oz.	.060″	.040″	1.20	1.08	.96	.84
23F1140	SS12ET30-102L4	D	Q.C.	1.34″	8 oz.	.125″	.085″	1.20	1.08	.96	.84

SUB-SUB-MINIATURE SNAP SWITCHES



Single-pole, double-throw. Rated 7 Amps @ 125-250 VAC and 28 VDC. −65°F to +265°F. Operating Position: .320 ± .015″. Single turret terminals. Release Force: 1 oz. min. UL and CSA listed. Electrically rated for 50,000 operations at rated load; median mechanical life exceeds 1,000,000 operations. Switches available in four types—standard, low force, low differential and gold contacts. Six lever types ordered separately also available.

SWITCHES (Fig. E)

Stk. No.	Type	Description	1-9	10-24	25-49	50-99
23F1142	SS10AT40	Standard	2.25	2.03	1.80	1.58
23F1143	SS10FT40	Low Force	2.80	2.52	2.24	1.96
23F1144	SS10DT40	Low Dif.	3.15	2.84	2.52	2.21
23F1145	SS10KT40	Gold Contacts	3.25	2.93	2.60	2.28

LEVERS

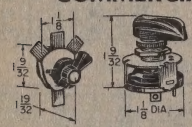
Stk. No.	Type	Lgth.	Fig.	1-9	10-24	25-49	50-99
23F1146	SW54SA8380-1	.39″	F	.28	.25	.22	.20
23F1147	SW54SA8380-2	.39″	G	.28	.25	.22	.20
23F1148	SW54SA8380-3	.32″	H	.78	.70	.62	.55
23F1149	SW54SA8380-4	.32″	J	.80	.72	.64	.56
23F1150	SW54SA8380-5	.72″	K	.85	.77	.68	.60
23F1151	SW54SA8380-6	.65″	L	1.65	1.49	1.32	1.16

HARDWARE FOR ONE HOLE MOUNTING SWITCHES

For use with 15/32″ diameter bushings:
30-5632-4. ON-OFF vertical plate, keyway by OFF. Burnished nickel finish.
30-5632-13. ON-OFF horizontal plate, keyway by OFF (left side). Burnished nickel finish.
30-5632-16. HI-LOW. Same as 30-5632-4.
29-761. Locking ring.
16-886. Internal tooth lockwasher.

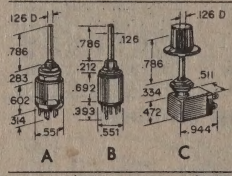
Stk. No.	Type	1-24	25-49	50-99	100-499
23F248	30-5632-4	.11	.09	.08	.07
23F516	30-5632-13	.11	.09	.08	.07
23F517	30-5632-16	.11	.09	.08	.07
23F518	29-761	.05	.04	.035	.03
23F519	16-886	.04	.03	.028	.024

COMMERCIAL ROTARY SWITCHES



Provide efficient operation in control panel, instrument, and other power applications. Screw terminals. 45° indexing angle. ⅜″ long bushing. Fig. A switches rated 5 Amps @ AC, 2 Amps DC—125-250 V. Fig. B switches rated 3 Amps AC, ¾ Amp DC—125 V only. Avg. Shpg. wt. 2 oz.

Stk. No.	Type	Action	Fig.	1-24	25-49	50-99	100-499	500-Up
23F796	7011K1	1 off, 2 on	A	2.97	2.38	2.08	1.78	1.34
23F797	7011K4	1 off, 3 on	A	3.06	2.45	2.14	1.84	1.38
23F798	8122K4	1 off, 2 on	B	1.08	.86	.76	.65	.49
23F799	8123K4	1 off, 3 on	B	1.17	.94	.82	.70	.53



MINIATURE ROTARY SWITCHES

¼″ dia. bushing. Silver contacts. Solder lug terminals. Round base units, Fig. A+B (SD1+SD2) have non-shorting contacts, adj. stop. Rectangular units, Fig. C(SD3) available with On-On or On-Off-On circuits.

Stk. No.	Type	125 VAC	Action	Poles	Index	1-24	25-99	100-499
29F2297	SD1SET271-13	3A	6 on	1	60°	4.79	3.21	2.87
29F2298	SD2SGR191-13	2A	8 on	1	45°	4.79	3.21	2.87
29F2198	SD2DCR191-13	2A	4 on	2	45°	4.79	3.21	2.87
29F2199	SD2FAR191-13	2A	2 on	4	45°	4.79	3.21	2.87
29F2299	SD3DAY161-13*	10A	2 on	2	100°	3.79	2.54	2.27
29F2197	SD3DHW181-13*	6A	on-off-on	2	50°	3.94	2.64	2.36

(*) Also 4A @ 28 VDC.

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Shallcross Rotary Switches

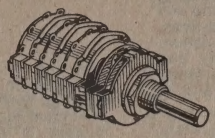
Shallcross precision rotary switches with solid silver alloy contacts built to MIL-S-3786 specifications. All standard switches have 5/16" diameter bushing, 1" long shaft and fully adjustable stops. Also available: additional decks, different shaft and bushing lengths, seals, gold plated contacts and terminals. See rating table at right for detailed specs.

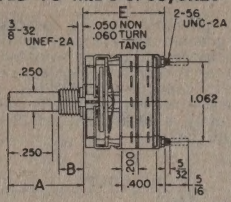
STANDARD RATING TABLE

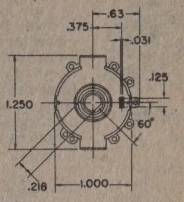
Rating	120 Vac.	Life	30 VDC	Life	Maximum Allowable Contact Resistance
Series 1	350 MA	25,000	1A	25,000	.0045 ohm @ 15 VA
Series 2	2A	10,000	2A	20,000	.010 ohm @ 240 VA
Series 4	2A	5,000	2A	20,000	.010 ohm @ 240 VA

SERIES 1—1 INCH WAFER APPROVED TO MIL-S-3786/SR28

Enclosed wafer construction. Smooth riding, button type movable contacts. Dual, balanced, independently sprung silver alloy contacts. Switches consist of center operating shaft, hill-and-dale ball type indexing mechanism, and wafer shaped contact/terminal assemblies. Temp. Range: —65° to +125°C. Indexing angle: 30°.







SHORTING TYPE

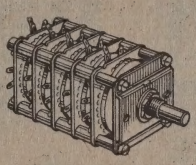
Stock No.	Type	No. of Positions	Total Poles	No. of Decks	1-9	10-24	25-49
23F1006	1J04A6-1	2-6	1	1	6.00	5.10	4.50
23F1007	1J04A6-2	2-6	2	2	8.05	6.84	6.04
23F1008	1J04A6-3	2-6	3	3	10.10	8.59	7.58
23F1000	1J00A12-1	2-12	1	2	7.05	5.99	5.29
23F1001	1J00A12-2	2-12	2	4	10.50	8.93	7.88
23F1002	1J00A12-3	2-12	3	6	13.95	11.86	10.46
23F1003	1J02A12-1	2-12	1	2	7.05	5.99	5.29
23F1004	1J02A12-2	2-12	2	4	10.50	8.93	7.88
23F1005	1J02A12-3	2-12	3	6	13.95	11.86	10.46

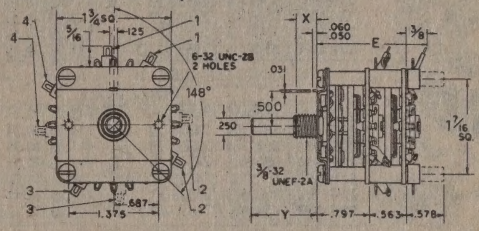
NON-SHORTING TYPE

Stock No.	Type	No. of Positions	Total Poles	No. of Decks	1-9	10-24	25-49
23F1015	1J54A6-1	2-6	1	1	6.00	5.10	4.50
23F1016	1J54A6-2	2-6	2	2	8.05	6.84	6.04
23F1017	1J54A6-3	2-6	3	3	10.10	8.59	7.58
23F1012	1J50A12-1	2-12	1	2	7.05	5.99	5.29
23F1013	1J50A12-2	2-12	2	4	10.50	8.93	7.88
23F1014	1J50A12-3	2-12	3	6	13.95	11.86	10.46
23F1009	1J52A12-1	2-12	1	2	7.05	5.99	5.29
23F1010	1J52A12-2	2-12	2	4	10.50	8.93	7.88
23F1011	1J52A12-3	2-12	3	6	13.95	11.86	10.46

SERIES 2—1¾ INCH DECK APPROVED TO MIL-S-3786/SR14

Exceptional structural strength, contact resistance, insulation resistance and thermal E.M.F. characteristics. For use in military applications, space and missile high reliability requirements and precision commercial instrumentation. MIL approval includes rotational life, rotational torque, contact resistance, stop pin torque, voltage breakdown, insulation resistance, vibration, shock, temperature range, salt spray and thermal shock.





SHORTING TYPE

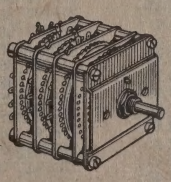
Stock No.	Type	No. of Positions	Total Poles	No. of Decks	Index Angle	1-9	10-24	25-49
23F1033	2E18A5-1	2-5	4	1	15°	16.20	13.77	12.15
23F1034	2E18A5-2	2-5	8	2	15°	25.60	21.76	19.20
23F1035	2E18A5-3	2-5	12	3	15°	34.88	29.65	26.16
23F1024	2C18A7-1	2-7	4	1	11.25°	16.20	13.77	12.15
23F1025	2C18A7-2	2-7	8	2	11.25°	25.60	21.76	19.20
23F1026	2C18A7-3	2-7	12	3	11.25°	34.88	29.65	26.16
23F1030	2E06A11-1	2-11	2	1	15°	15.44	13.12	11.58
23F1031	2E06A11-2	2-11	4	2	15°	22.57	19.18	16.93
23F1032	2E06A11-3	2-11	6	3	15°	29.81	25.34	22.36
23F1021	2C06A15-1	2-15	2	1	11.25°	15.44	13.12	11.58
23F1022	2C06A15-2	2-15	4	2	11.25°	22.57	19.18	16.93
23F1023	2C06A15-3	2-15	6	3	11.25°	29.81	25.34	22.36
23F1027	2E00A24-1	2-24	1	1	15°	15.12	12.85	11.34
23F1028	2E00A24-2	2-24	2	2	15°	21.60	18.36	16.20
23F1029	2E00A24-3	2-24	3	3	15°	29.48	25.06	22.11
23F1018	2C00A32-1	2-32	1	1	11.25°	15.12	12.85	11.34
23F1019	2C00A32-2	2-32	2	2	11.25°	21.60	18.36	16.20
23F1020	2C00A32-3	2-32	3	3	11.25°	29.48	25.06	22.11

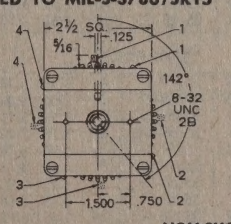
NON-SHORTING TYPE

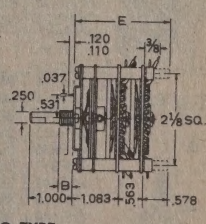
Stock No.	Type	No. of Positions	Total Poles	No. of Decks	Index Angle	1-9	10-24	25-49
23F1051	2J68A3-1	2-3	4	1	30°	16.20	13.77	12.15
23F1052	2J68A3-2	2-3	8	2	30°	25.60	21.76	19.20
23F1053	2J68A3-3	2-3	12	3	30°	34.88	29.65	26.16
23F1042	2H68A4-1	2-4	4	1	22.5°	16.20	13.77	12.15
23F1043	2H68A4-2	2-4	8	2	22.5°	23.60	21.76	19.20
23F1044	2H68A4-3	2-4	12	3	22.5°	34.88	29.65	26.16
23F1048	2J56A6-1	2-6	2	1	30°	15.44	13.12	11.58
23F1049	2J56A6-2	2-6	4	2	30°	22.57	19.18	16.93
23F1050	2J56A6-3	2-6	6	3	30°	29.81	25.34	22.38
23F1039	2H56A8-1	2-8	2	1	22.5°	15.44	13.12	11.58
23F1040	2H56A8-2	2-8	4	2	22.5°	22.57	19.18	16.93
23F1041	2H56A8-3	2-8	6	3	22.5°	29.81	25.34	22.38
23F1045	2J50A12-1	2-12	1	1	30°	15.12	12.85	11.34
23F1046	2J50A12-2	2-12	2	2	30°	21.60	18.36	16.20
23F1047	2J50A12-3	2-12	3	3	30°	29.48	25.06	22.11
23F1036	2H50A16-1	2-16	1	1	22.5°	15.12	12.85	11.34
23F1037	2H50A16-2	2-16	2	2	22.5°	21.60	18.36	16.20
23F1038	2H50A16-3	2-16	3	3	22.5°	29.48	25.06	22.11

SERIES 4—2½ INCH DECK APPROVED TO MIL-S-3786/SR15

Designed to meet most stringent industrial standards for commercial instrumentation. Higher voltage breakdown ratings and more positive and accurate detent action than other 48 position switches. Back of panel depth less than competitive switches in same class. One pole per deck switches factory assembled for continuous rotation. Stop pins for customer installation packaged separately.







SHORTING TYPE

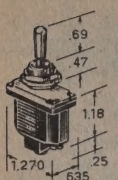
23F1060	4A18A11-1	2-11	4	1	7.5°	24.19	20.56	18.14
23F1061	4A18A11-2	2-11	8	2	7.5°	37.15	31.58	27.86
23F1062	4A18A11-3	2-11	12	3	7.5°	50.22	42.69	37.67
23F1057	4A06A23-1	2-23	2	1	7.5°	23.54	20.01	17.66
23F1058	4A06A23-2	2-23	4	2	7.5°	34.02	28.92	25.52
23F1059	4A06A23-3	2-23	6	3	7.5°	44.28	37.64	33.21
23F1054	4A00A48-1	2-48	1	1	7.5°	23.22	19.74	17.42
23F1055	4A00A48-2	2-48	2	2	7.5°	33.16	28.19	24.87
23F1056	4A00A48-3	2-48	3	3	7.5°	42.98	36.53	32.24

NON-SHORTING TYPE

23F1069	4E68A6-1	2-6	4	1	15°	24.19	20.56	18.14
23F1070	4E68A6-2	2-6	8	2	15°	37.15	31.58	27.86
23F1071	4E68A6-3	2-6	12	3	15°	50.22	42.69	37.67
23F1066	4E56A12-1	2-12	2	1	15°	23.54	20.01	17.66
23F1067	4E56A12-2	2-12	4	2	15°	34.02	28.92	25.52
23F1068	4E56A12-3	2-12	6	3	15°	44.28	37.64	33.21
23F1063	4E50A24-1	2-24	1	1	15°	23.22	19.74	17.42
23F1064	4E50A24-2	2-24	2	2	15°	33.16	28.19	24.87
23F1065	4E50A24-3	2-24	3	3	15°	42.98	36.53	32.24

Cutler Hammer Military Switches

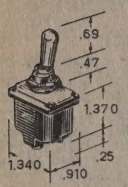
MIL-S-3950 ENVIRONMENTALLY SEALED



One Pole

- Patented Sealing Process
- Positive Detent Feel
- Rated 20 A at 28 VDC
- Rated 15 A at 115 VAC

Brown base has patented sealing process. Molding material provides greater safety, higher ignition time and increased arc resistance under contaminated conditions. Positive detent feel and reliable momentary return action. Improved dielectric capability. Simplified wiring and bussing together with excellent sealing in medium-range pricing. Current rating is 20 amperes at 28 VDC and 15 amperes at 115 VAC resistive.



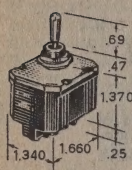
Two Pole

ONE POLE

Stk. No.	Type	Gov't MS. No.	Key	1-9	10-19	20-49	50-99
23F1077	8500K1	24523-21	A	4.40	3.96	3.52	3.08
23F1078	8500K9	24523-22	B	4.40	3.96	3.52	3.08
23F1079	8500K4	24523-23	C	4.40	3.96	3.52	3.08
23F1080	8500K7	24523-28	K	5.10	4.59	4.08	3.57
23F1081	8500K2	24523-27	F	4.40	3.96	3.54	3.08
23F1082	8500K11	24523-30	I	4.40	3.96	3.54	3.08

TWO POLE

23F1083	8501K1	24524-21	A	7.20	6.48	5.76	5.04
23F1084	8501K9	24524-22	B	7.20	6.48	5.76	5.04
23F1085	8501K4	24524-23	C	7.20	6.48	5.76	5.04
23F1086	8501K11	24524-30	I	7.20	6.48	5.76	5.04
23F1087	8501K5	24524-26	E	7.20	6.48	5.76	5.04
23F1088	8501K2	24524-27	F	7.20	6.48	5.76	5.04
23F1089	8501K3	24524-31	J	7.20	6.48	5.76	5.04
23F1090	8504K6	24659-23D	N	11.20	10.08	8.96	7.84

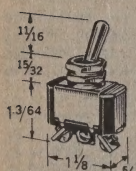


Four Pole

FOUR POLE

23F1091	8502K1	2425-21	A	11.45	10.31	9.16	8.02
23F1092	8502K9	24525-22	B	11.45	10.31	9.16	8.02
23F1093	8502K4	24525-23	C	11.45	10.31	9.16	8.02
23F1094	8502K5	24525-26	D	11.45	10.31	9.16	8.02
23F1095	8502K2	24525-27	F	11.45	10.31	9.16	8.02
23F1096	8502K3	24525-31	J	11.45	10.31	9.16	8.02
23F1097	8505K6	24660-23D	N	15.40	13.86	12.32	10.78

MIL-S-3950 STANDARD LEVER SEALED

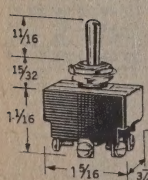


One Pole

Employs a rocker-type contact mechanism, has silicone rubber lever seal assembled between the lever and the bushing to stop contaminants. Hot tin-dipped screw terminals (to facilitate soldering when used as lug). Positive snap-acting rocker type movable contactor assembly. Phenolic and metal housing. Rated 28 amps at 28 VDC, 10 amps at 115 VAC.

ONE POLE

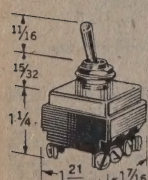
Stock No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-Up
23F307	8800K16	35058-21	A	3.10	2.48	2.02	1.55
23F300	8801K22	35058-22	B	2.70	2.16	1.76	1.35
23F306	8810K15	35058-23	C	3.10	2.48	2.02	1.55
23F301	8801K23	35058-24	D	2.70	2.16	1.76	1.35
23F309	8812K14	35058-27	F	3.40	2.72	2.21	1.70
23F305	8811K17	35058-30	I	3.00	2.40	1.95	1.50
41F644	8857K39	25125-A1	M	7.65	6.12	4.97	3.83
41F645	8857K44	25125-E3	N	7.65	6.12	4.97	3.83



Two Pole

TWO POLE

23F316	8820K16	35059-21	A	3.95	3.16	2.57	1.98
23F311	8822K20	35059-22	B	3.50	2.80	2.28	1.75
23F315	8824K14	35059-23	C	3.95	3.16	2.57	1.98
23F312	8822K21	35059-24	D	3.75	3.00	2.44	1.88
41F646	8830K13	35059-26	E	5.10	4.08	3.32	2.55
23F317	8834K5	35059-27	F	4.85	3.88	3.15	2.43
41F647	8828K13	35059-29	H	4.90	3.92	3.19	2.45
23F318	8832K6	35059-31	J	4.85	3.88	3.15	2.43
41F648	8858K39	25126-A1	M	8.65	6.92	5.62	4.33
41F649	8858K44	25126-E3	N	8.65	6.92	5.62	4.33

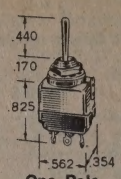


Four Pole

FOUR POLE

41F650	7662K7	25068-21	A	9.00	7.20	5.85	4.50
23F319	7664K5	25068-23	C	9.00	7.20	5.85	4.50
41F651	7660K13	25068-24	D	7.45	5.96	4.84	3.73
41F652	7674K5	25068-26	E	11.70	9.36	7.61	5.85
41F653	7672K5	25068-27	F	11.70	9.36	7.61	5.85
41F654	8859K44	25127-E3	N	14.00	11.20	9.10	7.00

MIL-S-8834 MINIATURE LEVER SWITCHES



One Pole Two Pole

Miniature size switches are completely "tease-proof". Enclosed in nylon-filled molding and stainless steel housing. Bushing size: ¼-40 thread, .170" long. Toggle size: .440 mounting; one facenut, internal tooth lock washer and silicone "O" ring panel seal. Lever seal withstands 15 feet of water pressure. Rating and description same as 8834B switches. .75x.56x.35".

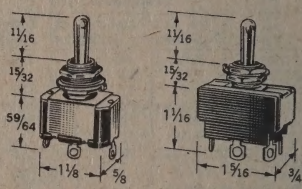
ONE POLE

Stk. No.	Type	Gov't MS. No.	Key	1-24	25-49	50-99	100-Up
23F327	8866K1	24655-211	A	8.05	6.44	5.23	4.03
23F330	8866K7	24655-221	B	8.05	6.44	5.23	4.03
23F329	8866K4	24655-231	C	8.05	6.44	5.23	4.03
23F448	8866K5	24655-241	D	9.05	7.24	5.88	4.53
23F328	8866K2	24655-271	F	9.05	7.24	5.88	4.53
23F449	8866K6	24655-281	L	9.05	7.24	5.88	4.53
23F447	8866K3	24655-311	J	9.05	7.24	5.88	4.53
23F494	8866K8	.....	K	9.60	7.68	6.24	4.80

TWO POLE

23F331	8867K1	24656-211	A	10.05	8.04	6.53	5.03
23F334	8867K7	24656-221	B	10.05	8.04	6.53	5.03
23F333	8867K4	24656-231	C	10.05	8.04	6.53	5.03
23F499	8867K5	24656-241	D	11.65	9.32	7.57	5.83
23F332	8867K2	24656-271	F	11.65	9.32	7.57	5.83
23F497	8867K6	24656-281	L	11.65	9.32	7.57	5.83
23F495	8867K3	24656-311	J	11.65	9.32	7.57	5.83
23F498	8867K8	.....	K	12.15	9.72	7.90	6.08

JAN-S-23 UNSEALED SWITCHES



One Pole Two Pole

JAN-S-23 is an original switch specification; latest specification is MIL-S-3950C which should be used whenever possible. New numbers are shown in "Cross Reference." All have solder lug terminals and are not sealed (except * which are sealed).

ONE POLE

Stk. No.	Type	Jan #	Cross to MS 3950	Key	1-24	25-49	50-99	100-Up
23F277	8803K6	ST42A	35058-22	B	2.42	1.94	1.57	1.21
23F200	8803K10*	ST42A	35058-22	B	2.57	2.06	1.67	1.29
23F207	8819K5	ST42B	35058-29	H	2.55	2.04	1.66	1.29
23F205	8816K5	ST42C	35058-30	I	2.55	2.04	1.66	1.29
23F323	8817K5	ST42D	35058-23	C	2.55	2.04	1.66	1.29
23F201	8816K9*	ST42D	35058-23	C	3.00	2.40	1.95	1.50
23F324	8802K6	ST42E	35058-21	A	2.55	2.04	1.66	1.29
23F203	8805K9*	ST42F	35058-26	E	3.20	2.56	2.08	1.60
41F655	8818K5	ST42G	35058-27	F	2.80	2.24	1.82	1.40
23F204	8818K9*	ST42G	35058-27	F	3.10	2.48	2.02	1.55
23F208	8815K6	ST42H	35058-31	J	2.80	2.24	1.82	1.40

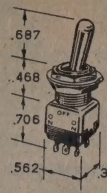
TWO POLE

23F326	8823K5	ST52K	35059-22	B	3.10	2.48	2.02	1.55
23F210	8823K6*	ST52K	35059-22	B	3.50	2.80	2.28	1.75
23F273	8825K5	ST52N	35059-23	C	3.10	2.48	2.02	1.55
23F211	8825K6*	ST52N	35059-23	C	3.65	2.92	2.37	1.83
23F325	8821K5	ST52P	35059-21	A	3.25	2.60	2.11	1.63
23F212	8821K6*	ST52P	35059-21	A	3.65	2.92	2.37	1.83
23F216	8831K5	ST52R	35059-26	E	4.00	3.20	2.60	2.00
23F217	8835K3	ST52S	35059-27	F	4.00	3.20	2.60	2.00
41F656	8835K4*	ST52S	35059-27	F	4.65	3.72	3.02	2.33
23F213	8833K3	ST52T	35059-31	J	4.00	3.20	2.60	2.00

Cutler-Hammer Military Switches

MIL-S-8834 MINIATURE LARGE LEVER

One Pole



Two Pole

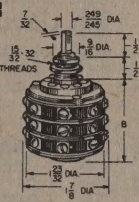
Mechanism similar to standard size positive action switches. Gold-plated contacts with wiping action. Gold-plated terminals are potted. All levers are sealed. Size: SP, .562x.354x.706"; DP, .562x.546x.706". Rated 4 amps at 28 VDC, 3 amps at 115 VAC resistive load. With 2 locknuts, lockwasher, locking ring.

ONE-POLE

Stk. No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-Up
23F781	8868K1	90310-211	A	8.40	6.72	5.46	4.20
23F274	8868K7	90310-221	B	8.40	6.72	5.46	4.20
23F784	8868K4	90310-231	C	8.40	6.72	5.46	4.20
23F785	8868K5	90310-241	D	9.40	7.52	6.11	4.70
23F782	8868K2	90310-271	F	9.40	7.52	6.11	4.70
23F786	8868K6	90310-281	L	9.40	7.52	6.11	4.70
23F783	8868K3	90310-311	J	9.40	7.52	6.11	4.70
23F787	8868K8	90310-321	K	9.90	7.92	6.44	4.95
TWO-POLE							
23F788	8869K1	90311-211	A	10.40	8.32	6.76	5.20
23F794	8869K7	90311-221	B	10.40	8.32	6.76	5.20
23F791	8869K4	90311-231	C	10.40	8.32	6.76	5.20
23F792	8869K5	90311-241	D	12.00	9.60	7.80	6.00
23F789	8869K2	90311-271	F	12.00	9.60	7.80	6.00
23F793	8869K6	90311-281	L	12.00	9.60	7.80	6.00
23F790	8869K3	90311-311	J	12.00	9.60	7.80	6.00
23F795	8869K8	90311-321	K	12.50	10.00	8.13	6.25

ROTARY POWER SWITCH

Meet MIL-S-6807. Adjustable index and continuous rotation. Rated 5 amperes at 28 VDC and 115 VAC. All switches are non-shorting and have 8 positions. All have screw terminals, $1\frac{17}{32}$" shaft, $\frac{15}{32}$" bushing. Complete with hex nuts, locking ring and locking washer. Continuous rotation is accomplished by omitting the stop screws.



Stk.No.	Type	MS No.	Sec.	Action	1-24	25-49	50-99	100-Up
23F544	7261K14	25002-1	1	SP	12.07	9.66	7.85	6.04
23F545	7262K14	25002-2	2	DP	18.36	14.69	11.93	9.18
23F546	7263K13	25002-3	3	3P	24.60	19.68	15.99	12.30
23F547	7264K10	25002-4	4	4P	30.84	24.67	20.05	15.42
23F548	7265K10	25002-5	5	5P	37.09	29.67	24.11	18.55
23F549	7266K6	25002-6	6	6P	44.39	35.51	28.85	22.20

A B C D

MILITARY SWITCH SEALS

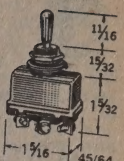
Meet MIL-B-5423. Grey silicone rubber seals make switches watertight, dustproof. Install easily to provide vibration-resistant seal. Designed for operating temperatures between -160°F and +500°F.

Stk. No.	Type	Size	Fig.	MIL-B-5423	1-99	100-499	500-999
41F629	SW1AN1030	$1\frac{5}{32}$-32	B	1-A1	.79	.61	.55
41F630	SW1BN1030	$1\frac{5}{32}$-32	A	2-A3	.79	.61	.55
41F631	SW1LN5030	1/4-40	B	5-A71	1.10	.88	.79
41F632	SW1BN5032	1/4-40	A	11-A8	1.10	.88	.79
41F633	SW1AN3030	$1\frac{5}{32}$-32-5/16	C	7-B21	.68	.54	.49
41F634	SW1NC3030	$1\frac{5}{32}$-32-7/16	C	7-B22	.68	.54	.49
41F635	SW1AN9060-14	$1\frac{5}{32}$-32	D	9-C6	1.26	.99	.88
41F636	SW1AN9030-14	3/8-32	D	9-C2	.64	.50	.46
41F637	SW1AN9040-18	1/4-32	D	9-C4	.68	.54	.49
41F639	SW1RC3030-1	$1\frac{5}{32}$-32	C	RF1	1.99	1.81	1.57
41F640	SW1RN9030-14	3/8-32	D	RF1	1.29	1.15	1.00

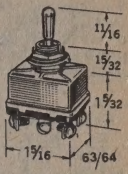
MIL-S-8834 POSITIVE ACTION

- Environmentally Sealed
- "Tease Proof" Action
- Positive Make and Break Action
- Wiping Action for Good Contact
- Rugged Nylon and Stainless Housing

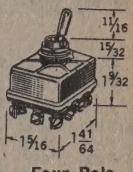
Nylon parts provide high arc-tracking resistance and excellent recovery voltage characteristics. 25A @ 28VDC, 20A @ 115VAC.



One Pole



Two Pole

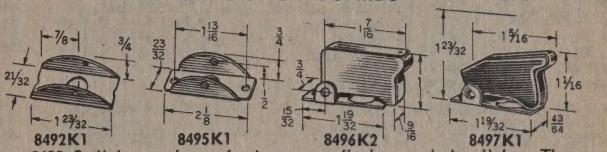


Four Pole

ONE-POLE

Stk. No.	Type	Gov't MS No.	Key	1-24	25-49	50-99	100-Up
23F650	8836K1	25306-212	A	15.00	12.00	9.75	7.50
23F658	8836K9	25306-222	B	14.50	11.60	9.43	7.25
23F653	8836K4	25306-232	C	15.00	12.00	9.75	7.50
23F655	8836K6	25306-242	D	15.00	12.00	9.75	7.50
23F1073	8836K2	25306-272	F	16.00	12.80	10.40	8.00
23F660	8836K11	25306-302	I	16.00	12.80	10.40	8.00
TWO-POLE							
23F661	8837K1	25307-212	A	20.75	16.60	13.49	10.38
23F669	8837K9	25307-222	B	20.50	16.40	13.33	10.25
23F664	8837K4	25307-232	C	20.75	16.60	13.49	10.38
23F666	8837K6	25307-242	D	21.00	16.80	13.65	10.50
23F1074	8837K5	25307-262	E	22.25	17.80	14.46	11.13
23F662	8837K2	25307-272	F	22.25	17.80	14.46	11.13
23F663	8837K3	25307-312	J	22.25	17.80	14.46	11.13
23F1075	8844K6	26413-E232	N	30.00	24.00	19.50	15.00
FOUR-POLE							
23F672	8838K1	25308-212	A	40.00	32.00	26.00	20.00
23F680	8838K9	25308-222	B	38.00	30.40	24.70	19.00
23F675	8838K4	25308-232	C	40.00	32.00	26.00	20.00
23F676	8838K5	25308-262	D	42.50	34.00	27.63	21.25
23F1076	8845K6	24614-E232	N	53.00	42.40	34.45	26.50

MILITARY SWITCH GUARDS



Type 8495. Switch guards are for two screw flush mounted switches. They can be used to prevent accidental operation of the switch lever by inserting a pin through the holes provided in the side brackets. With a pin in place across the guard, single pole switches are locked in position and double pole switches will operate from the first position to the second position, but not to the extreme position. The guard is black enamel metal.

Type 8492K1. The same as the 8495 guard except for its use on one hole mounting switches.

Type 8496. For three position switches. Pushing the guard down returns the switch lever to the "off" position from either the up or down positions. These guards are available in red or black phenolic with black enamel flush plate.

Type 8497. Designed for use with single throw switches. The switch can only be operated when the guard is up. Returning the guard to the down position forces the switch lever to the "off" position. Available in red or green phenolic with a black enamel plate.

Stock No.	Type	MS Type	Color	Mtg.	Material	1-24	25-49	50-99
41F675	8497K2	MS25224-2	Red	Flush	Phenolic	5.50	4.40	3.58
41F676	8495K1	MS25221-1	Blk	Flush	Metal	1.20	.96	.78
41F677	8496K2	MS25223-2	Red	OBM	Phenolic	3.30	2.64	2.15
23F145	8497K1	MS25224-1	Red	OBM	Phenolic	3.30	2.64	2.15
41F678	8497K3	MS25224-3	Red	OBM	Phenolic	3.30	2.64	2.15
41F679	8497K7	MS25225-1	Red	OBM	Phenolic	4.75	3.80	3.09
23F140	8492K1	MS24417-1	Blk	OBM	Metal	1.75	1.40	1.14

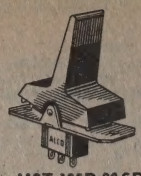
LEVER TRAVEL CHART

Key	Up Position	Center Position	Down Position (Keyway)
A	ON	OFF	ON
B	ON	NONE	OFF
C	ON	NONE	ON
D	ON	OFF	NONE
E	ON	NONE	ON*
F	ON*	OFF	ON*
G	ON*	OFF	ON
H	ON	NONE	OFF*
I	OFF	NONE	ON*
J	ON	OFF	ON*
K	NONE	ON	ON*
L	NONE	OFF	ON*
M	ON—>	<—OFF—>	<—ON
N	ON—>	NONE	<—ON

*Momentary —> Direction in which lever is locked

MST-1050SPDT

MST-205N DPDT


MST-105D-30 SPDT

MTA

MTE

MTG

MTL

Ultra-miniature toggle switches. Solid silver terminals and contacts. Toggle in switch mechanism is linked directly to movable contact member to provide positive make and break. Black phenolic resin case material; ¼-40 thread bushing. Rated 5 amps. 115 VAC. High voltage barriers between terminals and contacts SPDT and DPDT types have life cycle of over 80,000 on-off operations. *Momentary. †Special DP3T switch with 3 "on" positions take the place of 3 position rotary switch in certain applications. Average wt. 1 oz.

WHITE PLASTIC CAP—30° THROW

Stock No	Type MST-	Action	1-24	25-99	100-499	500-999
61F850	115D	SPDT On-None-On	1.70	1.16	1.02	.85
61F851	215N	DPDT On-None-On	2.25	1.53	1.35	1.13
61F852	315D	3PDT On-None-On	3.75	2.55	2.25	1.87
61F853	415N	4PDT On-None-On	4.80	3.26	2.88	2.40

SLIM BAT HANDLE—30° THROW

Stock No.	Type MST-	Action	1-24	25-99	100-499	500-999
61F854	105D	SPDT On-None-On	1.65	1.12	.99	.83
61F855	105E	SPDT On-Off-On	1.95	1.33	1.17	.98
61F856	105F	SPDT None-On-On*	1.95	1.33	1.17	.98
61F857	105G	SPDT On*-Off-On*	1.95	1.33	1.17	.98
61F858	105H	SPDT On-Off-On*	1.95	1.33	1.17	.98
61F859	205N	DPDT On-None-On	2.20	1.50	1.32	1.10
61F860	205P	DPDT On-Off-On	2.55	1.74	1.53	1.28
61F861	205R	DPDT None-On-On*	2.55	1.74	1.53	1.28
61F862	205S	DPDT On*-Off-On*	2.55	1.74	1.53	1.28
61F863	205T	DPDT On-Off-On*	2.55	1.74	1.53	1.28
61F864	†205PA	DP3T On-On-On	2.80	1.90	1.68	1.40
61F865	†205TA	DP3T On*-On-On	3.10	2.11	1.86	1.55
61F866	305D	3PDT On-None-On	3.70	2.52	2.22	1.85
61F867	305F	3PDT On-Off-On	4.00	2.72	2.40	2.00
61F1184	205SA	DP3T On*-On-On*	3.10	2.11	1.86	1.55
61F868	305H	3PDT On-Off-On*	4.00	2.72	2.40	2.00
61F869	405N	4PDT On-None-On	4.75	3.23	2.85	2.38
61F870	405P	4PDT On-Off-On	5.15	3.50	3.09	2.58
57F2050	105F-1	SPDT On-None-(On) Long Throw	1.95	1.33	1.17	1.98
57F2062	205R-1	DPDT On-None-(On) Long Throw	2.55	1.74	1.53	1.28
57F2051	105D-30	SPDT On-None-On Rocker	2.00	1.36	1.20	1.00
57F2052	205N-30	DPDT On-None-On Rocker	2.55	1.74	1.53	1.28
57F2053	105D-40	SPDT On-None-On Paddle	2.00	1.36	1.20	1.00
57F2054	205N-40	DPDT On-None-On Paddle	2.55	1.74	1.53	1.28
57F2055	105D-49	SPDT On-None-On Flat Lever	2.25	1.53	1.35	1.13
57F2056	105E-49	SPDT On-Off-On Flat Lever	2.55	1.74	1.53	1.28
57F2057	105G-49	SPDT (On)-Off-(On) Flat Lever	2.55	1.74	1.53	1.28
57F2058	205N-49	DPDT On-None-On Flat Lever	2.80	1.90	1.68	1.40
57F2059	205P-49	DPDT On-Off-On Flat Lever	3.15	2.14	1.89	1.58
57F2060	105D-50	SPDT On-None-On Long Lever	1.90	1.29	1.14	.95
57F2061	105E-50	SPDT On-Off-On Long Lever	2.20	1.50	1.32	1.10
57F2408	105F-50	SPDT None-On-(On) Long Lever	2.20	1.50	1.32	1.10
57F2063	205N-50	DPDT On-None-On Long Lever	2.45	1.67	1.47	1.23
57F2064	205P-50	DPDT On-Off-On Long Lever	2.80	1.90	1.68	1.40
57F2409	205T-50	DPDT On-Off-(On) Long Lever	2.80	1.90	1.68	1.40
57F2065	305D-50	3PDT On-None-On Long Lever	3.95	2.69	2.37	1.98
57F2066	405N-50	4PDT On-None-On Long Lever	5.00	3.40	3.00	2.50

MTA SERIES MINIATURE TOGGLE SWITCHES

The best miniature switch on the market. Features include anti-push-in toggle, no tear ¼"—40 bushing, molded case of DAP, 250 V insulation, hi-volt barriers inside and out, silver/gold flash terminals with elongated holes, silver/gold flash contacts rated @ 6 amps, 125 VAC, and 3 amps, 250 VAC. Wt. 1 oz.

Stk. No.	Model	Contacts	Description	1-24	25-99	100-499	500-999
61F1245	MTA-106D	SPDT	On-None-On	1.70	1.16	1.02	.85
61F1246	MTA-106F	SPDT	On-Off-On	2.00	1.36	1.20	1.00
61F1247	MTA-206N	DPDT	On-None-On	2.25	1.53	1.35	1.13
61F1248	MTA-206P	DPDT	On-Off-On	2.60	1.77	1.56	1.30
61F1249	MTA-206PA	DP3T	On-On-On	2.85	1.94	1.71	1.43
61F1250	MTA-306D	3PDT	On-None-On	3.75	2.55	2.25	1.87
61F1251	MTA-306E	3PDT	On-Off-On	4.05	2.75	2.43	2.03
61F1252	MTA-406N	4PDT	On-None-On	4.80	3.26	2.88	2.40
61F1253	MTA-406P	4PDT	On-Off-On	5.20	3.54	3.12	2.60
61F1254	MTA-406PA	4P3T	On-On-On	5.95	4.05	3.57	2.98

MTE WATER PROOF SWITCH SERIES

Incorporate same exclusive features used in MTA series. Waterproof "O" rings are located inside the switch and on the toggle. ¼"—40 bushing. Wt. 1 oz.

Stock No.	Type MTE	Action	1-24	25-99	100-499	500-999
61F871	106D	SPDT On-None-On	2.00	1.36	1.20	1.00
61F872	106E	SPDT On-Off-On	2.45	1.67	1.47	1.23
61F873	206N	DPDT On-None-On	2.55	1.74	1.53	1.28
61F874	206P	DPDT On-Off-On	3.15	2.14	1.89	1.58
61F875	206PA	DP3T On-On-On	3.45	2.35	2.07	1.73
61F876	306D	3PDT On-None-On	4.25	2.89	2.55	2.13
61F877	306E	3PDT On-Off-On	4.60	3.13	2.76	2.30
61F878	406N	4PDT On-None-On	5.25	3.57	3.15	2.63
61F879	406P	4PDT On-Off-On	5.80	3.94	3.48	2.90

MTG "MUSTANG" TOGGLE SWITCHES

Features $^{15}/_{31}$" bushing and large lever bat handle with all of the other important features of the MTA series. Switch requires only .648" depth behind panel.

Stock No.	Type MTG	Action	1-24	25-99	100-499	500-999
61F1187	106D	SPDT On-None-On	2.15	1.46	1.29	1.08
61F884	206N	DPDT On-None-On	2.70	1.84	1.62	1.35
61F885	206P	DPDT On-Off-On	3.20	2.18	1.92	1.60
61F886	206PA	DP3T On-On-On	3.50	2.38	2.10	1.75
61F887	306D	3PDT On-None-On	4.30	2.92	2.58	2.15
61F888	306E	3PDT On-Off-On	4.65	3.16	2.79	2.33
61F889	406N	4PDT On-None-On	5.30	3.60	3.18	2.65
61F890	406P	4PDT On-Off-On	5.85	3.98	3.51	2.93

MTL LOCKING TOGGLE SWITCHES

Unique pull-to-unlock feature is ideal in hazardous applications. The toggle locks in position to safeguard against accidents. Same specs as MTA series, ¼"—40 bushing.

Stk. No.	Type	Action	1-24	25-99	100-499	500-999
61F972	MTL-106D	SPDT On-None-On	3.00	2.04	1.80	1.50
61F973	MTL-106E	SPDT On-Off-On	3.55	2.41	2.13	1.78
61F974	MTL-206N	DPDT On-None-On	3.55	2.41	2.13	1.78
61F975	MTL-206P	DPDT On-Off-On	4.05	2.75	2.43	2.03
61F989	MTL-206PA	DP3T On-On-On	4.35	2.95	2.61	2.18
61F990	MTL-3060P	3PDT On-None-On	5.20	3.54	3.12	2.60
61F991	MTL-406N	4PDT On-None-On	6.25	4.25	3.75	3.13

COLOR CODED CAPS

An invaluable aid. Model C-10 and C-17 for all toggle switches. C-15 for Mustang Series only. Pkgs. of 25.

Stk. No.	Model	Color	25-75	100-475	500-999
61F880	C-10	Black	.045	.040	.030
61F881	C-10	White			
61F882	C-10	Red			
61F883	C-10	Blue			
57F2086	C-10	Grey			
57F2088	C-10	Yellow			
57F2089	C-10	Pink			
61F951	C-15	Black	.05	.04	.035
61F952	C-15	White			
61F953	C-15	Red			
61F954	C-15	Blue			
61F1202	C-17	Black	.045	.040	.030
61F1203	C-17	White			
61F1204	C-17	Red			
61F1205	C-17	Blue			

SWITCH HARDWARE (Pkg. of 25 only)

Stk. No.	Type	Description	25-99	100-499	500-999
61F913	N-1	¼"-40 Knurled Nut	.05	.04	.035
61F914	N-1A	¼"-40 Perfect Fit Nut	.09	.08	.07
61F915	N-1B	$^{15}/_{32}$" Perfect Fit Nut	.10	.09	.08
61F916	N-2	¼"-40 Hex Nut	.03	.03	.02

SWITCH PLATES

ON-OFF switch plates for standard and miniature switches. Sold in packages of 5. Priced per pkg. of five.

Stk. No.	Type	Use	1-24	25-99	400-499	500-999
61F948	SP-32	¼" Dia. Bushing	1.25	.85	.75	.69
61F949	SP-42	$^{15}/_{32}$" Dia. Bushing	1.30	.88	.78	.72

MCTG-210N DPDT

MCT-110D-50 SPDT

MCT-110D SPDT

MCT-110-49 SPDT

MINIATURE CYLINDRICAL TOGGLE SWITCHES

All metal construction. High impact terminal insulator. 10A @ 125 VAC. Internal contact res. under 20 Milliohms @ 2-4 VDC, 1A. 40,000 on/off actions. Silver on copper. ¼" bshg. except MCTG, 15/32". (*) Baton lever. (†) Baton lever with black tip.

Stk. No.	Model	Contacts	Operation	1-24	25-99	100-499	500-999
61F1241	MCT-110D	SPDT	On-None-On	1.95	1.33	1.17	.975
61F1242	MCT-210N	DPDT	On-None-On	2.55	1.72	1.53	1.28
61F1243	MCTG-110D	SPDT	On-None-On	1.95	1.33	1.17	.975
61F1244	MCTG-210N	DPDT	On-None-On	2.55	1.72	1.53	1.28
57F2068	MCT-110D-49*	SPDT	On-None-On	2.55	1.74	1.53	1.28
57F2069	MCT-210N-49*	DPDT	On-None-On	3.15	2.14	1.89	1.58
57F2070	MCT-110D-50†	SPDT	On-None-On	2.30	1.57	1.38	1.15
57F2071	MCT-210N-50†	DPDT	On-None-On	2.90	1.97	1.74	1.45

ILLUMINATED PUSH BUTTON SWITCHES

MPN 206 DPDT

MPN. Snap action type. DPDT. Miniature case. Separate connections to replaceable T-1¾ grooved base lamp. Metal construction. DAP case. Solid silver contacts. 6A @ 125 VAC. 15/32" dia. mtg. hole. Button, guard, lamp not supplied—order sep. (*)Translucent button colors: Amber, Blue, White, Green, Red. State color when ordering.

Stk. No.	Model	Contacts	Operation	1-24	25-99	100-499	500-999
61F1216	MPN-206N	DPDT	Push-on-off	5.65	3.84	3.39	2.83
61F1217	MPN-206R	DPDT	Momentary	5.65	3.84	3.39	2.83
61F1218	RS-XP*	.....	½" Round Button	.15	.10	.09	.08
61F1222	CGR-½	.....	½" Round Chrome Guard	.35	.24	.21	.19

MINIATURE PUSHBUTTON SWITCHES

MSP-105 & 205. Silver contacts rated 6 amps. Black case. ¼"-40 bushing. **MPE.** Waterproof pushbutton switch. 6 A @ 125 VAC. ¼" bushing. Gold flash terminals. Green DAP case. Supplied with black button. **MPA-103.** Cylindrical pushbutton switch, gold flashed terminals molded in DAP base, 3A @ 125 VAC. ¼-40 bushing. Less button, see below. **MPG.** Mustang pushbutton switches. 6 A @ 125 VAC. Green DAP case. 15/32" bushing. With black button. **MSP-103.** Economy pushbutton switches, 3 A @ 125 VAC, low pressure, silverplated brass contacts. Plunger travels .098". ¼-40 bushing. **MSPS-103.** Silver-plated brass contacts. .5 A. ¼" bushing.

Stk. No.	Model	Contacts	Operation	1-24	25-99	100-499	500-999
61F908	MSP-105D	SPDT	Push-On-Off	2.45	1.67	1.47	1.23
61F906	MSP-105F	SPDT	Momentary	2.45	1.67	1.47	1.23
61F909	MSP-205N	DPDT	Push-On-Off	3.35	2.28	2.01	1.68
61F907	MSP-205R	DPDT	Momentary	3.35	2.28	2.01	1.68
61F959	MPE-106D	SPDT	Push-On-Off	2.75	1.87	1.65	1.38
61F957	MPE-106F	SPDT	Momentary	2.75	1.87	1.65	1.38
61F960	MPE-206N	DPDT	Push-On-Off	3.65	2.48	2.19	1.83
61F958	MPE-206R	DPDT	Momentary	3.65	2.48	2.19	1.83
61F961	MPE-406N	4PDT	Push-On-Off	5.45	3.71	3.27	2.73
61F1211	MPE-406R	4PDT	Momentary	5.45	3.71	3.27	2.73
25F2020	MPA-103B	SPST	NC Momentary	1.40	.95	.84	.70
25F2021	MPA-103C	SPST	NO Momentary	1.40	.95	.84	.70
25F2022	MPA-103D	SPDT	Push-On-Off	2.75	1.87	1.65	1.38
25F2023	MPA-103F	SPDT	Momentary	2.75	1.87	1.65	1.38
61F993	MPG-206N	DPDT	Push-On-Off	3.65	2.48	2.19	1.83
61F994	MPG-206R	DPDT	Momentary	3.65	2.48	2.19	1.83
61F1212	MSP-103B	SPST	NC Black Button	.85	.58	.51	.47
61F1213	MSP-103C	SPST	NO Red Button	.85	.58	.51	.47
61F1214	MSP-103C-B	SPST	NC Black Button	.85	.58	.51	.47
57F2072	MSPS-103B	SPST	NC Black Button	.63	.44	.39	.36
61F1215	MSPS-103C	SPST	NO Red Button	.65	.44	.39	.36

PROTECTIVE BUTTON GUARDS/MPA and MPE SERIES

Stk. No.	Type	Style	Matching Button	1-24	25-99	100-499	500-999
57F2112	G12-C	Plain*	C22	.35	.24	.21	.19
57F2113	G12-A	Plain†	C22	.35	.24	.21	.19
57F2114	G12-B	Plain‡	C22	.35	.24	.21	.19
25F2035	G12K-C	Knurled*	C22	.40	.27	.24	.22
57F2110	G12K-A	Knurled†	C22	.40	.27	.24	.22
57F2111	G12K-B	Knurled‡	C22	.40	.27	.24	.22
57F2118	G13-C	Plain*	C23	.40	.27	.24	.22
57F2119	G13-A	Plain†	C23	.40	.27	.24	.22
57F2120	G13-B	Plain‡	C23	.40	.27	.24	.22
57F2115	G13K-C	Knurled*	C23	.45	.31	.27	.25
57F2116	G13K-A	Knurled†	C23	.45	.31	.27	.25
57F2117	G13K-B	Knurled‡	C23	.45	.31	.27	.25

(*) Chromed Brass. (†) Nat. Aluminum. (‡) Blk. Aluminum

MAGNETIC REPULSION PUSHBUTTON

Momentary push button switches designed for data entry in modern electronic equipment. Ceramic magnets eliminate springs. Contacts are glass-encapsulated reeds for long-life. Metal case withstands abuse and serves as a shield. Rated 100 mA @ 50 VDC, resistance 100 milliohms. Contact bounce 1 millisecond. Plunger travel 5/64". Operating force, under 2 ozs. Life, 10 million. SPST contacts. Also accepts C-13, C-14, C-14L.

Stk. No.	Model	Description	1-24	25-99	100-499	500-999
61F1207	MSPM101B	N.C., Solder lug	4.25	3.40	2.98	2.76
61F1208	MSPM101C	N.O., Solder lug	3.90	3.12	2.73	2.54
61F1209	MSPM101B-1	N.C., .110" Terminal	4.25	3.40	2.98	2.76
61F1210	MSPM101C-1	N.O., .110" Terminal	3.90	3.12	2.73	2.54

MLN-206

MDL-206N-70

MDL-106-80

MSL-203

ILLUMINATED ROCKER SWITCHES

Miniature rocker switch featuring added brilliance and convenient front panel lamp replacement. Switch snaps into .750" sq. hole. Rated 6 amps @ 125 VAC. Specify lens color: red, green, amber or white. T-1¾ screw base lamps, not supplied.

Stock No.	Model	Contacts	Operation	1-24	25-99	100-499	500-999
57F2073	MLN-206N	DPDT	On-None-On	4.35	2.96	2.61	2.18
57F2074	MLN-206P	DPDT	On-Off-On	4.65	3.16	2.79	2.33
57F2075	MLN-206R	DPDT	On-None-(On)*	4.65	3.16	2.79	2.33

*Momentary

MINIATURE ROCKER SWITCHES

Economy "snap-in" switch. 6 amp @ 125 VAC rating. Easy installation in .51" x .62" hole. Molded silver gold/flash terminals, contacts. Supplied with black rocker.

57F2076	MDL-206N70	DPDT	On-None-On	2.25	1.53	1.35	1.13

MINIATURE PADDLE SWITCHES

Adds distinction to front panel. "Snap-in" installation in .5" x .6" hole. 6 amps @ 125 VAC. Molded silver term., contacts. *Momentary.

57F2077	MDL-106D-80	SPDT	On-None-On	1.90	1.29	1.14	.95
57F2078	MDL-106E-80	SPDT	On-Off-On	2.10	1.43	1.26	1.05
57F2079	MDL-106F-80	SPDT	On-None-(On)*	2.25	1.53	1.35	1.13
57F2080	MDL-206N-80	DPDT	On-None-On	2.25	1.53	1.35	1.13
57F2081	MDL-206P-80	DPDT	On-Off-On	2.70	1.84	1.62	1.35

MSH LEVER AND MSL ROCKER SWITCHES

Versatile DPDT (On-On) action. Rated 3 amps @ 125 VAC. Life, 25,000 cycles. Contacts silverplated. Screw mount; .34" x .58" hole.

57F2083	MSH-203N-3	DPDT	Lever	1.65	1.12	.99	.83
57F2084	MSL-203N-7	DPDT	Rocker	1.55	1.05	.93	.78

MINIATURE ROTARY SWITCHES

MRB adjustable-stop rotary switches are rated 500 mA @ 125 VAC. Non-shorting. 36° spacing. Silver clad/plated contacts, terminals. Up to 4 poles and up to 12 adjustable stops. Bushing: ¼"-28. Supplied less knob. Refer to Alco Knob Series PKG for mating knobs. All have short shafts except suffix "S"-long shaft.

Stock No.	Model	Poles	Positions	1-24	25-99	100-499	500-999
25F2024	MRB-1-10	1	2-10	6.25	4.25	3.75	3.13
25F2025	MRB-2-5	2	2-5	7.25	4.93	4.35	3.63
25F2026	MRB-3-3	3	2-3	7.95	5.41	4.77	3.98
25F2036	MRB-1-10S	1	2-10	6.25	4.25	3.75	3.13
25F2037	MRB-2-5S	2	2-5	7.25	4.93	4.35	3.63
25F2038	MRB-3-3S	3	2-3	7.95	5.41	4.77	3.98
25F2027	MRB-1-12S*	1	1-12	7.35	5.00	4.41	3.68
25F2039	MRB-1-10SC*†	1	10	6.25	4.25	3.75	3.13
25F2040	MRB-4-3S*	4	2-3	8.95	6.09	5.37	4.48
25F2028	MRB-2-6S*	2	2-6	7.95	5.41	4.77	3.98

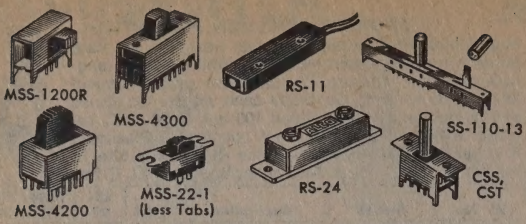
(*) 30° spacing. (†) Continuous rotation.

AUXILIARY BUTTONS

Type	Black Stk. No.	Red Stk. No.	Green Stk. No.	Fits	1-24	25-99	100-499	500-999
C5	25F2029	25F2030	25F2031	MPA3*	.08	.06	.05	.045
C8	25F2032	25F2033	25F2034	MPA3†	.10	.07	.06	.055

(*) Small button. (†) Large button.

ALCOSWITCH Precision Switches



MINIATURE PC SLIDE SWITCHES

Make before break. Upright levers for direct mounting to PC board (except suffix "R" with right angle levers for side mtg.). MSS-4300 has threaded screw holes on top of mtg. frame for 4-40 screws. Standard models have silverplated brass contacts and terminals, movable contacts of plated beryllium brass. Suffix "G" indicates gold-plate over nickel. Rated 0.3 amp at 125 VAC. Low contact resistance over 15,000 cycle life.

Stock No.	Type MSS-	Con-tacts	Description	1-24	25-99	100-499	500-999
57F2134	1200R	SPDT	Right Angle	.65	.44	.39	.33
57F2135	1200RG	SPDT	Right Angle, Gold	.90	.61	.54	.45
57F2136	2200	DPDT	Upright	.70	.48	.42	.35
57F2137	2200G	DPDT	Upright, Gold	1.20	.82	.72	.60
57F2138	2220G	DPDT	Uprt., .200" lever, Gld.	1.20	.82	.72	.60
57F2139	2250G	DPDT	Uprt., Long Handle, Gld.	1.25	.85	.75	.63
57F2140	2250R	DPDT	Rt. Angle, Long Handle	.85	.58	.51	.43
57F2141	2250RG	DPDT	Rt. An., Long Han., Gld.	1.35	.92	.81	.68
57F2142	2450	DP4T	Upright, Long Handle	1.00	.68	.60	.50
57F2143	4200	4PDT	Upright	.80	.54	.48	.40
57F2144	4200G	4PDT	Upright, Gold	1.80	1.22	1.08	.90
57F2145	4200R	4PDT	Right Angle	.90	.61	.54	.45
57F2132	4200RG	4PDT	Right Angle, Gold	1.90	1.29	1.14	.95
57F2146	4300G	4P3T	Upright, Gold	2.35	1.60	1.41	1.18
57F2147	4350R	4P3T	Rt. Angle, Long Handle	1.35	.92	.81	.68

MSS MINIATURE SLIDE SWITCHES

Anti-tease design. Break before make. Rated .5 amps @ 125 VAC. Life: 250,000 operations. Size, .500" x .305".

61F947	MSS-22	SPDT	2-Ckt. NO-NC w/o tabs	1.75	1.17	.88	.73
61F995	MSS-44	DPDT	On-None-On with tabs	3.15	2.11	1.58	1.31

MULTIPLE-POLE SIDE SWITCHES

Designed for printed circuit boards. Offers operational versatility, high density, light weight. Rated to carry 300 mA @ 30 VDC. Make before break, silver contacts, sealed term.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
57F2389	SS-110-13	1-pole, 10 + 3 pos.*	2.65	1.80	1.59	1.33
57F2388	SS-111	1-pole, 11 positions*	1.95	1.33	1.17	.98
57F2387	SS-24	2-pole, 4 positions	1.25	.85	.75	.63

*Less knobs; order below.

ACTUATOR KNOBS FOR SS SERIES

A in type number indicates anodized B-Block.

Stock No.	Type	Description	1-99	100-249	250-499	500-999
57F2400	KSS-1A	Small; w/o hairline	.30	.27	.26	.24
57F2401	KSS-1B	Small; w/o hairline	.30	.27	.26	.24
57F2402	KSS-2A	Large; w/o hairline	.35	.32	.30	.28
57F2403	KSS-2B	Large; w/o hairline	.35	.32	.30	.28
57F2404	KSS-3A	Large; dbl. hairline	.40	.36	.34	.32
57F2405	KSS-3B	Large; dbl. hairline	.40	.36	.34	.32

BATON LEVER SWITCHES

Selection of terminals for PC or hand wired use. Rated to carry 300 mA @ 30 VDC. Make before break; silver terminals sealed against solder flux to limit wicking.

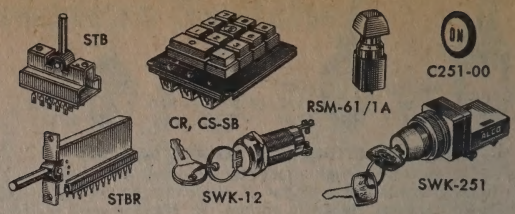
Stock No.	Type	Description	1-24	25-99	100-499	500-999
57F2382	STB-012†	1-pole, 2-position	1.85	1.26	1.11	.93
57F2383	STB-042	4-pole, 2-position	3.45	2.35	2.07	1.73
57F2384	STBR-042-PC	4-pole, 2-pos.*	3.55	2.41	2.13	1.78

*PC terminals, right angle. †10 amps.@125 VAC

PROXIMITY MAGNETIC REED SWITCHES

RS-24: Alnico-5 magnet actuates reed switch within distance of 1". Rated 0.5 amp break, 1.0 amp carry over. 18 million operations. **Miniature RS-11:** Alnico-5 magnet actuates reed switch within distance of .39". Current rating: 0.15 amp break, 0.5 amp carry at 50 VDC. 200 VDC breakdown. Life: 10 million cycles. **RS-51:** Alnico 5 magnet actuates reed switch within distance of 1". Rated 0.5 amps @ VDC. Life: 10,000,000 cycles.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
61F1623	RS-24-NC	Norm. closed (apart)	3.15	2.14	1.89	1.58
61F971	RS-24-NO	Norm. open (apart)	2.85	1.94	1.71	1.43
61F1256	RS-11-NC	Norm. closed (apart)	3.05	2.08	1.83	1.53
61F1255	RS-11-NO	Norm. open (apart)	2.75	1.87	1.65	1.38
61F1270	RS-51-NC	Norm. closed (apart)	2.25	1.53	1.35	1.13
61F1271	RS-51-NO	Norm. open (apart)	1.95	1.33	1.17	.98



CST AND CSS ECONOMY BATON SWITCHES

CST-022 is break before make with toggle action baton lever. CSS-022 is make before break with slide action. DPDT contacts rated 0.3 amp at 125 V. Positive wiping action, low contact resistance. PC sealed terminals; self-cleaning.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
57F2390	CST-022	On-None-On, Toggle	.95	.65	.57	.48
61F1272	CSS-022	On-None-On, Slide	.85	.58	.51	.43

ECONOMY PRICED MECHANICAL KEYBOARDS

Normally open momentary action; features unique contacts system that utilizes spring resilience of wire contacts. Uniform spacing of gold-clad contacts. Current rating: 100 mA at 24 VDC. Contact resistance, below 100 megohms. Resistance, over 500 megohms at 500 VDC. Operating force, 90 (±30) grams. Life: over 2 million operations at 30 mA. 3.040x3.750x1.612".

Stock No.	Type	Description	1-99	100-499	500-999
57F2391	CR-011	0-9 Numerals & Decimal	12.95	10.36	9.07
57F2392	CR-015	1-12 Numerals	13.95	11.16	9.77

TYPE CS-021 LOW PROFILE REED KEYBOARD

Uses single pole "open circuit" reed modular switches mounted on keyboard assembly. Complete assembly with gray, 2-shot molded keytops. Current rating, 100 mA at 48 VDC. Operating force, 5 oz. Reed switch life, 10 million operations. Momentary action. Blank keytops are available in a selection of colors. Size, 2.375y 3.375x1.946".

57F2393	CS-021	0-9	Numerals & Decimal	18.25	14.60	12.78

BASE MOUNTED PUSHBUTTON KEYBOARD SWITCHES

Reed actuated low-profile, single pole normally-open unit provides the low operating force and high reliability required in keyboards. Suitable for an 0.75" matrix; free from interaction between units. Switch is molded in high quality glass-filled nylon and acetal resin, and is an FR Hamlin reed switch actuated by a permanent magnet.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
57F2148	RSM-61/1A	Flat Base Keyswitch	1.95	1.46	1.37	1.30
57F2149	RSB-1	Blank Keytop (Black)	.15	.11	.105	.10

MINIATURE PUSHBUTTON MOTOR START SWITCHES

Mounts in 1" hole. Rated to carry 6 amps at 230 VAC. May be used to control circuits independently or with optional relays. All models supplied with a single (NO-NC) contact block, but have provision for additional SU-251 blocks, thereby converting to DPDT, 3PDT, 4PDT. **3-Way Selector Power Switch SW-251S-3** is the same basic model, but has bar knob with pointer. **Key-Lock Pushbutton Type SWK-251** is an accident-proof power switch with its own key lock to prevent unwanted operation of machines and controls; functions only when key disengages the lock.

Stock No.	Type	Description	1-24	25-99	100-499	500-999
57F2150	SWK-251	Key-Lock; On-Off-On	8.95	6.09	5.37	4.48
57F2151	SW-251*	Std. Button; Momentary	3.95	2.69	2.37	1.98
57F2152	SW-251D*	Mushroom Head; Momentary	4.45	3.03	2.67	2.23
57F2153	SW-251S-3	Selector, On-Off-On	3.95	2.69	2.37	1.98
57F2154	SU-251	Extra Block (NO-NC)	1.95	1.35	1.17	.98

*Pushbutton models are equipped with spare (snap-on) colored buttons, offering a choice of red, black or green.

KEYLOCK SWITCHES

Roller-action with positive contact, mechanical action, and key removal at both positions. Flatted ¾" dia. barrel for panels up to ¾". Choice of 25 keys. Current rating: 115 VAC, 5 amps resistive load; 24 VDC, 15 amp resistive load.

57F2155	C-251-00	"On-Off" Buttons	.50	.34	.30	.25
57F2156	C-251-SS	"Stop-Start" Buttons				
57F2157	C-251-HL	"High-Low" Buttons				
57F2158	C-251-UD	"Up-Down" Buttons				
57F2159	SWK-12	Remove key/Off or On	4.95	3.37	2.97	2.48

Component Seals/Pilot Light Filters

HIGH PRESSURE SEALS FOR STANDARD TOGGLE SWITCHES

N-1030

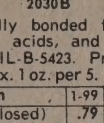
N-1030B

2030B

Silicone rubber chemically and mechanically bonded to nut, make these boots impervious to salt water, acids, and ozone. Flexible from —160°F to +500°F. Meets MIL-B-5423. Pressure Range: 15 PSI Internal and External. Wt. approx. 1 oz. per 5.

Stk. No.	Type	Thread Size	Description	1-99	100-499
30F000	N1030	15/32-32	Bush. Mtg. (Enclosed)	.79	.63
30F001	N1030A	15/32-32	Bush. Mtg. (Metal Cap)	1.34	1.08
30F002	N1030B	15/32-32	Bush. Mtg. (Open Top)	.79	.63
30F004	N2030B	3 hole mtg.	Flush Mtg.	.63	.49
30F011	N5030	1/4-40	Bush. mtg. (enclosed)	1.13	.90

SNAP SEALS



Designed to make standard push-button, toggle, and rotary switches both water-tight and dust-proof. Material: Neoprene. Color: Black. Operating Temperatures: —40°F to +225° F. Bushing dia. for type 1211/5 & 1312/7: 3/8"; type 1111/4: 15/32". Push, toggle & rotary dia.: 1/4".

Stk. No.	Type	To Switch	1-99	100-999	1000-2499	2500-4999
30F097	1211/5	Push-button	.46	.36	.26	.22
30F098	1111/4	Toggle				
30F099	1312/7	Rotary				

HEXSEAL

Seats for locking type potentiometers and variable capacitors. Temp. Range: —160°F to +500°F. Shaft size: 1/4". Thread size: 3/8-32". Ht. 17/32". Width 3/8".

Stock No.	Type No.	1-99	100-499
30F060	NLK-9030-1/4	1.24	.99

HIGH PRESSURE SEALS

Designed for shafts which pass through panels or housings. Meets MIL-B-5423/9. For standard rotary switches. Wt. approx. 1 oz. per 5.

Stock No.	Type	Thread Size	Shaft Size	Depth	Hex Size	1-99	100-499
30F013	N-9030-1/4	3/8-32	1/4"	7/32"	1/2"	.66	.54
30F014	N-9040-1/8	1/4-32	1/8"	13/64"	7/16"	.70	.57
30F015	N-9060-1/4	15/32-32	1/4"	5/16"	3/4"	1.29	.99

BLADED POWER CONNECTORS

Type UP120M. Miniature. Rated 125V, 15 amps to 250V, 10 amps. Meets MIL-C-3767/3. High impact glass-filled melamine insert. 2 parallel blades.
Type UP121M or UP221M. 3 blades gnd. Type MIL-C-3767/13.

Stk. No.	Type	1-99	100-499	500-999
30F016	UP120M	1.11	1.06	.95
30F017	UP121M, UP221M	1.18	1.10	.99

HIGH PRESSURE SEALS FOR STANDARD PUSHBUTTON SWITCHES

N-3030
NH-3030

NC-3030

N-5040

4080 Series

Meet MIL-B-5423. High pressure sealing is maintained by a gasket rib, which seats firmly against any panel surface to keep out moisture, dust, or combustible vapors. Temp. Range: —160°F to +500°F.

Stock No.	Type	Thread Size	Description	1-99	100-499
30F006	N-3030	15/32,32	Bush, Mtg.	.70	.57
30F007	NC-3030	15/32,32	Bush. Mtg.	.70	.57
30F008	NH-3030	1/2-32	Bush. Mtg.	.79	.63
30F009	4080	5/8-24	Dial-light seal (trans)	1.67	1.30
30F010	4082	15/32-32	Dial-light seal (trans)	1.67	1.30
30F012	N-5040	1/4-40	Bush. Mtg.	1.13	.90
30F065	N-5040G	1/4-32	Bush. Mtg.	1.13	.90
30F066	N-5040R	1/4-40	Bush. Mtg.	1.13	.90

SLOTTED PAN-HEAD SEAL SKREWS

Single unit fasteners which form an absolute seal against any surface. Grooved under head and have a silicone rubber O-ring pressed into the groove. Maintain seal even after frequent removal from equipment. Range: —160°F to +500°F.

Stock No.	Size	Head Depth	Head Dia.	1-99	100-499	500-999	1000-2499
30F018	S4 40x1/4"	.069	.220	.16	.116	.081	.069
30F019	S4/40x3/8"	.069	.220	.16	.116	.081	.071
30F020	S4/40x1/2"	.069	.220	.16	.116	.081	.072
30F039	S4/40x1"	.069	.220	.16	.116	.92	.083
30F021	S6/32x1/4"	.083	.271	.16	.116	.081	.068
30F022	S6/32x3/8"	.083	.271	.16	.116	.081	.069
30F023	S6/32x1/2"	.083	.271	.16	.116	.081	.071
30F040	S6/32x5/8"	.083	.271	.16	.116	.092	.078
30F042	S6/32x7/8"	.083	.271	.16	.116	.092	.082
30F043	S6/32x1"	.083	.271	.16	.116	.092	.085
30F024	S8/32x3/8"	.097	.323	.16	.116	.081	.073
30F025	S8/32x1/2"	.097	.323	.16	.116	.092	.075
30F044	S8/32x5/8"	.097	.323	.16	.116	.092	.078
30F045	S8/32x3/4"	.097	.323	.16	.116	.092	.081
30F047	S8/32x1"	.097	.323	.16	.116	.092	.086
30F027	S10/32x3/8"	.113	.374	.19	.146	.105	.082
30F028	S10/32x1/2"	.113	.374	.19	.146	.105	.085
30F048	S10/32x5/8"	.113	.374	.19	.146	.116	.090
30F029	S10/32x3/4"	.113	.374	.19	.146	.116	.095
30F051	S10/32x1"	.113	.374	.19	.146	.116	.108
30F030	S10/24x3/8"	.113	.374	.19	.146	.105	.082
30F055	S10/24x1"	.113	.374	.19	.146	.116	.108
30F056	S1/4/20x3/8"	.148	.493	.21	.162	.137	.108
30F033	S1/4/20x1/2"	.148	.493	.21	.162	.137	.115
30F057	S1/4/20x5/8"	.148	.493	.21	.162	.143	.120
30F058	S1/4/20x7/8"	.148	.493	.22	.189	.166	.139
30F035	1/4/20x1"	.148	.493	.22	.189	.166	.149
30F059	1/4/20x1 1/4"	.148	.493	.22	.189	.166	.162

SILIKROME COLORED FILTERS FOR INCANDESCENT LAMPS

Change colors of clear incandescent miniature lamps. Operate at 500° for 1000 hours without appreciable change in color. Temperature range: —160°F to 500°F. Resistant to environmental conditions. **Mil. Spec. models available on special order.**

1813/2

1813/8

1813/14

1813/15

1813/27

Stk. No.	Type	Color	Lamp Size	Overall Ht.	O.D.	1-99	100-499
30F805	1813/15-R5	Red	T-2	13/64"	9/32"	.23	.150
30F807	1813/15-B1	Blue	T-2	13/64"	9/32"		
30F806	1813/15-G1	Green	T-2	13/64"	9/32"		
30F808	1813/15-A2	Amber	T-2	13/64"	9/32"		
30F809	1813/20-R5	Red	T-2	27/64"	9/32"	.24	.160
30F811	1813/20-B1	Blue	T-2	27/64"	9/32"		
30F810	1813/20-G1	Green	T-2	27/64"	9/32"		
30F812	1813/20-A2	Amber	T-2	27/64"	9/32"		
30F801	1813/14-R-5	Red	T-2	13/64"	9/32"	.23	.150
30F803	1813/14-B-1	Blue	T-2	13/64"	9/32"		
30F802	1813/14-G-1	Green	T-2	13/64"	9/32"		
30F804	1813/14-A-2	Amber	T-2	13/64"	9/32"		

Stk.No.	Type	Color	Lamp Size	Overall Ht.	OD	1-99	100-499
30F781	1813/2-R-2	Red	T-1¾	5/16"	1/4"	.20	.130
30F793	1813/2-B-1	Blue	T-1¾	5/16"	1/4"		
30F782	1813/2-G-1	Green	T-1¾	5/16"	1/4"		
30F794	1813/2-A-2	Amber	T-1¾	5/16"	1/4"		
30F795	1813/8-R-2	Red	T-3¼	11/16"	7/16"	.23	.156
30F786	1813/8-B-1	Blue	T-3¼	11/16"	7/16"		
30F788	1813/8-G-1	Green	T-3¼	11/16"	7/16"		
30F796	1813/8-A-2	Amber	T-3¼	11/16"	7/16"		
30F797	1813/27-R-5	Red	T-3¼	11/16"	7/16"		
30F799	1813/27-B-1	Blue	T-3¼	11/16"	7/16"		
30F798	1813/27-G-1	Green	T-3¼	11/16"	7/16"		
30F800	1813/27-A-2	Amber	T-3¼	11/16"	7/16"		

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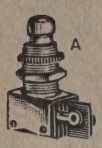
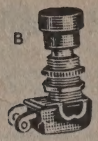
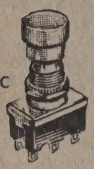
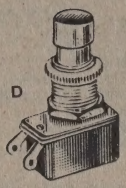
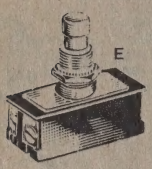
Newark can supply all your needs.

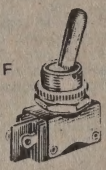


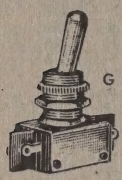


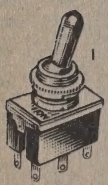


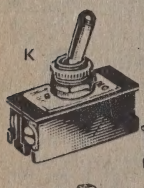


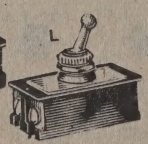


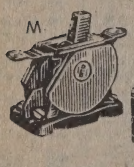


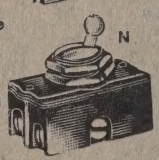


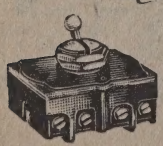












MOMENTARY PUSH SWITCHES SLOW MAKE & BREAK MIDGET SIZE

Long life expectancy, reliable butt type contacts for use with AC only. UL Listed

Stock No.	Type	Fig.	Action	Rating 120V	Rating 250V	HP	Cap	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499	500-Up
23F042	3391-GL	A	SPST-NO	1	..	....	Blk.	9/16	Lug	1.26	1.16	.97	.87	.77
23F043	3391-GLR	A	SPST-NO	1	..	....	Red	9/16	Lug	1.26	1.16	.97	.87	.77
23F029	3392	A	2-CIR-NC	1	..	....	Nkl.	9/16	Lug	1.23	1.13	.95	.85	.76
23F044	3392-AE	A	2-CIR-NC	1	..	....	Blk.	9/16	Lug	1.52	1.40	1.17	1.05	.94
23F118	80511-E	B	SPST-NO	3	..	....	Nkl.	9/16	Lug	.62	.58	.48	.43	.38
23F119	80541-E	B	SPST-NO	3	..	....	Blk.	9/16	Lug	1.18	1.09	.91	.82	.73
23F120	80541-ER	B	SPST-NO	3	..	....	Red	9/16	Lug	1.18	1.09	.91	.82	.73
23F115	80511	B	SPST-NC	3	..	1/10	Nkl.	9/16	Lug	.79	.73	.61	.55	.49
23F116	80541	B	SPST-NC	3	..	1/10	Blk.	9/16	Lug	1.18	1.09	.91	.82	.73
23F117	80541-R	B	SPST-NC	3	..	1/10	Red	9/16	Lug	1.18	1.09	.91	.82	.73

MIDGET WIPING ACTION MOMENTARY PUSH SWITCHES

Ideal for electronics and other applications demanding small size. Excellent performance and dependability. All current carrying parts silver plated. U.L. listed.

23F050	83090	C	SPST-NO	3	1	....	Nkl.	1/2	Lug	1.73	1.60	1.33	1.20	1.06
23F051	83090-CB	C	SPST-NO	3	1	....	Blk.	1/2	Lug	2.26	2.08	1.74	1.56	1.39
23F052	83090-CR	C	SPST-NO	3	1	....	Red	1/2	Lug	2.00	1.84	1.54	1.38	1.23
23F061	83094-CB	C	DPDT	3	1	....	Blk.	1/2	Lug	2.84	2.62	2.19	1.97	1.75
23F062	83094-CR	C	DPDT	3	1	....	Red	1/2	Lug	2.84	2.62	2.19	1.97	1.75

HEAVY DUTY MOMENTARY PUSH SWITCHES

One Horse power rated for industrial applications. UL Listed.

23F036	80630	E	DPST-NO	12	6	1	Nkl.	7/16	Scrw	2.49	2.30	1.92	1.72	1.53

DOUBLE ACTION PUSH SWITCHES

Combines the assets of a snap action mechanism with highly reliable push-push type actuation.

23F114	82403	D	SPST	6	3	....	Nkl.	9/16	Lug	1.27	1.17	.98	.88	.78
23F054	80863	E	DPST	12	6	1	Nkl.	9/16	Scrw	2.59	2.39	1.99	1.79	1.59

SNAP ACTION TOGGLE CANOPY SWITCHES

Providing long life at low cost. Ideal for light duty applications U. L. listed.

Stock No.	Type	Fig.	Positive Action (*momentary)	Rating 125V	Rating 250V	HP	Lever Type	Sleeve Length	Term Type	1-24	25-49	50-99	100-499	500-Up
23F021	20994-CS	F	SPST-ON-OFF	6	3	..	Ball	15/32	Lug	.88	.82	.68	.61	.54
23F013	20994-LH	F	SPST-ON-OFF	6	3	..	Bat	15/32	Lug	.88	.82	.68	.61	.54
23F024	21350-BF	F	SPDT-ON-ON	3	1	..	Ball	15/32	Lug	1.12	1.03	.86	.77	.69
23F011	21350-EH	F	SPDT-ON-ON	3	1	..	Bat	15/32	Lug	1.12	1.03	.86	.77	.69
23F025	20902-N	G	DPST-ON-OFF	3	1	..	Ball	15/32	Lug	1.61	1.49	1.24	1.12	.99
23F012	20902-CX	G	DPST-ON-OFF	3	1	..	Bat	15/32	Lug	1.61	1.49	1.24	1.12	.99
23F015	20905-FR	G	DPDT-ON-ON	3	1	..	Bat	15/32	Lug	1.85	1.70	1.42	1.28	1.14
23F028	20905-BX	G	DPDT-ON-ON	3	1	..	Ball	15/32	Lug	1.85	1.70	1.42	1.28	1.14

MIDGET WIPING ACTION TOGGLE SNAP SWITCH

For electronic applications demanding small size, highly dependable performance U. L. listed.

60F2322	83050	I	SPST-ON-OFF	3	1	....	Bat	15/32	Lug	1.10	1.01	.85	.76	.68
60F2323	83052	I	SPDT-ON-ON	3	1	....	Bat	15/32	Lug	1.31	1.21	1.01	.91	.81
60F2328	83073	I	DPST-OFF-ON*	3	1	....	Bat	15/32	Lug	1.63	1.51	1.26	1.13	1.00
60F2325	83054	I	DPDT-ON-ON	3	1	....	Bat	15/32	Lug	1.87	1.73	1.44	1.30	1.15

INTERMEDIATE SIZE TOGGLE TWO POSITION SNAP ACTION SWITCH

Silver plated wiping action contacts for low contact resistance applications UL Listed

23F006	81015-AW	J	SPST-ON-OFF	6	3	....	Bat	15/32	Lug	1.10	1.01	.84	.76	.68
23F007	81021-AV	J	SPDT-ON-ON	6	1	....	Bat	15/32	Lug	1.31	1.21	1.01	.90	.81
23F008	81024-GB	J	DPST-OFF-ON	6	3	....	Bat	15/32	Lug	1.63	1.51	1.25	1.13	1.00
23F009	81027-CE	J	DPDT-ON-ON	6	3	....	Bat	15/32	Lug	1.87	1.73	1.44	1.30	1.15

STANDARD DUTY TOGGLE—QUICK MAKE & BREAK SWITCH

Non-teasable action providing control available for motor loads up to 2 H. P. U. L. listed.

23F039	80600-B	L	DPST-ON-OFF	16	8	1	Ball	15/32	Scrw	1.67	1.54	1.29	1.16	1.03
23F048	80600-BJ	K	DPST-ON-OFF	16	8	1	Bat	15/32	Scrw	1.67	1.54	1.29	1.16	1.03
23F016	80602-C	L	DPST-ON-OFF	15	10	1½	Ball	15/32	Scrw	2.92	2.69	2.25	2.02	1.80
23F047	80602-CA	K	DPST-ON-OFF	15	10	1½	Bat	15/32	Scrw	2.92	2.69	2.25	2.02	1.80

Stk. No.	Type	Fig.	Action	230V	600V	HP	Cap	Sleeve	Term	1-24	25-49	50-99	100-499	500-Up
23F017	80093	M	DPST-ON-OFF	30	20	2	Square	....	Scrw.	4.48	4.13	3.45	3.10	2.76
23F018	80404	M	3PST-ON-OFF	30	20	2	Square	....	Scrw.	13.10	12.06	10.08	9.07	8.06

HEAVY DUTY TOGGLE—POSITIVE ACTION 3 POSITION SWITCH

Switch presents a foolproof answer to control problems requiring a positive stop at center position (OFF) U.L. listed.

23F020	80421	N	DPST-ON-OFF	20	20	1½	....	11/32	Scrw.	3.92	3.62	3.02	2.71	2.41
23F060	80638-D	N	DPDT-ON-OFF-ON	10	5	¾	Ball	13/32	Scrw.	4.86	4.49	3.74	3.37	2.99
23F019	80983	O	3PDT-ON-OFF-ON	10	5	½	Ball	13/32	Scrw.	7.51	6.93	5.78	5.20	4.62
23F000	80985	O	4PDT-ON-OFF-ON	10	5	½	Ball	13/32	Scrw.	10.02	9.25	7.71	6.94	6.16

Switches

AIR CRAFT TYPE AC ONLY TOGGLE SWITCH

Butt type contacts. All have bat handles. U.L. listed.

Stock No.	Type	Fig.	Action	Rating 125V	Rating 250V	HP	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499	500-Up
23F106	82600	A	SPST-ON-OFF	15	10	¾	15/32	scrw	1.00	.92	.77	.69	.61
60F2300	82601	A	SPST-ON-OFF	15	10	¾	15/32	lug	.87	.80	.67	.60	.54
60F2308	82605	A	SPDT-ON-ON	15	10	¾	15/32	lug	1.00	.92	.77	.69	.61
23F107	82602	A	SPDT-ON-OFF-ON	15	10	¾	15/32	scrw	1.20	1.10	.92	.83	.74
60F2304	82603	A	SPDT-ON-OFF-ON	15	10	¾	15/32	lug	1.00	.92	.77	.69	.61
60F3450	82606	B	DPST-ON-OFF	15	10	¾	15/32	scrw	1.60	1.48	1.23	1.11	.98
60F2302	82607	B	DPST-ON-OFF	15	10	¾	15/32	lug	1.35	1.25	1.04	.94	.83
60F3451	82610	B	DPDT-ON-ON	15	10	¾	15/32	scrw	1.98	1.82	1.52	1.37	1.22
60F2310	82611	B	DPDT-ON-ON	15	10	¾	15/32	lug	1.60	1.48	1.23	1.11	.98
23F108	82608	B	DPDT-ON-OFF-ON	15	10	¾	15/32	scrw	1.98	1.82	1.52	1.37	1.22
60F2306	82609	B	DPDT-ON-OFF-ON	15	10	¾	15/32	lug	1.60	1.48	1.23	1.11	.98
60F3452	82612	C	3PST-ON-OFF	15	10	1	15/32	scrw	3.06	2.83	2.36	2.12	1.88
60F3453	82614	C	3PDT-ON-OFF-ON	15	10	1	15/32	scrw	3.88	3.58	2.99	2.69	2.39
60F3454	82615	C	3PDT-ON-OFF-ON	15	10	1	15/32	lug	3.24	2.99	2.49	2.24	1.99
60F3455	82616	C	3PDT-ON-NONE-ON	15	10	1	15/32	scrw	3.88	3.58	2.99	2.69	2.39
60F3456	82617	C	3PDT-ON-NONE-ON	15	10	1	15/32	lug	3.24	2.99	2.50	2.25	2.00
60F3457	82634	C	4PDT-ON-OFF-ON	15	10	½	15/32	lug	4.86	4.48	3.74	3.36	2.99
60F3458	82636	C	4PDT-ON-NONE-ON	15	10	½	15/32	lug	4.85	4.48	3.74	3.36	2.99

SWITCH HARDWARE

23F045	20590-1AZ	On-Off Plate for 15/32" dia. sleeve	.05	.048	.04	.036	.032
60F2376	8991-1378AZ	Bronze Lock washer for 15/32" dia. sleeve	2.00 per 100				
60F2377	20590-174AZ	Locking Ring for 15/32" dia. sleeve	3.00 per 100				

Fig. G SECURITY LOCK SWITCHES—ROTARY ACTION—U.L. Listed

3 pin "Corbin" security lock switch, designed for easy dead front mounting.

Stock No.	Type	Action	DC 125V	Rating 250V	Key Removable	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499
60F3479	81721-LQ-41	SPDT-ON-ON	6	3	Pos. 1 & 11	⅞	lug	11.15	10.30	8.58	7.72
60F3480	(Key for above A-H #41)							.24	.22	.18	.17
60F3484	81721-LQ-61	SPDT-ON-ON	6	3	Pos. 1	⅞	lug	11.15	10.30	8.58	7.72
60F3483	(Key for above A-H #61)							.24	.22	.18	.17

FIG. H INTERMEDIATE SIZE LOCKING SWITCH—U.L. Listed

Stk. No.	Type	Action	DC 125V	Rating 250V	Key Removable	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499	500-Up
60F2316	81715-L	SPST-ON-OFF	6	3	Pos. 1	15/32"	lug	2.58	2.38	1.99	1.79	1.59
60F2320	(Key for above switch 1561-488)	(Rem. Off pos. only)						.24	.22	.18	.17	.15
60F3482	8172-L	SPDT ON-OFF	6	3	Pos. 1	15/32"	lug	2.72	2.51	2.10	1.89	1.68
60F2321	Key for above switches #1561-487	Rem. ON & OFF Pos.						.24	.22	.18	.17	.15

ROTARY POWER SWITCHES

Wiping blade contact, ideal for control panel. Small appliance and instrument use. U.L. List.

Stock No.	Type	Fig.	Action	Rating 125V	Rating 250V	Slv. Dia.	Spdl. Lgth.	Sleeve Lgth.	Term Type	1-24	25-49	50-99	100-499	500-Up
60F3487	1561-B	K	SPST-ON-OFF	6	3	⅜	⅜	⅜	lug	1.20	1.10	.92	.83	.74
60F3488	1575	K	DPDT-ON-ON	3	1	⅜	⅜	⅜	lug	2.28	2.11	1.76	1.58	1.40
60F3489	81715	J	SPST-ON-OFF	6	3	⅜	⅜	⅜	lug	2.02	1.87	1.56	1.40	1.24
60F3490	81727	J	DPDT-ON-ON	6	3	⅜	⅜	⅜	lug	2.95	2.72	2.27	2.04	1.82

SUBMINIATURE TOGGLE SWITCHES

Gold plated contacts standard Military type meet Mil-3950-C per drawing, single pole MS-75028 and double pole MS-75029. Toggle switch ratings, 5 amps at 125VAC and 29VDC. Push button switch ratings, 1 amp at 115VAC and 2 amps at 29VDC, #rated, 7 amps at 125VAC and 29VDC. Base size, SPST switches ¼x½", DPDT ½x½". Sleeves diameter both ¼".

LEVER POSITION CHART
†denotes maint. on
*denotes momentary action

I ON-NONE-ON
II ON*-OFF-ON†
III ON*-OFF-ON*
IV ON*-NONE-ON
V OFF-NONE-ON
VI ON-OFF-ON
VII ON-ON-ON

Stock No.	Comm. Type	Fig.	Action	Lever Chart	1-24	25-99	100-499	500-Up	Stock No.	Mil. Type	Fig.	1-24	25-99	100-499
60F2388	TS-1	P	SPST	V	2.90	2.32	2.18	2.03	60F2335	75028-22	P	3.00	2.40	2.25
59F521	TC-3	P	SPDT	VI	3.10	2.48	2.32	2.17	60F2334	75028-21	P	3.20	2.56	2.40
59F522	TE-3	P	SPDT	I	3.30	2.64	2.48	2.31	60F2339	75028-31	P	3.40	2.72	2.55
59F523	TG-3	P	SPDT	III	3.30	2.64	2.48	2.31	60F2338	75028-27	P	3.40	2.72	2.55
60F2389	TM-3	P	SPDT	IV	3.30	2.64	2.48	2.31	60F2337	75028-26	P	3.40	2.72	2.55
59F524	TS-3	P	SPDT	I	3.10	2.48	2.32	2.17	60F2336	75028-23	P	3.20	2.56	2.40
60F2390	TS-2	P	DPST	V	3.60	2.88	2.70	2.52	60F2341	75028-22	P	3.60	2.88	2.70
60F2391	TC-6	P	DPDT	VI	4.10	3.28	3.07	2.87	60F2340	75029-22	P	4.10	3.28	3.08
60F2392	TE-6	P	DPDT	II	5.20	4.16	3.90	3.64	60F2345	75029-21	P	5.20	4.16	3.90
60F2393	TG-6	P	DPDT	III	5.20	4.16	3.90	3.64	60F2344	75029-31	P	5.20	4.16	3.90
o0F2394	TM-6	P	DPDT	IV	5.20	4.16	3.90	3.64	60F2343	75029-27	P	5.20	4.16	3.90
59F525	TS-6	P	DPDT	I	4.10	3.28	3.07	2.87	60F2342	75029-26	P	4.10	3.28	3.08

SUBMINIATURE PUSH BUTTON SERIES—MOMENTARY ACTION

Stk. No.	Type	Fig.	Action	1-24	25-99	100-499	500-Up
23F128	PM-3	L	SPDT	2.86	2.29	2.15	2.00
23F129	PM-6	M	DPDT	3.51	2.81	2.63	2.46
59F520	PM-7	M	3PST-NO	3.31	2.65	2.48	2.32
60F2386	PM-8	M	3PST-NO	4.65	3.72	3.49	3.26
60F2387	PMQ-3	L	SPST#	3.25	2.60	2.44	2.28

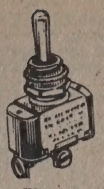


Fig. A

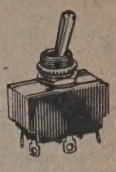


Fig. B

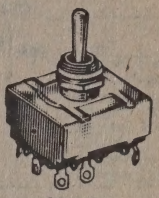


Fig. C

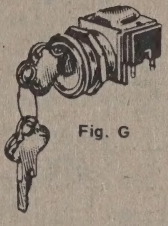


Fig. G

Fig. H

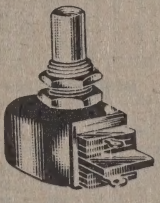


Fig. K

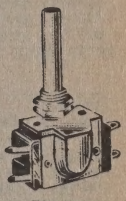


Fig. J

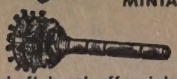
Fig. L

Fig. M

Fig. P

Oak Rotary Switches

MINIATURE SILICONE SWITCHES



Series A. Dual ball, 30° indexing finishes. Meet MIL-S-3786, 200-hr. salt spray finishes. Frame dim. 1"Hx1 5/16"W; 1 3/16" over clips; 1/4" dia. x 2 3/8"L shaft break-off points @ 3/4", 1 1/8", 1 7/8" from mtg. surf., Adj. stop. Sect. spacing, 1st spacer 17/64", 2nd 3/32", 3rd 5/32" approx. 750V peak breakdown voltage 1 amp @ 28 VDC, .5 amp. @ 115 VAC. Av. shpg. wt. 4 oz.

SHORTING—TYPE "A"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F600	399216A	1	1	2-12	5.40	4.52	4.05	3.85	3.60	3.24
57F602	399218A	2	2	2-12	6.90	5.78	5.18	4.92	4.60	4.14
57F606	399222A	1	2	2-6	5.40	5.52	4.05	3.85	3.60	3.24
57F608	399224A	2	4	2-6	6.90	5.78	5.18	4.92	4.60	4.14
57F610	399226A	3	6	2-6	8.70	7.28	6.53	6.20	5.80	5.22
57F612	399234A	1	4	2	5.40	4.52	4.05	3.85	3.60	3.24
57F614	399236A	2	8	2	6.90	5.78	5.18	4.92	4.60	4.14

NON-SHORTING TYPE "A"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F601	399217A	1	1	2-12	5.40	4.52	4.05	3.85	3.60	3.24
57F603	399219A	2	2	2-12	6.90	5.78	5.18	4.92	4.60	4.14
57F605	399221A	3	3	2-12	8.70	7.28	6.53	6.20	5.80	5.22
57F607	399223A	1	2	2-6	5.40	4.52	4.05	3.85	3.60	3.24
57F609	399225A	2	4	2-6	6.90	5.78	5.18	4.92	4.60	4.14
57F611	399227A	3	6	2-6	8.70	7.28	6.53	6.20	5.80	5.22
57F613	399235A	1	4	2	5.40	4.52	4.05	3.85	3.60	3.24
57F615	399237A	2	8	2	6.90	5.78	5.18	4.92	4.60	4.14

SUB MINIATURE PHENOLIC SWITCHES

Series F. Dual ball, 30° indexing. Meet MIL-S3786, 50-Hr. salt spray finishes. Frame dim. 1 5/16" H. x 1 1/4" W; 1 3/8" over clips; 1/4" dia. x 2 3/8" L., shaft break-off points @ 3/4", 1 1/8" from mtg. surf., adj. stop, except 2-pos. fixed stop. Sect. spacing, 1st spacer 3/16". 2nd 3/8" approx. 1000V peak breakdown voltage; break 1 amp @ 28 VDC, 0.5 amp @ 115 VAC. Av. shpg. wt. 3 oz.

SHORTING TYPE "F"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F616	399322F	1	1	2-11	2.64	2.21	1.98	1.88	1.76	1.58
57F618	399324F	2	2	2-11	3.18	2.66	2.39	2.27	2.12	1.91
57F620	399326F	1	2	2-5	2.64	2.21	1.98	1.88	1.76	1.58
57F622	399328F	2	4	2-5	3.18	2.66	2.39	2.27	2.12	1.91
57F624	399330F	1	3	2-3	2.64	2.21	1.98	1.88	1.76	1.58
57F626	399332F	2	6	2-3	3.18	2.66	2.39	2.27	2.12	1.91
57F628	399334F	1	4	2	2.64	2.21	1.98	1.88	1.76	1.58

NON-SHORTING TYPE "F"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F617	399323F	1	1	2-11	2.64	2.21	1.98	1.88	1.76	1.58
57F619	399325F	2	2	2-11	3.18	2.66	2.39	2.27	2.12	1.91
57F621	399327F	1	2	2-5	2.64	2.21	1.98	1.88	1.76	1.58
57F623	399329F	2	4	2-5	3.18	2.66	2.39	2.27	2.12	1.91
57F625	399331F	1	3	2-3	2.64	2.21	1.98	1.88	1.76	1.58
57F627	399333F	2	6	2-3	3.18	2.66	2.39	2.27	2.12	1.91
57F629	399335F	1	4	2	2.64	2.21	1.98	1.88	1.76	1.58
57F631	399337F	2	8	2	3.18	2.66	2.39	2.27	2.12	1.91

SUBMINIATURE CERAMIC SWITCHES

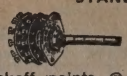
Series FC +50 hr. salt spray. Steel and brass parts are cadmium plated and chromate dipped. Phenolic PBE-P per MIL-P-3115; steatite per MIL-I-10A, grade L422 Silicone fiberglass; GSG per MIL-P-997. Contacts: Brass-silver plated. Electrical: Break 1 amp. at 28VDC or 0.5 amp. at 115VAC, resistive. Carry 5 amps.

SHORTING TYPE FC

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-8	10-24	25-49	50-99	100-499
57F632	399366-FC	1	1	2-11	3.22	2.69	2.49	2.38	2.24	2.04
57F640	399374-FC	1	3	2-3	3.22	2.69	2.49	2.38	2.24	2.04

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F633	399367-FC	1	1	2-11	3.22	2.69	2.49	2.38	2.24	2.04
57F635	399369-FC	2	2	2-11	4.78	4.00	3.74	3.58	3.39	3.11
57F637	399371-FC	1	2	2-5	3.22	2.69	2.49	2.38	2.24	2.04
57F641	399375-FC	1	3	2-3	3.22	2.69	2.49	2.38	2.24	2.04
57F639	399373-FC	2	4	2-5	4.78	4.00	3.74	3.58	3.39	3.11
57F643	399377-FC	2	6	2-3	4.78	4.00	3.74	3.58	3.39	3.11
57F647	399381-FC	2	8	2	4.78	4.00	3.74	3.58	3.39	3.11

STANDARD PHENOLIC SWITCHES



Series H. Dual ball, 30° indexing. Meet MIL-S-3786, 50-Hr. salt spray finishes. Frame dim. 1 7/8"H. x 1 11/32"W., 1 13/16" over clips. 1/4" dia. x. 2 3/8"L., shaft breakoff points @ 3/4", 1 1/8", 1 7/8" from mounting surf. Adj. stop. Sect. spacing 1st spacer 1/2"; 2nd 1"; 3rd 1". Approx. 2500V peak break-down voltage. 1 amp @ 28 VDC, .5 amp @ 115 VAC. Av. shpg. wt. 4 oz.

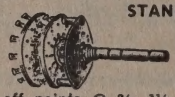
SHORTING TYPES "H"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F684	399512H	1	1	2-11	2.64	2.21	1.98	1.88	1.76	1.58
57F686	399514H	2	2	2-11	3.18	2.66	2.39	2.27	2.12	1.91
57F692	399520H	2	4	2-5	3.18	2.66	2.39	2.27	2.12	1.91
57F690	399518H	1	2	2-5	2.64	2.21	1.98	1.88	1.76	1.58

NON-SHORTING TYPES "H"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F685	399513H	1	1	2-11	2.64	2.21	1.98	1.88	1.76	1.58
57F687	399515H	2	2	2-11	3.18	2.66	2.39	2.27	2.12	1.91
57F689	399517H	3	3	2-11	4.05	3.70	3.49	3.32	2.70	2.43
57F691	399519H	1	2	2-5	2.64	2.21	1.98	1.88	1.76	1.58
57F693	399521H	2	4	2-5	3.18	2.66	2.39	2.27	2.12	1.91
57F695	399523H	3	6	2-5	4.05	3.70	3.49	3.32	2.70	2.43
57F597	399529H	4	4	2-11	4.71	3.94	3.54	3.36	3.14	2.83

STANDARD CERAMIC SWITCHES



STANDARD SERIES HC. 50-Hr. salt spray finishes. Meet MIL-S-3788 Dual ball. 30° indexing. Frame dim. 1 7/8"H x 1 3/8"W. 1 7/8" over clips 1/4" dia. x 2 3/8"L., shaft break-off points @ 3/4, 1 1/8, 1 7/8, from mounting surf. Adj. stop; Sect. spacing 1st spacers 1/2"; 2nd 1 5/16"; 3rd 1". Approx. 2500V. peak break-down voltage, 1 amp @ 28 VDC, .5 amp 115 VAC. Av. Wt., 5 oz.

SHORTING TYPES "HC"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F696	399562HC	1	1	2-11	2.94	2.46	2.21	2.10	1.96	1.76
57F698	399564HC	2	2	2-11	4.17	3.49	3.13	2.97	2.78	2.50
57F700	399566HC	3	3	2-11	5.37	4.49	4.03	3.83	3.58	3.22
57F704	399570HC	2	4	2-5	4.17	3.49	3.13	2.97	2.78	2.50
57F540	399574HC	1	1	2-6	2.94	2.46	2.21	2.10	1.96	1.76

NON-SHORTING TYPES "HC"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F697	399563HC	1	1	2-11	2.94	2.46	2.21	2.10	1.96	1.76
57F699	399565HC	2	2	2-11	4.17	3.49	3.13	2.97	2.78	2.50
57F701	399567HC	3	3	2-11	5.37	4.49	4.03	3.83	3.58	3.22
57F703	399569HC	1	2	2-5	2.94	2.46	2.21	2.10	1.96	1.76
57F705	399571HC	2	4	2-5	4.17	3.49	3.13	2.97	2.78	2.50

60° HAM SWITCHES (CERAMIC, NON-SHORTING)

57F541	399581HC	3	3	2-6	4.37	3.66	3.29	3.13	2.93	2.64

PHENOLIC 17 POS. SWITCHES

Series I. Single ball, 20° indexing. 50-hr. salt spray finishes. Meet MIL-S-3786. Frame dim. 2 5/16"Hx1 31/31"W. 2 1/8 over clips. 1/4" dia. x 2 3/8"L., shaft, break-off points @ 3/4, 1 1/8, 1 7/8, from mounting surf. Adj. stop 2-17 pos. adjustable. Sect. spacing all 1/2". Approx. 1000V. peak break-down voltage 1 amp @ 28VDC, 5 amps @ 115 VAC. Av. shpg. wt., 4 oz.

SHORTING TYPES "L"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F708	399608L	1	1	2-17	2.34	1.96	1.76	1.67	1.56	1.40
57F710	399610L	2	2	2-17	3.36	2.81	2.52	2.39	2.24	2.02
57F714	399614L	4	4	2-17	5.07	4.24	3.75	3.57	3.42	3.09

NON-SHORTING TYPES "L"

Stk. No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F709	399609L	1	1	2-17	2.34	1.96	1.76	1.67	1.56	1.40
57F711	399611L	2	2	2-17	3.36	2.81	2.52	2.39	2.24	2.02
57F713	399613L	3	3	2-17	4.38	3.67	3.29	3.13	2.92	2.63
57F715	399615L	4	4	2-17	5.07	4.24	3.75	3.57	3.42	3.09

PHENOLIC 23 POS.SWITCHES

Series MF. 50 hour salt spray. MIL-P-3115. Ball type indexing, one fixed and adjustable stop per switch. Break one amp at 28 VDC or 0.5 amp at 110 VAC, resistive. Carry 5 amps.

SHORTING TYPE "MF" SERIES

Stk. No.	Type	Sec.	Poles Tot.	Poles pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F716	399658-MF	1	1	2-23	2.77	2.32	2.14	2.05	1.93	1.76
57F718	399660-MF	2	2	2-23	3.96	3.31	3.06	2.93	2.76	2.52
57F722	399664-MF	4	4	2-23	5.39	4.51	4.06	3.86	3.61	3.25

NON SHORTING TYPE "MF" SERIES

57F717	399659-MF	1	1	2-23	2.77	2.32	2.14	2.05	1.93	1.76
57F719	399661-MF	2	2	2-23	3.96	3.31	3.06	2.93	2.76	2.52
57F721	399663-MF	3	3	2-23	4.71	3.94	3.54	3.36	3.14	2.83
57F723	399665-MF	4	4	2-23	5.39	4.51	4.06	3.86	3.61	3.25

Oak Rotary Switches, Assemblies

CERAMIC MULTI-SECTION SWITCHES

Series JC. Single bail, 30° indexing. Meet MIL-S3786, 50-Hr. salt spray finishes. Frame dim. 1 17/32" H. x 13/16" W., 1 1/2" over clips. 1/4" dia. x 2 3/8" L., shaft break-off points @ 3/4", 1 1/8", 1 7/8" from mtg. surf., adj. stop. Sect. spacing, 1st spaces 3/8", 2nd 7/16", 3rd 15/32", 4th 15/32"; approx. 1800V peak break-down voltage; break 1 amp @ 28 VDC, .5 amp @ 115VAC. Av. shpg wt., 5 oz.

SHORTING TYPES JC

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F666	399468JC	1	1	2-12	2.58	2.16	1.97	1.88	1.76	1.60
57F668	399470JC	2	2	2-12	3.68	3.08	2.80	2.67	2.50	2.26
57F674	399476JC	1	2	2-6	2.58	2.16	1.97	1.88	1.76	1.60
57F676	399478JC	2	4	2-6	3.68	3.08	2.80	2.67	2.50	2.26
57F678	399480JC	3	6	2-6	4.66	3.90	3.54	3.37	3.16	2.86

NON-SHORTING TYPES JC

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F667	399469JC	1	1	2-12	2.58	2.16	1.97	1.88	1.76	1.60
57F669	399471JC	2	2	2-12	3.68	3.08	2.80	2.67	2.50	2.26
57F671	399473JC	3	3	2-12	4.66	3.90	3.54	3.37	3.16	2.86
57F673	399475JC	4	4	2-12	5.65	4.73	4.30	4.10	3.85	3.49
57F675	399477JC	1	2	2-6	2.58	2.16	1.97	1.88	1.76	1.60
57F677	399479JC	2	4	2-6	3.68	3.08	2.80	2.67	2.50	2.26
57F679	399481JC	3	6	2-6	4.66	3.90	3.54	3.37	3.16	2.86
57F681	399485JC	1	6	2	2.58	2.16	1.97	1.88	1.76	1.60
57F683	399487JC	2	12	2	3.68	3.08	2.80	2.67	2.50	2.26
57F856	399697JC	2	6	2-5	3.68	3.08	2.86	2.68	2.50	2.32
57F858	399699JC	4	8	2-5	5.65	4.73	4.40	4.12	3.85	3.58
57F543	399705JC	1	3	2-5	2.58	2.16	1.97	1.88	1.76	1.64
57F547	399709JC	3	9	2-5	4.71	3.94	3.59	3.42	3.21	2.91
57F549	399711JC	2	10	2-3	3.68	3.08	2.80	2.67	2.50	2.26
57F551	399713JC	5	10	2-6	5.78	4.84	4.40	4.22	3.94	3.65
57F553	399715JC	6	12	2-6	7.57	6.34	5.67	5.42	5.03	4.66
57F555	399717JC	3	15	2-3	4.71	3.94	3.59	3.42	3.21	2.91
57F557	399719JC	3	18	2	4.71	3.94	3.59	3.42	3.21	2.91

CONSECUTIVE SHORTING TYPE JC & R

9 active contacts. All open in full CCW position & progressively picked-up & shorted to common contact.

Stk. No.	Type	Poles Sec.	Poles Tot.	Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F559	399722JC	1	1	2-10	2.32	1.94	1.78	1.70	1.60	1.46
57F578	399748K	1	1	2-10	1.95	1.63	1.49	1.42	1.33	1.21

OPPOSITE ROTATION CONSECUTIVE SHORTING TYPES

9 active contacts, all shorted to common contact CCW position, & progressively opened and dropped.

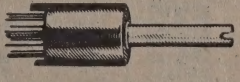
57F558	399720JC	1	1	2-10	12.32	1.94	1.78	1.70	1.60	1.46

SUBMINIATURE ROTARY SWITCHES

Ultra-compact switches provide superior insulating quality, with dimensional stability even under severe environmental conditions. For all applications where extremely small size is essential. Long-life silver alloy contacts are gold plated to prevent tarnish. Double-wiping design, with frame components of materials and finishes to withstand 50-hour salt spray. Exclusive Tri-Ball detent mechanism, with helical spring provides approximately 16 in-oz. torque. Offers negligible contact noise and circuit resistance thruout 10,000 cycle life. All are non-shorting.

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F887	399633-511	1	1	2-12	9.43	8.44	7.28	5.98	4.53	3.43
57F888	399634-512	2	2	2-12	12.01	10.74	9.27	7.56	5.96	4.67
57F889	399639-511	1	2	2-6	9.43	8.44	7.28	5.98	4.53	3.43
57F891	399635-513	3	3	2-12	14.79	13.24	11.42	9.34	7.49	5.96
57F892	399640-512	2	4	2-6	12.01	10.74	9.27	7.56	5.96	4.67
57F894	399646-512	2	6	2-4	12.01	10.74	9.27	7.56	5.96	4.67
57F895	399641-513	3	6	2-6	14.79	13.24	11.42	9.34	7.49	5.96
57F896	399647-513	3	9	2-4	14.79	13.24	11.42	9.34	7.49	5.96

MICROMINIATURE 10 POSITION SWITCH



Single pole, 10 position, with continuous rotation and non-shorting contacts. Free-standing on PC, board, with leads that can be dip soldered. Up to 1/2 AMP at 28 VDC; 0-10 AMP at 120 VAC noninductive. Breakdown voltage, 500 VAC between contacts to ground; Slotted 1/8" diameter, plain round poly sulfone plastic shaft. Glass-filled diallyl pathalate conforming with MIL-M-14, usable to 85°C. Provides smooth "feel" and constant torque through switch life. Spring-tempered copper alloy and spring steel with heavy gold plating. Fully tested for 5000 cycles. Size .300" dia. x 1/2" above panel. Shock tested at over 23,000 G's.

Stk. No.	Type	1-4	5-9	10-19	20-34	35-59	60-99
57F886	399502-MMI	9.85	8.65	7.55	6.65	5.75	4.95

PHENOLIC MULTI-SECTION SWITCHES

Series K. Meet MIL S-3786. Single bail 30° indexing. 1 9/16 over clips; 1/4" dia. x 2 3/8" L., bushing 3/8"-32 thread, 3/8" L. nut & washer. 1st spacer 3/8", 2nd, 3rd, 4th 1/2" ea. 1800 V, peak breakdown voltage; break 1 amp. @ 28 VDC, 0.5 amp. @ 115 VAC. Av. shpg. wt. 4 oz.

SHORTING TYPE "K"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F648	399418K	1	1	2-12	1.95	1.63	1.49	1.42	1.33	1.21
57F650	399420K	2	2	2-12	2.78	2.33	2.16	2.06	1.89	1.71
57F656	399426K	1	2	2-6	1.95	1.63	1.49	1.42	1.33	1.21
57F658	399428K	2	4	2-6	2.78	2.33	2.16	2.06	1.89	1.71
57F660	399430K	3	6	2-6	3.52	2.95	2.68	2.55	2.40	2.18
57F652	399422K	3	3	2-12	3.52	2.95	2.68	2.55	2.40	2.18
57F654	399424K	4	4	2-12	4.13	3.46	3.14	2.99	2.81	2.55
57F863	399494K	3	9	2-5	4.13	3.46	3.14	2.99	2.81	2.55
57F562	399732K	5	5	2-11	4.88	4.08	3.71	3.55	3.32	3'09
57F568	399738K	4	8	2-5	4.15	3.47	3.16	3.01	2.83	2.57
57F570	399740K	3	12	2	3.54	2.96	2.70	2.57	2.42	2.20

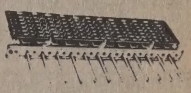
NON-SHORTING TYPE "K"

Stock No.	Type	Sec.	Poles Tot.	Poles Pos.	1-4	5-9	10-24	25-49	50-99	100-499
57F649	399419K	1	1	2-12	1.95	1.63	1.49	1.42	1.33	1.21
57F651	399421K	2	2	2-12	2.78	2.33	2.16	2.06	1.89	1.71
57F653	399423K	3	3	2-12	3.52	2.95	2.68	2.55	2.40	2.18
57F655	399425K	4	4	2-12	4.13	3.46	3.14	2.99	2.81	2.55
57F657	399427K	1	2	2-6	1.95	1.63	1.49	1.42	1.33	1.21
57F659	399429K	2	4	2-6	2.78	2.33	2.16	2.06	1.89	1.71
57F661	399431K	3	6	2-6	3.52	2.75	2.68	2.55	2.40	2.18
57F663	399433K	1	6	2	1.95	1.63	1.49	1.42	1.33	1.21
57F665	399435K	2	12	2	2.78	2.33	2.16	2.06	1.89	1.71
57F860	399491K	1	3	2-5	1.95	1.69	1.49	1.42	1.33	1.21
57F862	399493K	2	6	2-5	3.45	2.89	2.67	2.53	2.35	2.19
57F864	399495K	3	9	2-5	4.13	3.46	3.14	2.99	2.81	2.55
57F563	399733K	5	5	2-11	4.88	4.08	3.71	3.55	3.32	3.09
57F565	399735K	2	6	2-3	2.78	2.33	2.16	2.06	1.89	1.71
57F567	399737K	6	6	2-11	5.58	4.67	4.23	4.05	3.78	3.51
57F571	399741K	3	12	2	3.54	2.96	2.70	2.57	2.42	2.20
57F573	399743K	5	10	2-5	4.88	4.08	3.71	3.55	3.32	3.09
57F575	399745K	6	12	2-5	5.58	4.67	4.23	4.05	3.78	3.51

60° INDEXING SWITCHES (PHENOLIC, NON-SHORTING)

57F577	399747K	1	1	2-6	1.95	1.63	1.49	1.42	1.33	1.21
57F579	399749K	2	1	2-6	2.78	2.33	2.12	2.02	1.90	1.72

130 PUSHBUTTON SWITCH



4 PDT per plunger. 2 to 12 buttons. 8 to 48 poles. Mechanism permits modification to momentary operations. 5/8 and 3/4" button spacing. Push rods extend 2" from mounting surface. Rated, 1 amp at 28 VDC operation; 0.5 amp at 110 VAC. Carries 5 A. Insulation: Phenolic punching stock, conforming to L-P-513 grade PBG. Slider insulators: PBE-P.

3/4" BUTTON NON-SHORTING

57F825	399851-130	2	8	4.86	4.35	4.05	3.24	2.75	2.11
57F826	399853-130	3	12	6.54	5.87	5.45	4.36	3.71	2.83
57F828	399855-130	4	16	8.16	7.33	6.80	5.44	4.62	3.54
57F829	399857-130	5	20	9.99	9.00	8.33	6.66	5.66	4.33
57F831	399859-130	6	24	11.70	10.50	9.75	7.80	6.63	5.07
57F832	399861-130	7	28	13.41	12.05	11.18	8.94	7.60	5.81
57F834	399863-130	8	32	15.09	13.50	12.58	10.06	8.55	6.54
57F837	399867-130	10	40	18.87	17.00	15.73	12.58	10.69	8.18
57F838	399869-130	11	44	21.15	18.90	17.63	14.10	11.99	9.16
57F840	399871-130	12	48	22.68	20.40	18.90	15.12	12.85	9.82

5/8" BUTTON NON-SHORTING

Stk. No.	Type	No. Btns.	Tot. Poles		5-9	10-24	25-49	50-99	100-499
57F869	399875-130	3	12	6.54	5.87	5.45	4.36	3.71	2.83
57F871	399877-130	4	16	8.16	7.33	6.80	5.44	4.62	3.54
57F872	399879-130	5	20	9.99	9.00	8.33	6.66	5.66	4.33
57F874	399881-130	6	24	11.70	10.50	9.75	7.80	6.63	5.07
57F875	399883-130	7	28	13.41	12.05	11.18	8.94	7.60	5.81
57F877	399885-130	8	32	15.09	13.50	12.58	10.06	8.55	6.54

DELUXE BUTTONS FOR 130 SWITCH

Lighting accomplished by flooding back of panel with light. Translucent buttons light up when depressed.

57F841. Type 399930-001. NET. EACH 18

TYPE 200 SERIES SLIDE SWITCHES

30% narrower than ordinary slide switches; gold-plated, Double-Wiping contacts which are self-cleaning. Rated 3 amps at 125 VAC operation. Non-Shorting.

Stk. No.	Type	Funct.	Cont.	1-4	5-9	10-24	25-49	50-99	100-499
57F816	399275-275	SPST	2	.21	.19	.18	.17	.16	.16
57F817	399276-276	DPST	4	.25	.23	.22	.21	.20	.19
57F818	399277-277	SPDT	3	.21	.19	.18	.17	.16	.16
57F819	399278-278	DPDT	6	.26	.24	.23	.22	.21	.20

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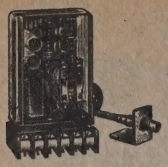
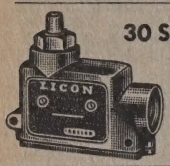


31 SERIES PROXIMITY SWITCHES

For complete unit pick (1) control module (2.5x3.75x1.35"; has 10 amp DPDT relay), (1) plug-in terminal block (2.19x2.66x.84"), (1) potted sensor (has 20' cable, potentiometer). Senses ferrous, non-ferrous metals. To 1000 operations/min. Sensing range for (*) .110-.261", (†) .048-.148".

Stock No.	Type	Individual Components	1-2	3-5	6-9
60F2077	31-11001	Control module	60.00	57.00	54.00
60F3117	27390-B	Terminal block	2.20	.....	.....
60F2078	31-12001	Terminal block	6.50	6.18	5.85
60F2081	31-13001	Potentiometer	5.50	5.23	4.95
60F2080	31-14001	†.440" dia. sensor	18.00	17.10	16.20
60F2082	31-9002	NEMA 1 enclosure	14.00	13.30	12.60
25F2100	31-14002	*.665" dia. sensor	25.00	23.75	22.50



30 SERIES DIECAST ENCLOSED SWITCH

Variety of infinitely adjustable actuators. Aluminum housing; permits adequate wiring room; has ½-14 internal tap conduit hub. Rated 15 amps, 125, 250 and 480 VAC; ½ amp, 115 VDC. Size: 3x1x2½".

DIECAST HOUSING

Stock No.	Type	Description	Mount	1-49	50-99
23F175	30-100	Overtravel plunger	Side	5.55	5.00
25F2102	30-120	Overtravel plunger	Base	5.55	5.00
23F172	30-200	Sealed O.T. plunger	Side	7.30	6.57
25F2103	30-220	Sealed O.T. plunger	Base	7.30	6.57
23F176	30-300	Roller lever actuator	Side	9.95	8.96
25F2104	30-320	Roller lever actuator	Base	9.95	8.96
23F173	30-400	Sealed roller lever	Side	11.25	10.13
25F2105	30-420	Sealed roller lever	Base	11.25	10.13
23F177	30-500	Roller plunger actuator	Side	9.95	8.96
25F2106	30-520	Roller plunger actuator	Base	9.95	8.96
23F174	30-600	Palm button actuator	Side	11.85	10.67
25F2107	30-620	Palm button actuator	Base	11.85	10.67
25F2108	30-700	Sealed roller plunger	Side	10.80	9.72
25F2109	30-720	Sealed roller plunger	Base	10.80	9.72
25F2110	30-800	Sealed 1-way roller	Side	13.05	11.75
25F2111	30-820	Sealed 1-way roller	Base	13.05	11.75
25F2112	30-900	One-way roller	Side	11.85	10.67
25F2113	30-920	One-way roller	Base	11.85	10.67
25F2114	20-200010	Sealed O.T. plunger/external boot seal	Side	8.70	7.83
25F2115	30-220010	Sealed O.T. plunger, seal	Base	8.70	7.83

SPLIT HOUSINGS

25F2116	30-140	Overtravel plunger	Side	5.65	5.09
25F2117	30-150	Overtravel plunger	Base	5.65	5.09
60F2068	30-240	Sealed O.T. plunger	Side	7.35	6.62
25F2118	30-250	Sealed O.T. plunger	Base	7.35	6.62
60F2069	30-340	Roller lever actuator	Side	9.95	8.96
25F2119	30-350	Roller lever actuator	Base	9.95	8.96
60F2070	30-440	Sealed roller lever	Side	11.25	10.13
25F2120	30-450	Sealed roller lever	Base	11.25	10.13
60F2071	30-540	Roller plunger actuator	Side	9.95	8.96
25F2121	30-550	Roller plunger actuator	Base	9.95	8.96
25F2122	30-640	Palm button actuator	Side	11.85	10.67
25F2123	30-650	Palm button actuator	Base	11.85	10.67
25F2124	30-740	Sealed roller plunger	Side	10.80	9.72
25F2125	30-750	Sealed roller plunger	Base	10.80	9.72
60F2073	30-840	Sealed 1-way roller	Side	13.05	11.75
25F2126	30-850	Sealed 1-way roller	Base	13.05	11.75
60F2074	30-940	One-way roller	Side	11.85	10.67
25F2127	30-950	One-way roller	Base	11.85	10.67

INDIVIDUAL COMPONENTS FOR TYPE 30

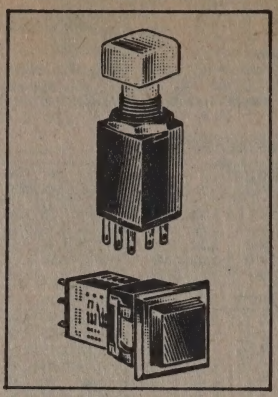
25F2128	73-1900	Roller lever actuator (alone)	.....	3.90	3.51
25F2129	73-1910	Palm button actuator (alone)	.....	4.45	4.00
25F2130	73-1920	One-way roller actuator (alone)	.....	5.50	4.95
25F2131	80-300610	Split case housing bottom half	Base	.85	.68
25F2132	80-300609	Split case housing bottom half	Side	.85	.68
25F2133	80-300502	Die cast housing bottom plate	Side	.55	.44
25F2134	80-300508	Die cast housing bottom plate	Base	.55	.44
23F186	30-030	Die cast terminal enclosure	Side	2.15	1.94

TYPE 65 SUBMIN. SEALED SWITCH

Type 65—Dependable, environment-free snap-action switching with ratings up to 10 amps, 30 VDC. SPDT 2-Circuit configuration. Solder terminals; quick-disconnect, screw and potted leads available on special order. Size .850" x .875" x .320"; mtg. centers, ½". UL Listed.

Stock No.	Type	Description	1-49	50-99
25F2135	65-101	Rigid lever	9.65	7.72
25F2136	65-201	Pin plunger	8.35	6.68
25F2137	65-301	Roller lever	10.35	8.28
25F2138	65-401	Overtravel plunger	11.70	9.36

SERIES 03 LIGHTED PUSHBUTTON SWITCH



The economical answer to your lighted switch requirements, Series 03 is available in momentary and alternate actions, single or double pole circuitry, and will carry a current of milli amp to 5 amp levels. .110" quick connect solder terminals are standard. Compact in size, series 03 is available in bushing mount, bezel, and bezel barrier mounting styles. Bezel and bezel barrier mounts are offered in matte black finish.

Lens Caps are available in 5 different colors and come in both ⅝" square and ⅝" x ¾" sizes.

Lens caps and Bezel mounts ordered separately.

RATED 5 AMPS AT 125/250 VAC—BUSHING MOUNT

Stock No.	Type	Unit Type	Pole	1-49	50-99
25F2139	03-100010	Indicator	.....	1.10	.99
25F2140	03-113110	Momentary	1	1.65	1.49
25F2141	03-123110	Momentary	2	2.00	1.80
25F2142	03-112110	Alternate	1	1.90	1.71
25F2143	03-122110	Alternate	2	2.25	2.03

RATED 1 AMP AT 125 VAC—BUSHING MOUNT

25F2146	03-113210	Momentary	1	1.79	1.61
25F2147	03-123210	Momentary	2	2.28	2.05
25F2148	03-112210	Alternate	1	2.04	1.84
25F2149	03-122210	Alternate	2	2.53	2.28

LENS CAPS

SOLID ⅝x⅝" PERMANENT LEGEND

Stock No.	Type	Color	1-49	50-99	100-499	500-999
25F2152	03-91111	White	.38	.34	.32	.28
25F2153	03-91121	Red				
25F2154	03-91131	Green				
25F2155	03-91141	Blue				
25F2156	03-91151	Yellow				

SOLID ⅝x¾" PERMANENT LEGEND

25F2157	03-95111	White	.38	.34	.32	.28
25F2158	03-95121	Red				
25F2159	03-95131	Green				
25F2160	03-95141	Blue				
25F2161	03-95151	Yellow				

PROJECTED ⅝x⅝" PERMANENT LEGEND

25F2162	03-91211	White	.69	.62	.59	.51
25F2163	03-91221	Red				
25F2164	03-91231	Green				
25F2165	03-91241	Blue				
25F2166	03-91251	Yellow				

PROJECTED ⅝x¾" PERMANENT LEGEND

25F2167	03-95211	White	.69	.62	.59	.51
25F2168	03-95221	Red				
25F2169	03-95231	Green				
25F2170	03-95241	Blue				
25F2171	03-95251	Yellow				

SOLID ⅝x⅝" INSERTABLE LEGEND

25F2172	03-91112	White	.70	.63	.60	.52
25F2173	03-91122	Red				
25F2174	03-91132	Green				
25F2175	03-91142	Blue				
25F2176	03-91152	Yellow				

PROJECTED ⅝x⅝" INSERTABLE LEGEND

25F2177	03-91212	White	1.00	.90	.85	.74
25F2178	03-91222	Red				
25F2179	03-91232	Green				
25F2180	03-91242	Blue				
25F2181	03-91252	Yellow				

BEZELS AND BARRIERS

Stock No.	Type	Button Size	Description	1-49
25F2182	03-600001	⅝x⅝"	Bezel mount housing	.60
25F2183	03-600002	⅝x⅝"	Single barrier housing	.60
25F2184	03-600003	⅝x⅝"	Double barrier housing	.60
25F2185	03-600004	⅝x¾"	Bezel housing	.60
25F2186	03-600005	⅝x¾"	Single barrier housing	.60
25F2187	03-600006	⅝x¾"	Double barrier housing	.60

9

Lighted Switch Assemblies

LICON

01 SERIES SINGLE LITE PUSHBUTTON SWITCH

5/32" Bushing Screw Base	5/8" Bushing Flange Base	Description	1-49	50-99	100-499
01-145000	01-365000	Indicator	3.80	3.42	3.23
01-145130	01-365130	Maint. 1 pole form Z	8.95	8.06	7.61
01-145230	01-365230	Maint. 2 pole form Z	11.25	10.13	9.56
01-145530	01-365530	Momentary 1 pole form Z	6.15	5.54	5.23
01-145630	01-365630	Momentary 2 pole form Z	8.50	7.65	7.23

01 SERIES LENS CAPS

5/32" Bushing	5/8" Bushing	Description	1-49	50-99	100-499
01-91131X	01-92131X	Solid Color 5/8" Square	.45	.41	.38
01-93131X	01-94131X	Solid Color 5/8" Round	.45	.41	.38
01-91141X	01-92141X	Solid Color 3/4" Square	.55	.50	.47
01-93141X	01-94141X	Solid Color 3/4" Round	.55	.50	.47
01-91132X	01-92132X	Projected Color 5/8" Square	.85	.77	.72
01-93132X	01-94132X	Projected Color 5/8" Round	.85	.77	.72
01-91142X	01-92142X	Projected Color 3/4" Square	.95	.86	.81
01-93142X	01-94142X	Projected Color 3/4" Round	.95	.86	.81

01-600

Mon. Cont.	Description	1-49	50-99	100-499	Maint. Cont.	1-49	50-99	100-499
01-748000	Indicator	2.00	1.80	1.64	01-748000	2.00	1.80	1.64
01-748510	1 Pole Form C	3.30	2.97	2.70	01-748110	4.40	3.96	3.61
01-748530	1 Pole Form Z	3.50	3.15	2.87	01-748130	4.60	4.14	3.77
01-748610	2 Pole Form C	4.00	3.60	3.28	01-748210	5.10	4.59	4.18
01-748630	2 Pole Form Z	4.40	3.96	3.61	01-748230	5.50	4.95	4.51

01-600 LENS CAP

Projected Color	1-49	50-99	100-499	Solid Color	1-49	50-99	100-499
01-91141X	.55	.50	.44	01-91142X	.95	.86	.76

Replace X with appropriate number.
1-white 2-red 3-green 4-blue 5-yellow 6-amber 7-orange

01-600 HOUSING CODING

Type	Description	1-49	50-99	100-499
01-600001	Vert Row/Vert Barriers	1.20	1.08	.98
01-600002	Horiz. Row Mount/Vert. Barriers	1.20	1.08	.98
01-600003	Vert. Row Mount/Single Vert. Barriers	1.20	1.08	.98
01-600004	Horiz. Row Mount/- Single Vert. Barrier	1.20	1.08	.98
01-600005	Vert. Row Mount W/O Barriers	1.20	1.08	.98
01-600006	Horiz. Row Mount W/O Barriers	1.20	1.08	.98

01-800 SERIES SINGLE LIGHT PUSHBUTTON SWITCH

Type	Description	1-49	50-99	100-499
01-865000	Indicator only	2.15	1.94	1.83
01-865130	Maint. contact 1 pole—Form Z	5.80	5.22	4.93
01-865230	Maint. contact 2 pole—Form Z	7.50	6.75	6.38
01-865530	Momentary 1 pole—Form Z	3.85	3.47	3.27
01-865630	Momentary 2 pole—Form Z	5.55	5.00	4.72

01-800 SERIES LENS CAP—1 1/8" x 7/8"

Projected Color	1-49	50-99	100-499	Solid Color	1-49	50-99	100-499
01-95192X	1.10	.99	.94	01-95191X	.70	.63	.60

SWITCH MODULES—FOR 02 AND 04 SERIES

Type	Description	1-24	25-49	50-99
76-2713	Maint. cont. 1 pole Form Z	4.60	3.68	3.22
76-2723	Maint. cont. 2 pole Form Z	5.85	4.68	4.10
76-2753	Momentary 1 pole Form Z	3.05	2.44	2.14
76-2763	Momentary 2 pole Form Z	4.10	3.28	2.87

02 LENS CAP AND HOUSINGS

02-61XX	Full screen, solid color	.70	.63	.60
02-62XX	Vertical split, solid color	1.25	1.13	1.06
02-63XX	Horizontal split, solid color	1.25	1.13	1.06
02-73	Snap-in mtg.-flange base lamp socket	1.95	1.76	1.66
02-76	Indicator only Housing	1.95	1.76	1.66

04 LIGHT MODULES

Type	Description	1-49	50-99	100-499
04-601XXXX	Full screen translucent proj. color	2.75	2.48	2.34
04-602XXXX	Vertical split translucent proj. color	3.15	2.84	2.68
04-603XXXX	Horizontal split translucent proj. color	3.15	2.84	2.68
04-607XXXX	Quad split translucent proj. color	3.55	3.20	3.02
04-604XXXX	Full screen solid color	2.75	2.48	2.34
04-611XXXX	Full screen, insertable legend, proj. color	2.90	2.61	2.47
04-612XXXX	Vert. split, insertable legend, proj. color	3.30	2.97	2.81
04-613XXXX	Horiz. split insertable legend, proj. color	3.30	2.97	2.81
04-617XXXX	Quad split insertable legend, proj. color	3.70	3.33	3.15
04-614XXXX	Full screen solid color, insert. legend	2.90	2.61	2.47

04 HOUSINGS

Type	Description	1-49	50-99	100-499
04-71	Flange mount 1/8" panel	4.15	3.74	3.53
04-72	Flange mount 1/4" panel	4.15	3.74	3.53
04-75	Barrier with screw mounting	3.90	3.51	3.32
04-76	Bezel mounting snap in mounting Blk. Anod	4.15	3.74	3.53
04-78	Bezel barrier snap in mounting Blk. Anod.	4.15	3.74	3.53

FOR SWITCH MODULES FOR 04 SERIES SEE 02 SERIES LISTING

BARRIERS FOR 04-75 HOUSING

Flush	Protruding	Color	1-49	50-99	100-499
70-3051	70-3061	Black	.40	.36	.34
70-3052	70-3062	White			
70-3053	70-3063	Gray			

NOTE: For 02 & 04 series select 1 lens cap or light module, 1 housing and 1 switch module to make up a complete unit.

01 SERIES

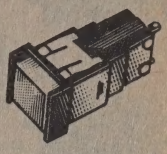
Offers butterfly double break switches rated at 10 amps 125/250 VAC. Momentary, maintained contact, solenoid held and indicator versions available as well as unit on Q.P.L. for MIL-S-22885. Stationary socket, no tool relamping from front of panel. Accepts screw or flange. base T-1¾ lamps.

01 SERIES LENS CAPS. Indicate desired colors by replacing the "X's" with appropriate numbers: 1—white, 2—red, 3—green, 4—blue, 5—yellow, 6—amber, 7—orange.

Type 01

01-600 SERIES

Lighted switch, easy to install snap-in housing available in bezel, single or double barrier design. ¾" lens caps in solid or projected colors.

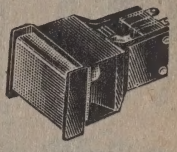


01-600

01-800 SERIES

Snap in single light switch for horizontal or vertical matrix arrangements. Accepts solid or projected rectangular lens caps. Rated 10 amps 125/250 VAC. Accepts T 1¾ flange base lamps.

01-800 SERIES LENS CAP— 1 1/8"x7/8" Indicate desired colors by replacing the "X's" with appropriate numbers. 1—white, 2—red, 3—green, 4—blue, 5—yellow, 6—amber, 7—orange.

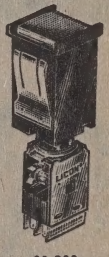


01-800 Bezel-Barrier

02-SERIES

2-light version of the 01-800 with snap in mounting and bezel-barrier appearance. Select lens cap, housing, and snap on 10 amp (125/250 VAC) switch module. Accepts T 1¾ flange base lamps.

02 LENS CAP AND HOUSINGS. Indicate desired colors by replacing the "X's" with appropriate numbers: 1—white, 2—red, 3—green, 4—blue, 5—yellow, 6—amber, 7—orange.



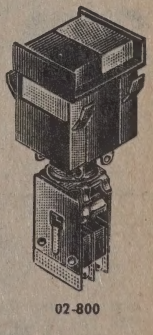
01-800

04 SERIES

Modular four lamp lighted switches. Consists of a light module housing, and switch module which snap together. Accepts 4 T 1¾ flange base lamps (not included.)

04 LIGHT MODULES. Indicate color filter combination for projected screen color by listing color designating letters clockwise in accordance with the color key diagram at right. Example: Vertically split, green on left, red at right— order 04-602GRRG

W—white, R—red
G—green, B—blue
Y—yellow, A—amber
O—orange.



02-800

04Color Key

LICON

Switches

BASIC SWITCHES

Type 10

Type 10. Highly sensitive "serpentine blade" snap action switch. 1" mounting centers rated 15 amperes 125, 250 or 480 AC. 2" x 1" x $^{11}/_{16}$" Shpg. wt., 1.3 oz.

MINIATURE SWITCH

Type 11

Type 11. High capacity two circuit Double break mechanism with wiping action. Rated 10 amperes at 125/250 V AC. $1^{1}/_{4}$"x$1^{1}/_{2}$"x$^{1}/_{2}$". Ship. wt., $^{3}/_{10}$ oz.

HEAVY DUTY SWITCH

Type 14

Type 14. Industrial limit switch. Uses double break mechanism for high electrical rating, 20 amps at 125/250/480 VAC. $1^{3}/_{4}$"x$^{3}/_{4}$"x$^{3}/_{4}$". Shpg. wt., $1^{1}/_{4}$ oz.

SUBMINIATURE SWITCH

Type 16

Type 16 Double break. 2 circuit rated 10 amps 125/250 VAC. Size $^{25}/_{32}$"x$^{7}/_{16}$"x$^{1}/_{4}$". Shpg. wt., 12 oz.

SUB SUBMINIATURE

Type 18

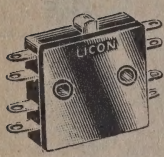
Type 18. Double break. Rated: 7 amps @ 125/250 VAC; 3 amps inductive @ 28 VDC. Size: .2x.5x.38". Shpg. wt., .003 lbs.

DOUBLE POLE SWITCH

Type 22

Type 22. DPDT high current interruption. Rated: 10 amperes @ 125/250 VAC; 10 amps @ RES 30 VDC. Double bearing guide. Wiping action. Dust proof case. Beryllium copper switch blades. Size: $^{7}/_{8}$x$1^{1}/_{4}$x$^{1}/_{2}$". Shpg. wt., $^{1}/_{2}$ oz.

DOUBLE POLE SUBMIN.



Type 26

Type 26. Two Butterfly double break mechanisms. Both poles operate simultaneously due to special linkage. Uses type 76 actuators. UL rated 8 amps @ 125/250 VAC. 10 amps. res., 5 ind. @ 28 VDC. $^{25}/_{32}$" x .761" x $^{1}/_{4}$". Shpg. wt., $^{3}/_{10}$ oz.

3 POLE SUBMIN.

Type 36

Type 36. Compact triple pole double break switch. Three Butterfly double break mechanisms. Rated at 8 amps 125/250 VAC. Simultaneous handling for up to 6 circuits in a single switch. Uses 76 series actuators. 1.187 x .796 x 250. Shipping weight, 1 oz.

9

BASIC SWITCHES—TYPE 10

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F151	10-122	Pin Plunger .020" gap	BZ-2RT	2.15	1.72	1.51	1.40	1.35
23F154	10-222	Spring Plunger	BZ-2RST	2.65	2.12	1.86	1.72	1.67
23F155	10-322	Panel Mount Plunger	BZ-2RQIT	4.50	3.60	3.15	2.93	2.84
23F156	10-422	Leaf Spring	BZ-2RLT	2.30	1.84	1.61	1.50	1.45
23F157	10-522	Roller Leaf Spring	BZ-2RL2T	3.15	2.52	2.21	2.05	1.98
23F158	10-622	Pivoted Lever	.....	2.65	2.12	1.86	1.72	1.67
23F159	10-722	Pivoted Roller Lever	BZ-2RW82T	3.30	2.64	2.31	2.15	2.08
23F160	10-822	Compact Plunger	BZ-ROT	2.70	2.16	1.89	1.76	1.70
23F181	10-922	Roller Plunger	BZ-2RO18T	8.00	6.40	5.60	5.20	5.04

MINIATURE SWITCHES—TYPE 11

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F161	11-104	End Solder Terminal	1TB1-2	1.65	1.32	1.16	1.07	1.04
23F162	11-204	End Screw Terminal	1TB1-1	1.80	1.44	1.26	1.17	1.13
23F163	11-304	Side Solder Terminal	1TB1-3	1.75	1.40	1.23	1.14	1.10
23F165	11-214	Reset-End Screw Term	.....	2.10	1.68	1.47	1.37	1.32

AUXILIARY ACTUATORS FOR TYPE 11 SWITCHES

23F168	71-1040	Rigid Roller Lever	.....	.95	.76	.67	.62	.60
23F169	71-2010	Overtravel Plunger	.....	1.50	1.20	1.05	.98	.95
23F170	71-3010	Spring Lever	JT-1	.50	.40	.35	.33	.32
23F171	71-3020	Spring Roller Lever	JT-5	.80	.64	.56	.52	.50

HEAVY DUTY SWITCHES—TYPE 14

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F178	14-12403	Basic Switch	.....	3.20	2.56	2.24	2.08	2.02
23F180	14-128040	Basic Switch	.....	3.20	2.56	2.24	2.08	2.02

SUBMINIATURE SWITCH—TYPE 16

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F179	16-104	End Solder Terminal	.....	2.50	2.00	1.75	1.63	1.58
23F182	16-304	Side Solder Terminal	.....	2.50	2.00	1.75	1.63	1.58
23F183	16-404	Bottom Solder Term.	.....	2.50	2.00	1.75	1.63	1.58
23F184	16-114	Reset-End Solder Term.	.....	2.75	2.20	1.93	1.79	1.73
23F187	16-504	Bottom Taper Tab.	.....	2.50	2.00	1.75	1.63	1.58

AUXILIARY ACTUATORS FOR TYPE 16 SWITCHES

23F188	76-1200	Rigid roller lever	.....	1.00	.80	.70	.65	.63
23F189	76-1210	Rigid lever	.....	.55	.44	.38	.36	.35

SUB-SUBMINIATURE SWITCHES—TYPE 18

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
60F1950	18-40121	Form Y	.....	3.35	2.68	2.35	2.18	2.11
60F1952	18-40421	Form Z Hi temps	.....	3.35	2.68	2.35	2.18	2.11

DOUBLE POLE SWITCH—TYPE 22

Stk. No.	Type	Description	Microswitch Equivalent	1-24	25-49	50-99	100-199	200-499
23F185	22-304	DPDT Side Term	41TB5-3	5.30	4.24	3.71	3.45	3.34

DOUBLE POLE SUBMINIATURE—TYPE 26

60F1961	26-804	Form ZZ End Solder Terminal	.....	6.05	4.84	4.24	3.95	3.93
60F1962	26-904	Form ZZ Side Solder Terminal	.....	6.05	4.84	4.24	3.95	3.93

TRIPLE POLE SUBMINIATURE TYPE 36

Stock No.	Type	Description	1-24	25-49	50-99	100-199	200-249
60F1969	36-604	End Solder Term. Simul.	9.20	7.36	6.44	5.98	5.79
60F1970	36-60401	End Solder Term. Non-Simul.	8.15	6.52	5.61	5.30	5.13
60F1971	36-704	Side Solder Term. Simul	9.20	7.36	6.44	5.98	5.79
60F1972	36-70401	Side Solder Term. Non-Simul.	8.15	6.52	5.61	5.30	5.13

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Centralab Switches

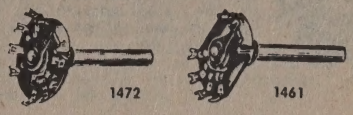
PSA SUB-MINIATURE ROTARY SWITCHES

Shorting Stk.No.	Shorting Type	Non-Short Stk.No.	Non-Short Type	Poles	Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F700	PSA-200	22F712	PSA-201	1	2-12	5.28	4.40	3.96	3.76	3.52	3.17
22F701	PSA-202	22F713	PSA-203	2	2-6	5.28	4.40	3.96	3.76	3.52	3.17
22F702	PSA-204	22F714	PSA-205	2	2-12	6.60	5.50	4.95	4.71	4.40	3.96
22F703	PSA-206	22F715	PSA-207	3	2-5	5.28	4.40	3.96	3.76	3.52	3.17
22F704	PSA-208	22F716	PSA-209	3	2-12	7.92	6.60	5.94	5.64	5.28	4.75
22F705	PSA-210	22F717	PSA-211	4	2-6	6.60	5.50	4.95	4.71	4.40	3.96
22F706	PSA-214	22F718	PSA-215	5	2-3	5.28	4.40	3.96	3.76	3.52	3.17
22F707	PSA-220	22F719	PSA-221	6	2-5	6.60	5.50	4.95	4.71	4.40	3.96
22F708	PSA-222	22F720	PSA-223	6	2-6	7.92	6.60	5.94	5.64	5.28	4.75
22F709	PSA-228	22F721	PSA-229	9	2-5	7.92	6.60	5.94	5.64	5.28	4.75
22F710	PSA-230	22F722	PSA-231	10	2-3	7.92	6.60	5.94	5.64	5.28	4.75
22F711	PSA-238	22F723	PSA-239	15	2-3	8.58	7.15	6.44	6.11	5.75	5.15

Index mechanism with adjustable stops for extra switching arrangement and versatility. Bushing: 3/8". Index angle: positive 30°. Index stop strength: 10 inch pounds. Section spacing: 9/32" between front plate and clip surface of first section, 5/32" spacing between sections. Insulation: Diallyl Phthalate with high quality molded thermosetting plastic type SDG per MIL-M-14F. Resistive load: 0.550 amps at 28 volts VDC; 170 ma. at 115 VAC. Weight of each switch is less than one ounce.

GENERAL PURPOSE SWITCHES

Stk.No.	Type	Poles	Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F574	1460	1	2						
22F575	1461	1	3						
22F576	1462	2	2	1.25	1.01	.95	.90	.84	.75
22F577	1463	1	2						
22F578	1464	2	2						
22F564	1465	1	4	2.09	1.74	1.57	1.50	1.41	1.25
22F585	1472	2	3	1.25	1.01	.95	.90	.84	.75
22F586	1473	2	3	1.25	1.01	.95	.90	.84	.75
22F587	1483	1	3	.88	.74	.66	.63	.58	.53
22F588	1484	1	3	1.03	.86	.78	.74	.69	.62

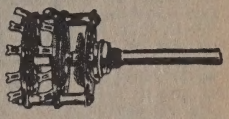


1472 1461

Die-cast, one piece frame except 1463, 1464, 1465, stamped steel frames. Make and break resistive load; 230 MA @ 115 VAC-RMS; 1.5 amps @ 28VDC. Pos. indexing exc. 1463 and 1464. Spring return. 1463, 1464 and 1472 non-shorting type, others shorting. Ship. wt., 5 oz.

ROTARY SELECTOR SWITCHES—PHENOLIC INSULATION

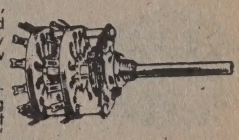
Shorting Stk.No.	Shorting Type	Non-Short Stk.No.	Non-Short Type	Tot. Pls.	Tot. Sec.	No. Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F422	1400	22F438	1401	1	1	2-6	2.90	2.42	2.18	2.08	1.94	1.74
22F423	1402	22F439	1403	1	1	2-11						
22F424	1404	22F440	1405	2	1	2-5						
22F425	1406	22F441	1407	3	1	2-3						
22F426	1408	22F442	1409	4	1	2						
22F427	1410	22F443	1411	2	2	2-6	3.54	2.95	2.66	2.53	2.37	2.12
22F428	1412	22F444	1413	2	2	2-11						
22F429	1414	22F445	1415	4	2	2-5						
22F430	1416	22F446	1417	6	2	2-3						
22F431	1418	22F447	1419	8	2	2						
22F432	1420	22F448	1421	3	3	2-6	4.51	3.75	3.39	3.22	3.00	2.70
22F433	1422	22F449	1423	3	3	2-11						
22F434	1424	22F450	1425	6	3	2-5						
22F435	1426	22F451	1427	4	4	2-6	5.19	4.32	3.89	3.71	3.47	3.10
22F436	1428	22F452	1429	4	4	2-11						
22F437	1430	22F453	1431	8	4	2-5						



Series 1400 offers compact design and quality construction. Laminated phenolic insulation. Mounting bushings 3/8 - 32, NEF-2A thread, 3/8" long. Shafts 1 7/8" from end of bushing. Positive 30° index with adjustable stop. Size and current rating same as 2500 series. Breakdown voltage 1000 VAC. includes pointer knob, nut and lockwasher. Shpg. wt., 4 oz. per section.

ROTARY SELECTOR SWITCHES—CERAMIC INSULATION

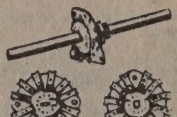
Shorting Stk.No.	Shorting Type	Non-Short Stk.No.	Non-Short Type	Tot. Pls.	Tot. Sec.	No. Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F400	2500	22F411	2501	1	1	2-6	3.26	2.72	2.44	2.33	2.17	1.95
22F401	2502	22F412	2503	1	1	2-11						
22F402	2504	22F413	2505	2	1	2-5						
22F403	2506	22F414	2507	3	1	2-3						
22F404	2510	22F415	2511	2	2	2-6	4.64	3.87	3.49	3.32	3.09	2.78
22F405	2512	22F416	2513	2	2	2-11						
22F406	2514	22F417	2515	4	2	2-5						
22F407	2516	22F418	2517	6	2	2-3						
22F408	2520	22F419	2521	3	3	2-6	5.96	4.97	4.48	4.27	3.98	3.56
22F409	2522	22F420	2523	3	3	2-11						
22F410	2524	22F421	2525	6	3	2-5						



Series 2500. Compact, efficient, shorting and non-shorting rotary selector switches. Low loss ceramic wafers. Positive 30° index. Adjustable stop. Bushing 3/8"-32thd. 3/8" lg. Shaft 1/4" full round, 1 7/8" from bushing. Dia. 1.875". Rated 2.75 amps at 15 VDC, 350 ma. at 115 VAC. Breakdown voltage 1500 VAC. Includes pointer knob, nut and lockwasher. Shpg. wt., 4 oz. per section.

SEPARATE CERAMIC SECTIONS

Shorting Stk.No.	Non-Short Stk.No.	Non-Short Type	Poles	Pos.	1-4	5-9	10-24	25-49	50-99	100-249
22F482 TD	22F488	XD	1	2-6	1.56	1.30	1.18	1.12	1.05	.94
22F483 UD	22F489	YD	1	2-11						
22F484 RD	22F490	RRD	2	2-5						
22F485 SD	22F491	SSD	3	2-3						
22F486 VD	22F492	ZD	4	2						
22F495 PISD	.....	.....	See Text	.....						
22F496 QSD	.....	.....	See Text	.....						
22F493 NSD	.....	.....	See Text	.....						
22F494 PSD	.....	.....	See Text	.....						
22F487 GGD	22F538	FFD	See Text	.....						



Separate sections. Use with index assemblies P-270, P-271 and P-272, below to assemble switches with special characteristics. Special section PISD, one off position, nine progressively shorting positions. Sections NSD and PSD combine for resistance decade. Section QSD special for capacitance decade. Special sections GGD and FFD, 1 pole, 2-11 pos., all unused contacts connected and shorted. Wt., 4 oz.

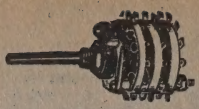
INDEX ASSEMBLIES

Stk. No.	Type	No. Sec.	1-4	5-9	10-24	25-49	50-99	100-249
22F540	P-270	1-3	1.82	1.52	1.36	1.30	1.21	1.09
22F541	P-271	3-5	2.31	1.93	1.74	1.65	1.54	1.39
22F542	P-272	5-10	3.14	2.62	2.35	2.23	2.09	1.88

Use with above sections. Pos. 30- index, adjustable stop includes all hardware and knob. Shipping weight, 3 oz.

Centralab Switches

SUB-MINIATURE CERAMIC SWITCHES



Ultra-small ceramic rotary switches ideal for use in transistor circuits, aircraft instruments, etc. Bolt construction with single hole bushing mount; locating lug on 3/8" radius; 1/8" D. shaft, cadmium plated steel, 1 1/4" long from mounting surface. Index angle positive 30° with index stop strength of 10 in.-pounds. 5/32" spacing between front plate and first section. Make, break, resistive load; .550 amps @ 28 VDC; 170 ma at 115 VAC (based on 10,000 cycles). Avg. initial resistance 5 milliohms. Includes mounting nut, lockwasher, and 1 1/16" D. black pointer knob. Wt., 2 oz. per section.

Shorting		Non-Short.			Total	No.			10-	25-
Stk.No.	Type	Stk.No.	Type	Sec.	Poles	Pos.	1-4	5-9	24	49
22F761	PS-100	22F773	PS-101	1	1	11	5.54	4.62	4.16	3.96
22F762	PS-102	22F774	PS-103	2	2	11	6.90	5.78	5.19	4.95
22F763	PS-104	22F775	PS-105	1	2	5	5.54	4.62	4.16	3.96
22F764	PS-106	22F776	PS-107	3	3	11	8.32	6.93	6.24	5.95
22F765	PS-108	22F777	PS-109	1	3	3	5.54	4.62	4.16	3.96
22F766	PS-110	22F778	PS-111	2	4	5	6.90	5.78	5.19	4.95
22F767	PS-112	22F779	PS-113	1	4	2	5.54	4.62	4.16	3.96
22F768	PS-114	22F780	PS-115	3	6	5	8.32	6.93	6.24	5.95
22F769	PS-116	22F781	PS-117	2	6	3	6.90	5.78	5.19	4.95
22F770	PS-118	22F782	PS-119	2	8	2	8.32	6.93	6.24	5.95
22F771	PS-120	22F783	PS-121	3	9	3	8.32	6.93	6.24	5.95
22F772	PS-122	22F784	PS-123	3	12	2	8.32	6.93	6.24	5.95

SEPARATE ASSEMBLY SECTIONS FOR SUB-MINIATURE SWITCHES

These separate sub-miniature assembly sections are for use with shaft and index assemblies listed below—P-501 thru P-511, for fixed stop indexing and switching. Carry the same ratings as above switches. Shpg. wt. 2 oz.

Shorting		Non-Short.		Tot. No.					
Stk. No.	Type	Stk. No.	Type	Pls.	Pos.	1-4	5-9	10-24	25-49
22F785	PS-20	22F789	PS-21	1	2-11				
22F786	PS-22	22F790	PS-23	2	2-5	**2.42**	**2.01**	**1.82**	**1.73**
22F787	PS-24	22F791	PS-25	3	2-3				
.....	.....	22F792	PS-27	4	2				

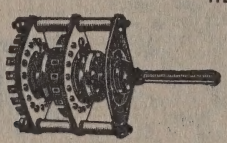
SHAFT AND INDEX ASSEMBLIES

INCLUDES INDEX, SHAFT ASSEMBLY HARDWARE AND POINTER KNOB

Hardware for sub-miniature switches. All index assemblies listed are designed for a maximum 3 sections and contain one index and shaft assembly, one P-106 pointer knob, instructions and hardware. Remember, Newark is ready to supply all your needs for switches and switch parts. Call Newark for quick, reliable service in filling all your electronic needs. Shipping weight 2 oz.

Stock No.	Type	Ind.	Pos.	1-4	5-9	10-24	25-49
22F681	P-501	30°	2				
22F682	P-502	30°	3				
22F683	P-503	30°	4				
22F684	P-504	30°	5				
22F685	P-505	30°	6	**2.15**	**1.79**	**1.62**	**1.54**
22F686	P-506	30°	7				
22F687	P-507	30°	8				
22F688	P-508	30°	9				
22F689	P-509	30°	10				
22F690	P-510	30°	11				
22F691	P-511	30°	con't.				

HEAVY DUTY ROTARY POWER SWITCHES



Ceramic insulation; 3/8" bushing mounted; 1/4" D shaft, double flat steel. 2 1/4" L. from mounting surface. Index angle is 20° with 2 adjustable stops. 1" spacing between front plate and first section. Make and break res. load; 9 amps @ 110 VAC-RMS; 15MA @ 2500 VAC-RMS; 30 amp. @ 5 VDC, 20 amp. @ 12 VDC; 11 amp. @ 28 VDC. Contact resistance 7 miliohms with rotational life 25,000 hz min. Comes with 2" double setscrew pointer knob, dial plate, adjustable stop pin and nut and instruction sheet. Shpg. wt., 6 oz.

Shorting		Non-Short.		Tol.	Tol.	No.			
Stk. No.	Type	Stk. No.	Type	Pol.	Sec.	Pos.	1-4	5-9	10-24
22F731	JV9000	22F746	JV9001	1	1	2-17	12.72	10.59	9.54
22F732	JV9032	22F747	JV9033	2	1	2-8	12.72	10.59	9.54
22F733	JV9004	22F748	JV9005	2	2	2-17	21.05	17.55	15.80
22F734	JV9002	22F749	JV9003	3	1	2-5	12.72	10.59	9.54
22F735	JV9008	22F750	JV9009	3	3	2-17	29.41	24.51	22.07
22F736	JV9034	22F751	JV9035	4	2	2-8	21.05	17.55	15.80
.....	.....	22F752	JV9013	4	4	2-17	37.75	31.46	28.33
.....	.....	22F753	JV9017	5	5	2-17	46.11	38.42	34.60
22F739	JV9006	22F754	JV9007	6	2	2-5	21.05	17.55	15.80
.....	.....	22F755	JV9037	6	3	2-8	29.41	24.51	22.07
.....	.....	22F756	JV9021	6	6	2-17	54.82	45.68	41.14
.....	.....	22F757	JV9039	8	4	2-8	37.75	31.46	28.33
.....	.....	22F758	JV9011	9	3	2-5	29.41	24.51	22.07
.....	.....	22F759	JV9015	12	4	2-5	37.75	31.46	28.33
.....	.....	22F760	JV9019	15	5	2-5	46.11	38.42	34.60

PA-3000 SERIES 18 POSITION SWITCH

Phenolic insulation per MIL-P-3115B. Voltage breakdown between parts 1000 VAC. Sections 2 5/16" high x 2 11/64" wide, 1/16" thick. Rated 2.25 amps @ 28 VDC; .350 amps @ 115 VAC. Adjustable stop or continuous rotation. Wt., 4 oz. per sect.

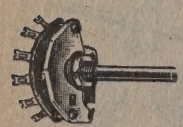
Shorting		Non-Short.							10-	25-
Stk. No.	Type	Stk. No.	Type	Pol.	Pos.	Sec.	1-4	5-9	24	49
57F922	PA-3000	57F923	PA-3001	1	2-17	1	2.46	2.06	1.85	1.76
57F924	PA-3002	57F925	PA-3003	2	2-17	2	3.80	2.95	2.69	2.53
57F926	PA-3004	57F927	PA-3005	3	2-17	3	4.64	3.87	3.49	3.32
57F928	PA-3006	57F929	PA-3007	4	2-17	4	5.65	4.71	4.25	4.05

PA-4000 SERIES 24-POSITION PHENOLIC SWITCH

High quality laminated phenolic insulation, meets MIL-P-3115B. Sections: 2 5/16" H, 1 31/32" W, 1/16" thick. Rated 5.5 amps @ 6 VDC; 2.75 amps @ 15 VDC; .230 amps @ 115 VAC. Shpg. wt., 4 oz. per section.

Shorting		Non-Short.							10-	25-
Stk. No.	Type	Stk. No.	Type	Pol.	Pos.	Sec.	1-4	5-9	24	49
57F930	PA-4000	57F931	PA-4001	1	2-23	1	2.62	2.18	1.97	1.87
57F932	PA-4002	57F933	PA-4003	2	2-23	2	3.85	3.21	2.89	2.75
57F934	PA-4004	57F935	PA-4005	3	2-23	3	5.04	4.20	3.77	3.60
57F936	PA-4006	57F937	PA-4007	4	2-23	4	6.03	5.03	4.52	4.31

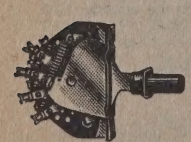
ROTARY SPRING RETURN SWITCHES



Rated 1.75 amps at 28 VDC .350 ma at 115 VAC. Phenolic insulation. Bushing 3/8-32, 3/8"L. Shaft 1 7/8 lg. from bushing. Includes hardware. 4 oz.

Stk. No.	Type	Poles	Pos.	Index	1-4	5-9	10-24	25-49
22F571	1451	4	2	S.R.	2.77	2.31	2.08	1.98
57F991	1488	6	3	S.R.	4.16	3.47	3.12	2.97
57F992	1489	6	3	Pos. & S.R.	4.16	3.47	3.12	2.97

LEVER SWITCHES



Coil spring index design. Phenolic insulation. Single switch. 1 7/8Hx9/16" Wx1 1/2"D behind panel. With knob, hdw. 1.5 amps @ 28 VDC. 230 ma @ 115 volts AC. No. 1475 is tube tester replacement switch. 3 oz.

Shorting		Non-Short.							10-	25-
No.	Type	No.	Type	Poles	Pos.	Index	1-4	5-9	24	49
22F550	1452	22F555	1454	2	3	Pos.	1.76	1.46	1.32	1.25
22F551	1453	22F556	1455	2	3	S.R.	1.76	1.46	1.32	1.25
22F552	1456	22F557	1457	4	2	S.R.	1.96	1.63	1.47	1.40
22F553	1459	22F558	1458	4	2	Pos.	1.96	1.63	1.47	1.40
22F554	1466	22F559	1467	2	3	P&SR	1.76	1.46	1.32	1.25
...	...	22F539	1475	1	3	Pos.	1.76	1.46	1.32	1.25

LARGER QUANTITY PRICES AVAILABLE. CALL NEWARK

Centralab Switches

MINIATURE PHENOLIC SWITCHES

Shorting		Non-Short.		Tot.	Tot.	No.			10-	25-
Stk. No.	PA-	Stk. No.	PA-	Pol.	Sec.	Pos.	1-4	5-9	24	49
22F800	1000	22F801	1001	1	1	2-11	2.29	1.90	1.72	1.64
22F802	1002	22F803	1003	2	1	2-5	2.29	1.90	1.72	1.64
22F804	1004	22F805	1005	2	2	2-11	3.26	2.72	2.44	2.33
22F806	1006	22F807	1007	3	1	2-3	2.29	1.90	1.72	1.64
22F808	1008	22F809	1009	3	3	2-11	4.14	3.44	3.10	2.96
22F810	1010	22F811	1011	4	1	2	2.29	1.90	1.72	1.64
22F812	1012	22F813	1013	4	2	2-5	3.26	2.72	2.44	2.33
22F814	1014	22F815	1015	4	4	2-11	4.82	4.02	3.62	3.44
22F816	1016	22F817	1017	5	5	2-11	5.68	4.73	4.26	4.06
22F818	1018	22F819	1019	6	2	2-3	3.26	2.72	2.44	2.33
22F820	1020	22F821	1021	6	3	2-5	4.14	3.44	3.10	2.96
22F822	1022	22F823	1023	6	6	2-11	6.42	5.36	4.82	4.60
22F824	1024	22F825	1025	8	2	2	3.26	2.72	2.44	2.33
22F826	1026	22F827	1027	8	4	2-5	4.82	4.02	3.62	3.44
22F828	1028	22F829	1029	12	3	2	4.14	3.44	3.10	2.96
22F830	1030	22F831	1031	10	5	2-5	5.68	4.73	4.26	4.06
22F832	1032	22F833	1033	12	6	2-5	6.42	5.36	4.82	4.60
22F590	1040	.....	.....	1	1	2-10	2.29	1.90	1.72	1.64
.....	....	22F835	1035	1	1	2-6	2.29	1.90	1.72	1.64
.....	....	22F837	1037	2	2	2-6	3.26	2.72	2.44	2.33

MINIATURE CERAMIC ROTARY SWITCHES

Shorting		Non-Short.		Tot.	Tot.	No.			10-	25-
Stk. No.	Type	Stk. No.	Type	Pol.	Sec.	Pos.	1-4	5-9	24	49
22F600	PA2000	22F601	PA2001	1	1	2-12	3.04	2.53	2.28	2.17
22F602	PA2002	22F603	PA2003	2	1	2-6	3.04	2.53	2.28	2.17
22F604	PA2004	22F605	PA2005	2	2	2-12	4.29	3.58	3.22	3.07
22F606	PA2006	22F607	PA2007	3	1	2-5	3.04	2.53	2.28	2.17
22F608	PA2008	22F609	PA2009	3	3	2-12	5.48	4.57	4.11	3.92
22F610	PA2010	22F611	PA2011	4	2	2-6	4.29	3.58	3.22	3.07
22F612	PA2012	22F613	PA2013	4	4	2-12	6.58	5.48	4.94	4.71
22F614	PA2014	22F615	PA2015	5	1	2-3	3.04	2.53	2.28	2.17
22F616	PA2016	22F617	PA2017	5	5	2-12	7.88	6.57	5.91	5.63
22F618	PA2018	22F619	PA2019	6	1	2	3.04	2.53	2.28	2.17
22F620	PA2020	22F621	PA2021	6	2	2-5	4.29	3.58	3.22	3.07
22F622	PA2022	22F623	PA2023	6	3	2-6	5.48	4.57	4.11	3.92
22F624	PA2024	22F625	PA2025	6	6	2-12	9.15	7.63	6.86	6.55
22F626	PA2026	22F627	PA2027	8	4	2-6	6.58	5.48	4.94	4.71
22F628	PA2028	22F629	PA2029	9	3	2-5	5.48	4.57	4.11	3.92
22F630	PA2030	22F631	PA2031	10	2	2-3	4.29	3.58	3.22	3.07
22F632	PA2032	22F633	PA2033	10	5	2-6	7.88	6.57	5.91	5.63
22F634	PA2034	22F635	PA2035	12	2	2	4.29	3.58	3.22	3.07
22F636	PA2036	22F637	PA2037	12	6	2-6	9.15	7.63	6.86	6.55
22F638	PA2038	22F639	PA2039	15	3	2-3	6.20	5.17	4.65	4.43
22F640	PA2040	22F641	PA2041	18	3	2	6.20	5.17	4.65	4.43
22F642	PA2042	.....	.....	1	1	2-10	2.75	2.29	2.07	1.97
.....	.....	22F643	PA2043	1	1	2-6	2.75	2.29	2.07	1.97
.....	.....	22F645	PA2045	2	2	2-6	3.81	3.17	2.86	2.72

SEPARATE MINIATURE CERAMIC SECTIONS

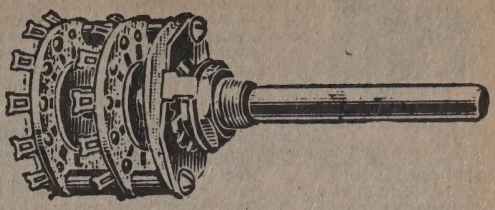
For use with index assemblies PA-300, PA-301. PA-302 for assembly of special units of your own design. Sections are .100" thick ceramic (steatite). *Unused contacts one side of common connected and shorted out.(†)All unused contacts connected and shorted out. ‡ Progressively shorting with clockwise rotation.(**)Progressively shorting with counter-clockwise rotaion. ††60 indexing, use with PA-304 and 305 indexes. Shpg: wt. 3 oz.

Shorting		Non-Short						10-	25-
Stk. No.	Type	Stk. No.	Type	Pls.	Pos.	1-4	5-9	24	49
22F660	PA-0	22F661	PA-1	1	2-12				
22F662	PA-2	22F663	PA-3	2	2-6				
22F664	PA-4	22F665	PA-5	3	2-5				
22F666	PA-6	22F667	PA-7	5	2-3				
22F668	PA-8	22F669	PA-9	6	2	1.52	1.27	1.14	1.09
22F670*	PA-10	22F679*	PA-19	1	2-5				
22F671†	PA-11	22F678†	PA-18	2	2-11				
22F672‡	PA-12	.....	.....	1	2-10				
22F673**	PA-13	.....	.....	1	2-10				
22F674††	PA-20	22F677††	PA-17	1	2-6				

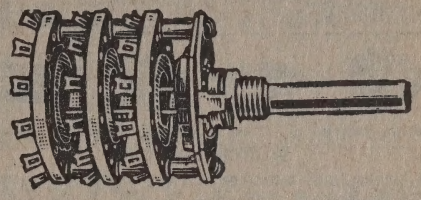
SEPARATE MINIATURE PHENOLIC SECTIONS

For use with index assemblies PA-300, PA-301, PA-302 for assembly of special switches to meet your requirements. Meet rigorous commercial or military applications. Sections are of 1/16" thick phenolic. (*)All unused contacts one side of common connected and shorted out. (†)Active contacts all shorted to common contact in full CCW progressively opened and dropped with CW rotation. PA-45 is 60° indexing section, use with PA-304. 305 indexes. Shpg. wt., 2 oz.

Shorting		Non-Short		Total		Posi-			10-	25-
Stk. No.	Type	Stk. No.	Type	Poles	Index	tions	1-4	5-9	24	49
22F840	PA-30	22F841	PA-31	1	30°	2-11				
22F842	PA-32	22F843	PA-33	2	30°	2-5				
22F844	PA-34	22F845	PA-35	3	30°	2-3				
22F846	PA 36	22F847	PA-37	4	30°	2	1.10	.91	.83	.79
22F848	PA-38*	22F849	PA-39*	1	30°	2-5				
22F850	PA-40†	22F851	PA-41†	2	30°	2-11				
22F852	PA-43‡	.....	.....	1	30°	2-10				
.....	.....	22F853	PA-45	1	60°	2-6				



Laminated phenolic insulated rotary switches with low intercircuit capacitance. Bushing 3/8" L.; Shaft 1/4" D. full round—cadmium-plated steel, 2 1/4" L. from mtg. surface. Index angle pos. 30°. 3/8" spacing between front plate and section; 1/2" space between sections. Brass silver-plated clips and rotor contacts; other metal parts cadmium-plated steel. Make and break res. load; 5.5 amp. @ 6 VDC- 2.75 amp. 15 VDC, 230 MA@ 115 VAC; based on 10,000 cycles. Avg. initial res. 3.5 milliohms. Includes mtg. nut, lock-washer, 1 1/4" blk. pointer knob. 3 oz. per section.



Offers maximum voltage flash-over with high-Q-low loss steatite body. Bolted construction with single hole bushing mount. Bushing is 3/8" L. cad-plated steel and locating lug on 7/16" R. 1/4" D. shaft 2 1/4" L. from mounting surface. Index angle is 30° adjustable stop or continuous rotation. 3/8" spacing between front plate and first section; 1/2" spacing between sections. Voltage breakdown: 1500 VAC-RMS. Clips and rotor contacts are brass, silver plated. Make and break res. load; 5.5 amp @ 6 VDC; 2.75 amp@ 15 VDC; 1.5 amp. @ 28 VDC; 230 MA @ 115 VAC; based on 10,000 cycles life test. Avg. initial res. 3.5 milliohms. Rotational life 25,000 cycles minimum. Includes mtg. nut, lock-washer, and 1 1/4" blk. pointer knob. 3 oz. per section.

9

MINIATURE INDEX ASSEMBLIES

Use with PA sections. Includes all hardware and knob.

30° INDEXING

Stock No.	Type	For Switches	Rear Shaft	1-4	5-9	10-24	25-49
22F650	PA-300	1 to 3 sec.	2"	1.65	1.38	1.24	1.18
22F651	PA-301	4 to 6 sec.	4"	2.18	1.82	1.64	1.56
22F652	PA-302	7 to 9 sec.	6"	2.84	2.37	2.13	2.02

60° INDEXING

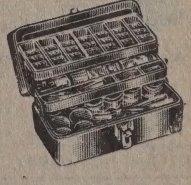
Stock No.	Type	For Switches	Rear Shaft	1-4	5-9	10-24	25-49
22F654	PA-304	1 to 3 sec.	2"	1.65	1.38	1.24	1.18
22F655	PA-305	4 to 6 sec.	4"	2.31	1.93	1.74	1.65

Intersection shield

22F680	P-320	.....	.33	.28	.25	.24

PK-20-S SWITCH KIT

- **Build Switches to Your Specifications**
- **Construct a Switch to Factory Precision**



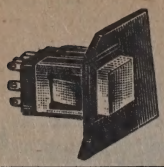
Contains components including rotors, contacts, retainers, clips, stators, eyelets, and stops, for 25 special four section switches. Enables you to build switches to individual specifications. Has a contact nibbling tool to construct a special switch with factory precision. With instructions.

22F599. NET **247.50**

LARGER QUANTITY PRICES ARE AVAILABLE

SWITCHCRAFT INC — Switches

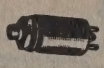
BOX SWITCH



A flush mounted, momentary action pushbutton switch. Offers broad switching capabilities in minimum panel space. For control panel application in computers, data processors, ground support equipment, machine and process controls, test equipment, and telephones. 1 1/16" square. 4 switching poles; 2 limited to single throw. Solder lug terms. Silver plated, brass integral contacts.

Stock No.	Type	Contact Assembly	Button Color	1-24	25-49	50-99	100-249	250-499	500-999
22F1000	BXR-01-1	1-A	Red	2.07	1.90	1.73	1.38	1.31	1.24
22F1001	BXR-01-3	1-C	Red	2.16	1.98	1.80	1.44	1.37	1.30
22F1002	BXR-06-6	2-C	Red	2.37	2.17	1.98	1.58	1.50	1.42
22F1003	BXR-01-10	2C,2-A	Red	2.70	2.48	2.25	1.80	1.71	1.62
22F1004	BXR-02-1	1-A	Black	2.07	1.90	1.73	1.38	1.31	1.24
22F1005	BXR-02-3	1-C	Black	2.16	1.98	1.80	1.44	1.37	1.30
22F1006	BXR-02-6	2-C	Black	2.37	2.17	1.98	1.58	1.50	1.42
22F1007	BXR-02-10	2-C,2-A	Black	2.70	2.48	2.25	1.80	1.71	1.62
22F1008	BXR-03-1	1-A	Green	2.07	1.90	1.73	1.38	1.31	1.24
22F1009	BXR-03-3	1-C	Green	2.16	1.98	1.80	1.44	1.37	1.30
22F1010	BXR-03-6	2-C	Green	2.37	2.17	1.98	1.58	1.50	1.42
22F1011	BXR-03-10	2-C,2-A	Green	2.70	2.48	2.25	1.80	1.71	1.62
22F1012	BXR-05-1	1-A	White	2.07	1.90	1.73	1.38	1.31	1.24
22F1013	BXR-05-3	1-C	White	2.16	1.98	1.80	1.44	1.37	1.30
22F1014	BXR-05-6	2-C	White	2.37	2.17	1.98	1.58	1.50	1.42
22F1015	BXR-05-10	2C,2-A	White	2.70	2.48	2.25	1.80	1.71	1.62

Button Switch



Tiny Switches

Cord Switch

BUTTON SWITCHES

Non-locking, push button switch. Rated at 250 mils., non-inductive load, AC, 30 watts max. Size: ½" Dx1" L. Wt. 2 oz. *Numeral indicates No. of sets of contacts.

Stk. No.	Type	Description	Contact*	1-24	25-49	50-99	100-249
22F229	903	Red button	1C	.93	.858	.775	.62
22F230	903D	Red button	1D				
22F233	913	Black button	1C				
22F234	913D	Black button	1D				
22F231	923	Red button	1C	.99	.908	.825	.66
22F232	923D	Red button	1D				
22F235	933	Black button	1C				

TINY SWITCHES

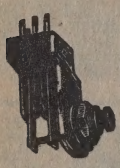
Subminiature design. Integral silver contacts for low level circuits where low contact resistance is not a factor. Size: 7/16D.x1 1/16" L.

22F237	951	Red button	1A	.63	.578	.525	.42
22F238	952	Red button	1B				
22F240	961	Black button	1A				
22F241	962	Black button	1B				
22F239	953	Red button	1C	.75	.688	.625	.50
22F242	963	Black button	1C				

CORD OR PENDANT SWITCHES

Nickel plated housing incorporates Series 903 and 913 button switches shown above. Dia. 1 1/16". Approx. length 2 3/16". Wt. 3 oz.

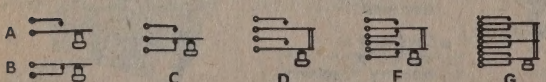
22F243	E903	Red button	1C	1.50	1.38	1.25	1.00
22F245	E913	Black button	1C	1.50	1.38	1.25	1.00



FLAT FRAME PUSH BUTTON SWITCHES

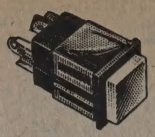
One piece, black plastic, push button, all common circuit model. Fine silver contacts used for minimum resistance. Rated at 3 amps, 300 watts, max. AC non-inductive load. Shaft and button need not be removed for mounting. Mounts in single 3/8" hole, panels up to ¼" thick. Size: 1 29/32" L. by ¾" W. Shpg. wt., each 2 oz.

CONTACT CIRCUITS FOR FLAT FRAME SWITCHES



Stock No.	Type	Circuit Figure	Switch Action	1-24	25-49	50-99	100-249
22F200	1001	A	SPST NO	.84	.77	.70	.56
22F202	1003	C	SPDT	.93	.853	.775	.62
22F203	1004	D	DPST NO	1.02	.935	.85	.68
22F205	1006	F	DPDT	1.17	1.07	.975	.78
22F206	1009	G	3PDT	1.68	1.54	1.40	1.12

"UNISWITCH" SWITCH



Low cost, compactly built, momentary action pushbutton, ideal for use on computers, data processing equipment, test & measurement devices, telephone apparatus. Illuminated, only 1 1/16" square, mount in a single panel, requiring only 1 3/64" to 1 17/64" max. Terminals extruded for use with #5-40 machine screws, contacts rated at 250 ma., 30 watts max., AC non-inductive load. SPST- No circuit.

LUS SERIES

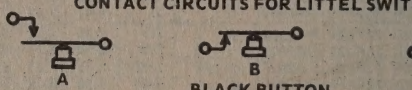
Stock No.	Type No.	Color	1-24	24-49	50-99	100-249	250-499	500-999
39F1613	LUS-01-1	Red	1.14	1.05	.95	.76	.722	.684
39F1614	LUS-04-1	Blue						
39F1615	LUS-03-1	Green						
39F1616	LUS-08-1	Yellow						
39F1617	LUS-05-1	White						

Stk. No.	Type	Desc.	Amp.	10-90	100-490	500-Up
27F1030	CM7-7377	6V. Bi-Pin Lamp	.075	.70	.56	.49

LITTEL SWITCHES

These are momentary contact switches, no bigger than a small phone jack. Available in three circuits with red or black, one-piece push-button (non-locking only). All contacts are thoroughly insulated from panel bushing with interlocking phenolic washers. Springs are special nickel-silver alloy. Integral contacts; recommended for low current circuits only. Plastic button and shaft need not be removed for mounting. Mounts in 3/8" dia. hole in panels up to ¼". Complete with locknut and washer. Shpg. wt., 1 oz.

CONTACT CIRCUITS FOR LITTEL SWITCHES



BLACK BUTTON

Stock No.	Type	Circuit Figure	Switch Action	1-24	25-49	50-99	100-249
22F207	201	1-A	SPST NO	.63	.578	.525	.42
22F208	202	1-B	SPST NC	.63	.578	.525	.42
22F209	203	1-C	SPDT	.75	.688	.625	.50

RED BUTTON

22F210	101	1-A	SPST NO	.63	.578	.525	.42
22F211	102	1-B	SPST NC	.63	.578	.525	.42
22F212	103	1-C	SPDT	.75	.688	.625	.50

ILLUMINATED "LITTEL-LITE" SWITCHES

Momentary contact. One piece, clear plastic button and shaft is illuminated by a single miniature lamp. Includes kit of 4-color chips (red, amber, green, and yellow). Recommended for low level circuits. Switches with suffix "S" have fine silver contacts rated at 3 amps. 300 watts, max., AC, non-inductive load. Mounts on 3/8" centers, panels to ¼" thick.

Stock No.	Type	Circuit Figure	Switch Action	1-24	25-49	50-99	100-249
26F800	211	1-A	SPST NO	1.17	1.07	.975	.78
26F802	213	1-C	SPDT	1.44	1.32	1.20	.96
26F803	211S	1-A	SPST NO	1.35	1.24	1.13	.90
26F805	213S	1-C	SPDT	1.59	1.46	1.33	1.06
26F806	K106	···	Chip Kit	.21	.19	.175	.14

LAMPS FOR "LEVER-LITE" AND "LITTEL-LITE"

Stk. No.	Type	Volt.	Base	Current	10-99	100-Up
26F513	1768	6V	Screw	200 Ma	.76	.62
26F508	335	28V	Screw	40 Ma	1.19	.97

SERIES DA SWITCH

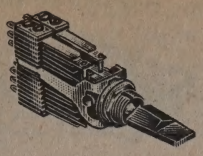
Miniature momentary action pushbutton switch. Meets Human Factor Engineering considerations. Mounts on 17/32" centers. Available in six colors for control panel coding. Body of anodized aluminum protects the contacts. Terminals come straight out in back for easy wiring. Data Switches provide an A-B arrangement, which may be wired externally to provide 1-C switching. Hard-gold contacts rated 500 ma., 50 watts max. A.C., non-inductive load.

Stock No.	Type No	Color	1-24	25-49	50-99	100-249	250-499	500-999
27F000	DA-01-3	Red	1.59	1.46	1.33	1.06	1.01	.954
27F001	DA-02-3	Black						
27F002	DA-03-3	Green						
27F003	DA-04-3	Blue						
27F004	DA-05-3	White						
27F005	DA-08-3	Yellow						

9

Switches

"LT" SWITCH SERIES 41000



lever telephone type lever switch. atures unique "U" shaped construc- n with a "Can't Cheat" detent guide ich prevents accidental actuator by- ss of a switching position. Welded oss bar palladium contacts rated at 3 mps., 200 watts max., A.C., non-induc- e load are standard. Mounts on 2" centers, in a 1⅝2" dia. hole, in nels up to ¼". Insulation is paper se phenolic with plastic tubing through the stack assembly. ame is steel, iridescent iridite finish over cadmium plating. th mtg. hdwe.

2-POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-24	25-49	50-99	100-249
F341	41203	22F345	41203L	1-C	2.67	2.45	2.23	1.78
F342	41206	22F346	41206L	2-C	3.33	3.05	2.78	2.22
F343	41208	22F347	41208L	4-A	3.66	3.36	3.05	2.44
F344	41212	22F348	41212L	4-C	4.50	4.13	3.75	3.00
3-POSITION TYPE								
F377	41306	22F381	41306L	1-C	3.33	3.05	2.78	2.22
F378	41308	22F382	41308L	2-A	3.66	3.36	3.05	2.44
F379	41312	22F383	41312L	2-C	4.50	4.13	3.75	3.00
F380	41324	22F384	41324L	4-C	6.63	6.08	5.53	4.42

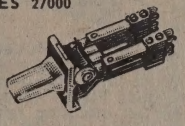
LEVER LITE 25000 SERIES SWITCH

illuminated switch to color code switch- g position. Available in 2 or 3 position odels. Individual colors to indicate individ- l circuit. Requires only 2¼" behind panel. eal for multi operation. Complete with 6 lt 200 Ma lamp and five color chips. 2¼x3⁹⁄₆₄x1-1¹⁄₃₂". Wt. 5 oz. Kit contains 5 colors: green, amber, yellow, blue, white and red.

2 POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-24	25-49	50-99	100-249
F704	25201	26F700	25201L	1-A	2.91	2.67	2.43	1.94
F705	25203	26F701	25203L	1-C	3.09	2.83	2.58	2.06
F706	25206	26F702	25206L	2-C	3.63	3.33	3.03	2.42
F707	25209	26F703	25209L	3-C	4.17	3.82	3.48	2.78
3 POSITION TYPE								
F712	25304	26F708	25304L	1-A	3.30	3.03	2.75	2.20
F713	25306	26F709	25306L	1-C	3.63	3.33	3.03	2.42
F714	25308	26F710	25308L	2-A	4.02	3.69	3.35	2.68
F715	25312	26F711	25312L	2-C	4.35	3.99	3.63	2.90
F716	K-105	Color Chip Kit*			27	.248	.225	.18
F740	531	Escutcheon Plate			.15	.138	.125	.10

"LEVER LITE" SWITCH SERIES 27000



me as 25000 Series except lever and fil- s. Mounts on ¾" centers, panels to 3⁄32" ., depth 2⅜". On 2 pos. AMBER in eutral"; GREEN in "Down". On 3 pos., D in "Up"; AMBER in "Neutral"; EEN in "Down". W/6V lamp. 2 oz.

2 POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-24	25-49	50-99	100-249
F832	27206	26F834	27206L	2-C	4.74	4.35	3.95	3.16
F833	27212	26F835	27212L	4-C	5.82	5.34	4.85	3.88
3 POSITION TYPE (+Ea. sec.)								
F836	27306	26F839	27306L	+1-C	4.74	4.35	3.95	3.16
F837	27307	26F840	27307L	+1-C	4.83	4.43	4.03	3.22
F838	27312	26F841	27312L	+2-C	5.82	5.34	4.85	3.88
F842	532	Escutcheon Plate			.21	.193	.175	.14
F879	P1864	Light Shield for 532			.12	.11	.10	.08

SERIES 29000 FEATHER-LEVER SWITCH

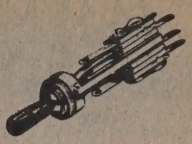
eel frame, nylon roller, silver contacts at 2 mps., 200 W. max., A.C., non-inductive load. shing mount in 4⁄16: O.D., hole in panels to " thk. Depth behind panel, 1⁹⁄32", + n. o. position off. ‡ InterCom "Talk-Listen" itch leverlock on one side of neutral and -locking on other. 3 oz.

2 POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-24	25-49	50-99	100-249
F843	29201	26F847	29201L	1-A	1.38	1.27	1.15	.92
F844	29203	26F848	29203L	1-C	1.59	1.46	1.33	1.06
F846	29206	26F850	29206	2-C	2.04	1.87	1.70	1.36
3 POSITION TYPE (+Ea. sec.)								
F852	29304	26F857	29304L	1-A	1.80	1.65	1.50	1.20
F853	29306	26F858	29306L	1-C	2.04	1.87	1.70	1.36
F855	29312	26F860	29312L	2-C	2.64	2.42	2.20	1.76
INTERCOM SWITCHES‡								
F861	29303T	...	...	1-C	1.60	1.45	1.16	1.10
F862	29307T	...	...	2-C	2.07	1.90	1.73	1.38
F842	532	Escutcheon Plate			.21	.193	.175	.14

SWITCHCRAFT INC.

LEV-R SWITCHES SERIES 3000 and 13000

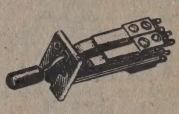


Fine silver contracts rated at 3 amps, 300 watts max. AC non-inductive load. Non locking types have spring return. Series 3000 mounts in panels up 3⁄32 thick; series 13000 mounts in panels up to ¼ thick. Both series are ⅝" wide; requires 2¼" behind panel; mounts in single ½ dia. hole. No circuit center position off. ‡ "Talk-Listen" switches, lever locks on one side of neutral and non-locking on other side. 3 position switches have same contact for both sections on each side except 3033, and 13033 and have one form C only. Supplied with lock nut and screw-on black knob. Wt.: 3 oz.

2 POSITION TYPE

Non-Lock.	Type	Locking	Type	Cont. Form	1-24	25-49	50-99	100-249
22F300	3001	22F311	3001L	1-A	1.44	1.32	1.20	.96
22F302	3003	22F313	3003L	1-C	1.71	1.57	1.43	1.14
22F305	3006	22F316	3006L	2-C	2.07	1.90	1.73	1.38
27F043	13001	27F051	13001L	1-A	1.56	1.43	1.30	1.04
27F044	13003	27F052	13003L	1-C	1.80	1.65	1.50	1.20
27F045	13006	27F053	13006L	2-C	1.98	1.80	1.44	1.37
27F046	13009	27F054	13009L	3-C	2.88	2.64	2.40	1.92
3 POSITION TYPE (+Each Section)								
22F306	3033	22F317	3033L	1-C‡	1.86	1.71	1.55	1.24
22F307	3034	22F318	3034L	+1-A	1.92	1.76	1.60	1.28
22F309	3036	22F320	3036L	+1-C	2.16	1.98	1.80	1.44
22F310	3037	22F321	3037L	+1-C‡	2.22	2.04	1.85	1.48
27F047	13033	27F055	13033L	1-C‡	1.98	1.82	1.65	1.32
27F048	13034	27F056	13034L	+1-A	2.04	1.87	1.70	1.36
27F049	13036	27F057	13036L	+1-C	2.37	2.17	1.98	1.58
27F050	13037	27F058	13037L	+1-C‡	2.37	2.17	1.98	1.58

SERIES 6000 TELEVER SWITCHES



Featuring "T-Beam" construction with Irridites finished steel frame. Palladium contacts rated at 3 A., 120 volts, non-inductive load. Size, 4⁹⁄32x1⅝x⅞". Wt., 3 oz.

2-POSITION TYPE

Non-Lock	Type	Locking	Type	Cont. Form	1-24	25-49	50-99	100-249
22F322	6006	22F331	6006L	2-C	3.33	3.05	2.78	2.22
22F325	60012	22F334	60012L	4-C	4.44	4.07	3.70	2.96
3 POSITION TYPE (+Each Section)								
22F327	6036	22F336	6036L	+1-C	3.33	3.05	2.78	2.22
22F329	60312	22F338	60312L	+2-C	4.44	4.07	3.70	2.96
22F330	60324	22F339	60324L	+4-C	6.78	6.22	5.65	4.52
22F340	530	Escutcheon Plate			.63	.578	.525	.42
22F399	M1178-2	Knob			.27	.248	.225	.18

SERIES 16000 TELEVER SWITCHES

Similar to the 6000 Series. Single hole mounting; mounts in ½" dia. hole for panels up to ¼" thick. Size: 4⁷⁄16x1⅞x⅞". Shpg. wt., 3 oz. **May be converted to "locking" by removing stop plate.**

2-POSITION TYPE

Non-locking Stk. No.	Type	Contact Form	1-24	25-49	50-99	100-249
22F215	16006	2-C	3.48	3.19	2.90	2.32
22F216	16006D	2-D	3.90	3.58	3.25	2.60
22F217	16008	4-AN.O.	3.90	3.58	3.25	2.60
22F218	16009	3-C	4.17	3.82	3.48	2.78
22F219	160012	4-C	4.74	4.35	3.95	3.16
22F220	160012D	4-D	5.22	4.79	4.35	3.48
22F221	160024	8-C	6.93	6.35	5.78	4.62
3-POSITION TYPE (+ Each Section)						
22F222	16036	+1-C	3.48	3.19	2.90	2.32
22F224	16038	+2-AN.O.	3.90	3.58	3.25	2.60
22F225	160312	+2-C	4.74	4.35	3.95	3.16
22F226	160312D	+2-D	5.22	4.79	4.35	3.48
22F227	160316	+4-A	6.12	5.61	5.10	4.08
22F228	160324	+4-C	6.93	6.35	5.78	4.62

LAMPS FOR "LEVER-LITE" AND "LITTEL-LITE" SWITCHES

Stk. No.	Ind. Type	Volt.	Base	Current	10-99	100-499
26F513	1768	6V	Screw	200 Ma	.62	.52
26F508	335	28V	Screw	40 Ma	.97	.83

For Larger Quantities Contact Your Nearest NEWARK Facility

9

Multi-Switches

SWITCHCRAFT INC.

65000

67000

SERIES 65000 AND 67000
FACTORY ASSEMBLED
"DW" SERIES "MULTI-SWITCH"

Series 65000. Non-illuminated "Multi-Switch". With DPDT switch module per station. Double-wipe bifurcated silver plated brass contacts rated 3A, AC, 0.5A DC; 125 V. non-inductive load. 11/16" depth behind panel. 3/4" length plus 5/8" for each station. 27/32" height.

Series 67000. Illuminated version of above. Front of panel lamp replacement. Accepts Ind. #327 and #328 lamps. Av. Shipping weight 4 oz.

Stk. No.	Type	Function	Sta-tions	EACH 1-24	25-49	50-99	100-249
22F137	65021K-206	Interlock	2	1.68	1.54	1.40	1.12
22F090	65022-206	Non-Lock	2	1.59	1.46	1.33	1.06
22F143	65023-206	All-Lock	2	1.68	1.54	1.40	1.12
22F138	65041K-206	Interlock	4	3.00	2.75	2.50	2.00
22F091	65042-206	Non-Lock	4	2.91	2.67	2.43	1.94
22F144	65043-206	All-Lock	4	3.00	2.75	2.50	2.00
22F139	65061K-206	Interlock	6	4.32	3.96	3.60	2.88
22F092	65062-206	Non-Lock	6	4.20	3.85	3.50	2.80
22F145	65063-206	All-Lock	6	4.32	3.96	3.60	2.88
22F140	65081K-206	Interlock	8	5.64	5.17	4.70	3.76
22F093	65082-206	Non-Lock	8	5.52	5.06	4.60	3.68
22F146	65083-206	All-Lock	8	5.64	5.17	4.70	3.76
22F141	65101K-206	Interlock	10	6.93	6.35	5.78	4.62
22F094	65102-206	Non-Lock	10	6.78	6.22	5.65	4.52
22F147	65103-206	All-Lock	10	6.93	6.35	5.78	4.62
39F2300	67021K-506	Interlock	2	2.22	2.04	1.85	1.48
39F2301	67022-506	Non-Lock	2	2.04	1.87	1.70	1.36
39F2302	67023-506	All-Lock	2	2.22	2.04	1.85	1.48
39F2303	67041K-506	Interlock	4	4.02	3.69	3.35	2.68
39F2304	67042-506	Non-Lock	4	3.66	3.36	3.05	2.44
39F2305	67043-506	All-Lock	4	4.02	3.69	3.35	2.68
39F2306	67061K-506	Interlock	6	5.82	5.34	4.85	3.88
39F2307	67062-506	Non-Lock	6	5.28	4.84	4.40	3.52
39F2308	67063-506	All-Lock	6	5.82	5.34	4.85	3.88
39F2309	67081K-506	Interlock	8	7.62	6.99	6.35	5.08
39F2310	67082-506	Non-Lock	8	6.90	6.88	5.75	4.60
39F2311	67083-506	All-Lock	8	7.62	6.99	6.35	5.08
39F2312	67101K-506	Interlock	10	9.42	8.64	7.85	6.28
39F2313	67102-506	Non-Lock	10	8.52	7.81	7.10	5.68
39F2314	67103-506	All-Lock	10	9.42	8.64	7.85	6.28

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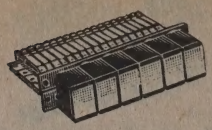
SERIES 37000 ILLUMINATED "MULTI SWITCH"
SUPPLIED WITH DPDT CIRCUITRY EACH STATION

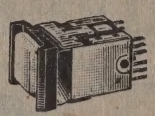


Similar to series 35000 but with added feature of illuminated buttons. Each push button station serves as a color and legend coded panel indicator light. May be wired for any of 3 lighting arrangements: "L" type-button lights in "In" position; "M" type buttons lights in "Out" position; "N" type-button lights in "In" and "Out" positions. Switches listed below supplied with 2 "C" stack switches per station.

INTERLOCK FUNCTION

Stock No.	Type	Sta tions	Wt. Oz.	Each 1-9	10-24	25-49	50-99	100-249	250-499
39F2238	37021K-1206	2	2	13.07	12.06	11.06	10.05	8.04	7.64
39F2239	37041K-1206	4	4	23.21	21.42	19.64	17.85	14.28	13.57
39F2240	37061K-1206	6	6	33.35	30.78	28.22	25.65	20.52	19.49
39F2241	37081K-1206	8	8	43.81	40.44	37.07	33.70	26.96	25.61
39F2242	37101K-1206	10	10	53.95	49.80	45.65	41.50	33.20	31.54
39F2243	37121K-1206	12	12	64.09	59.16	54.23	49.30	39.44	37.47
NON-LOCK FUNCTION									
39F2244	37022-1206	2	2	13.07	12.06	11.06	10.05	8.04	7.64
39F2245	37042-1206	4	4	23.21	21.42	19.64	17.85	14.28	13.57
39F2246	37062-1206	6	6	33.35	30.78	28.22	25.65	20.52	19.49
39F2247	37082-1206	8	8	43.81	40.44	37.07	33.70	26.96	25.61
39F2248	37102-1206	10	10	53.95	49.80	45.65	41.50	33.20	31.54
39F2249	37122-1206	12	12	64.09	59.16	54.23	49.30	39.44	37.47
ALL LOCK FUNCTION									
39F2250	37023-1206	2	2	13.07	12.06	11.06	10.05	8.04	7.64
39F2251	37043-1206	4	4	23.21	21.42	19.64	17.85	14.28	13.57
39F2252	37063-1206	6	6	33.35	30.78	28.22	25.65	20.52	19.49
39F2253	37083-1206	8	8	43.81	40.44	37.07	33.70	26.96	25.61
39F2254	37103-1206	10	10	53.95	49.80	45.65	41.50	33.20	31.54
39F2255	37123-1206	12	12	64.09	59.16	54.23	49.30	39.44	37.47
PUSH-PUSH FUNCTION									
39F2256	37027-1206	2	2	13.07	12.06	11.06	10.05	8.04	7.64
39F2257	37047-1206	4	4	23.21	21.42	19.64	17.85	14.28	13.57
39F2258	37067-1206	6	5	33.35	30.78	28.22	25.65	20.52	19.49
39F2259	37087-1206	8	8	43.81	40.44	37.07	33.70	26.96	25.61
39F2260	37107-1206	10	10	53.95	49.80	45.65	41.50	33.20	31.54
39F2261	37127-1206	12	12	64.09	59.16	54.23	49.30	39.44	37.47

SERIES PL-PUSHLIGHT SWITCH



Completely enclosed, lighted pushbutton switch which features long-life, highly-reliable leafspring switching. Available in momentary or PLPR functions; single or twin lamps; with or without barriers; full or split-face display; 1-C to 4-C switching; black switch housing. Standard pushbutton color is white. Molded crossbar palladium contacts rated at 2 amps, 200 watts, max; A.C. non-inductive load are standard. Mount with clamp-type bracket, no screws, washer or nuts needed. Flange mounting requires 1" x .875" panel cutout. Barrier mounting requires 1 3/16 x .875" panel cutout. Can be mounted in vertical or horizontal rows and in matrixes. Depth behind panel only 1 3/4". "Push-Life" switch accepts std. T-1 3/4 flange base lamps (not furnished with switch) in either 6V or 28V. Light divider is used in "Push-Lite" switch pushbutton to separate lighting between twin-lamps for split-face lighting indication.

MOUNTING BARRIERS (BLACK)

Stock No.	Type	Description	Each 1-24	25-49	50-99	100-249
39F2200	PL-102	End Barrier	.09	.083	.075	.06
39F2201	PL-202	Center Barrier	.09	.083	.075	.06

MOMETARY ACTION-SINGLE LAMP

Stock No.	Type	Contacts	EACH 1-24	25-49	50-99	100-249
39F2202	PL-1032-05	1-C	5.55	5.09	4.63	3.70
39F2203	PL-1062-05	2-C	5.70	5.23	4.75	3.80
39F2204	PL-1122-05	4-C	6.15	5.64	5.13	4.10
MOMENTARY ACTION-TWIN LAMP						
39F2205	PL-2032-05	1-C	5.70	5.23	4.75	3.80
39F2206	PL-2062-05	2-C	5.85	5.36	4.88	3.90
39F2207	PL-2122-05	4-C	6.30	5.78	5.25	4.20
PUSH-LOCK/PUSH-RELEASE-SINGLE LAMP						
39F2208	PL-1037-05	1-C	5.85	5.36	4.88	3.90
39F2209	PL-1067-05	2-C	6.00	5.50	5.00	4.00
39F2210	PL-1127-05	4-C	6.45	5.91	5.38	4.30
PUSH-LOCK/PUSH-RELEASE-TWIN LAMP						
39F2211	PL-2037-05	1-C	6.45	5.91	5.38	4.30
39F2212	PL-2067-05	2-C	6.60	6.06	5.50	4.40
39F2213	PL-2127-05	4-C	7.05	6.46	5.88	4.70
LIGHT DIVIDER						
39F2214	PL-551	...	.06	.055	.05	.04

Waldom-Molex Switches

ILLUMINATED PUSHBUTTON SWITCHES

Both the 1175 and 1820 series are illuminated single pole single throw push button switches. Available in alternate Push-On and Push-Off (PP), Momentarily Open (MNO) and Momentarily Normally Closed (MNC). Nylon buttons are available in standard colors: white, red, green and amber. Blue and yellow are available on special order. Mechanical life minimum is 25,000 cycles. Both models easily snap mount into place. Terminals also have hole for soldering wire lead if desired.

1175 SERIES

Available as both illuminated pushbutton switches and as indicator lights. Compact design has precision molded, phenolic housing, 7/8" w. x 1¼" d. behind panel (less terminals). Terminals are standard ¼" male tab and use Waldom female Q-D terminal SS-1090. Bezel, 1¼" l. x 15/64" w. Min. panel thickness, .031. *Indicates U.L. recognized.

All 6 volt switches have permanently installed Type 2114 incandescent lamp. All 125 volt switches have permanently installed Type NE-2H neon lamp with 35K ohm resistor. Bulb is dependent upon switch action. Legend is stamped in black, on white and amber buttons; in white, on red and green buttons. 14 volt and 28 volt (2 amp) type switches are also available on special order. All switches are attractively bubble packed, complete with proper Q-D terminals.

1820 SERIES

Quality molded nylon. Standard terms. With 5/16" male tabs use Waldom Q-D terms. SS-1187. Nylon bezel, 19/32" l. x 35/64" w. Panel thickness up to .070 positive lock; over .070 friction lock. Cut-out, .500" x 1.215". Housing, 31/32" w. x 29/64" d. *Indicates U.L. recognized.

1175 SERIES ILLUMINATED SWITCHES

Stock No.	Type	Volts AC	Amps	Lamp	Switch Action	Button Color	1-9 Each	10-24 Each	25-49 Each	50 Up Each
43F500	117510	6	2	Incandescent	PP	White	3.38	2.76	2.46	2.34
43F501	117510	6	2	Incandescent	PP	Red	3.38	2.76	2.46	2.34
43F502	117510	6	2	Incandescent	PP	Amber	3.38	2.76	2.46	2.34
43F503	117510	6	2	Incandescent	MNO	White	3.42	2.80	2.49	2.37
43F504	117510	6	2	Incandescent	MNO	Red	3.42	2.80	2.49	2.37
43F505	117510	6	2	Incandescent	MNO	Amber	3.42	2.80	2.49	2.37
43F506	117510	6	2	Incandescent	MNC	White	3.42	2.80	2.49	2.37
43F507	117510	6	2	Incandescent	MNC	Red	3.42	2.80	2.49	2.37
43F508	117510	6	2	Incandescent	MNC	Amber	3.42	2.80	2.49	2.37
43F509	117540	125*	8.5	Neon	PP	White	3.61	2.95	2.62	2.49
43F510	117540	125*	8.5	Neon	PP	Red	3.61	2.95	2.62	2.49
43F511	117540	125*	8.5	Neon	PP	Amber	3.61	2.95	2.62	2.49
43F512	117540	125*	8.5	Neon	MNO	White	3.70	3.02	2.69	2.56
43F513	117540	125*	8.5	Neon	MNO	Red	3.70	3.02	2.69	2.56
43F514	117540	125*	8.5	Neon	MNO	Amber	3.70	3.02	2.69	2.56
43F515	117540	125*	8.5	Neon	MNC	White	3.70	3.02	2.69	2.56
43F516	117540	125*	8.5	Neon	MNC	Red	3.70	3.02	2.69	2.56
43F517	117540	125*	8.5	Neon	MNC	Amber	3.70	3.02	2.69	2.56

Same as above type 1175 push button switches except have "on", or "off" legends hot stamped on button. Color of hot stamping: white on red and green buttons; black on amber and white buttons.

On	Off	Type	Volts	Amps	Lamp	Switch Action	Button Color	1-9 Each	10-24 Each	25-49 Each	50-Up Each
43F518	43F482	117560	6	2	Incandescent	PP	White	3.62	2.96	2.63	2.50
43F519	43F483	117560	6	2	Incandescent	PP	Red	3.62	2.96	2.63	2.50
43F520	43F484	117560	6	2	Incandescent	PP	Amber	3.62	2.96	2.63	2.50
43F521	43F485	117560	6	2	Incandescent	MNO	White	3.66	3.00	2.66	2.53
43F522	43F486	117560	6	2	Incandescent	MNO	Red	3.66	3.00	2.66	2.53
43F523	43F487	117560	6	2	Incandescent	MNO	Amber	3.66	3.00	2.66	2.53
43F524	43F488	117560	6	2	Incandescent	MNC	White	3.66	3.00	2.66	2.53
43F525	43F489	117560	6	2	Incandescent	MNC	Red	3.66	3.00	2.66	2.53
43F526	43F490	117560	6	2	Incandescent	MNC	Amber	3.66	3.00	2.66	2.53
43F527	43F491	117590	125*	8.5	Neon	PP	White	3.85	3.15	2.80	2.66
43F528	43F492	117590	125*	8.5	Neon	PP	Red	3.85	3.15	2.80	2.66
43F529	43F493	117590	125*	8.5	Neon	PP	Amber	3.85	3.15	2.80	2.66
43F530	43F494	117590	125*	8.5	Neon	MNO	White	3.94	3.22	2.86	2.72
43F531	43F495	117590	125*	8.5	Neon	MNO	Red	3.94	3.22	2.86	2.72
43F532	43F496	117590	125*	8.5	Neon	MNO	Amber	3.94	3.22	2.86	2.72
43F533	43F497	117590	125*	8.5	Neon	MNC	White	3.94	3.22	2.86	2.72
43F534	43F498	117590	125*	8.5	Neon	MNC	Red	3.94	3.22	2.86	2.72
43F535	43F499	117590	125*	8.5	Neon	MNC	Amber	3.94	3.22	2.86	2.72

1175 SERIES INDICATOR (PILOT) LIGHTS

White	Red	Amber	Green	Type	Switch Action	Volts	Amps	Legend	1-9 Each	10-24 Each	25-49 Each	50-Up Each
59F1762	59F1763	59F1764	59F1765	117515	—	6	—	—	3.06	2.50	2.22	2.11
59F1765	59F1766	59F1767	59F1768	117545	—	125	—	—	2.79	2.29	2.03	1.93

33F737 Type 731 Chassis hole punch for Series 1175 and 1820 ..... Each 6.90

1820 SERIES ILLUMINATED SWITCHES

Identical to the above 1175 switch series less switch action. Supplied with permanently installed lamp.

White	Red	Amber	Green	Type	Switch Action	Volts	Amps	Legend	1-9 Each	10-24 Each	25-49 Each	50-Up Each
59F1770	59F1771	59F1772	59F1773	182010	PP	6	2	—	3.84	3.14	2.79	2.65
59F1774	59F1775	59F1776	59F1777	182010	MNO	6	2	—	3.99	3.27	2.90	2.76
59F1778	59F1779	59F1700	59F1701	182010	MNC	6	2	—	3.99	3.27	2.90	2.76
59F1702	59F1703	59F1704	59F1705	182060	PP	6	2	On	4.08	3.34	2.97	2.82
59F1706	59F1707	59F1708	59F1709	182060	PP	6	2	Off	4.08	3.34	2.97	2.82
59F1710	59F1711	59F1712	59F1713	182060	MNO	6	2	On	4.24	3.47	3.08	2.93
59F1714	59F1715	59F1716	59F1717	182060	MNO	6	2	Off	4.24	3.47	3.08	2.93
59F1718	59F1719	59F1720	59F1721	182060	MNC	6	2	On	4.24	3.47	3.08	2.93
59F1722	59F1723	59F1724	59F1725	182060	MNC	6	2	Off	4.24	3.47	3.08	2.93
59F1726	59F1727	59F1728	59F1729	182040*	PP	125	9	—	3.73	3.05	2.71	2.57
59F1730	59F1731	59F1732	59F1733	182040*	MNO	125	9	—	3.88	3.18	2.82	2.68
59F1734	59F1735	59F1736	59F1737	182040*	MNC	125	9	—	3.88	3.18	2.82	2.68
59F1738	59F1739	59F1740	59F1741	182090*	PP	125	9	On	3.97	3.25	2.89	2.75
59F1742	59F1743	59F1744	59F1745	182090*	PP	125	9	Off	3.97	3.25	2.89	2.75
59F1746	59F1747	59F1748	59F1749	182090*	MNO	125	9	On	4.13	3.38	3.00	2.85
59F1750	59F1751	59F1752	59F1753	182090*	MNO	125	9	Off	4.13	3.38	3.00	2.85
59F1754	59F1755	59F1756	59F1757	182090*	MNC	125	9	On	4.13	3.38	3.00	2.85
59F1758	59F1759	59F1760	59F1761	182090*	MNC	125	9	Off	4.13	3.38	3.00	2.85

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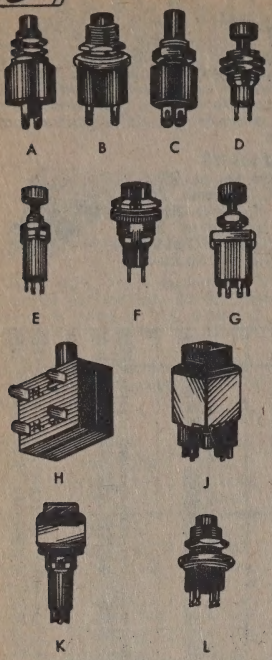
Switches and Hardware

PUSHBUTTON SWITCHES



Stock No.	Type	Fig.	Amps, 115 VAC Res.	Contacts	Features	Button	Dimensions, In. Mtg. Hole	Behind Panel	O.A. Ht.	Each 1-49	Each 50-99
57F2615	10-9	B	1	SPST-NO	Silent action	Blk	3/4	.965	1.500	1.05	.79
24F200	2201	A	10	SPST-NO	Snap action	Red	2 1/64	1.176	1.903	2.85	2.14
24F201	2202	A	10	SPST-NC	Snap action	Blk	2 1/64	1.176	1.903	2.85	2.14
24F204	23-1	B	1/4	SPST-NO	Silent action	Red	2 1/64	.663	1.059	1.20	.90
24F205	30-1	B	1	SPST-NO	Silent action	Red	1 7/64	.592	.992	.90	.68
24F206	30-2	B	1	SPST-NC	Silent action	Blk	1 7/64	.605	1.005	.90	.68
57F2616	30-3	B	1	SPST-NO	Silent action	Blk	1 7/64	.592	.992	.90	.68
57F2617	30-15	B	1	SPST-NO	Overtravel	Red	1 7/64	.677	1.077	1.10	.83
57F2618	30-17R	D	1	SPST-NO	Positive feel	Red	3/4	.958	1.350	1.50	1.13
57F2619	30-01-01-500-0707(B)	J	1	SPST-NO	.....	Blk	.610 sq.	1.102	1.450	2.10	1.58
57F2620	30-01-01-500-0303(R)	J	1	SPST-NO	.....	Red	.610 sq.	1.102	1.450	2.10	1.58
57F2621	30-01-02-500-0707(B)	J	1	SPST-NC	.....	Blk	.610 sq.	1.060	1.408	2.35	1.76
57F2622	30-01-02-500-0303(R)	J	1	SPST-NC	.....	Red	.610 sq.	1.060	1.408	2.35	1.76
57F2623	30-01-03-500-0707(B)	J	1	SPST-NO	Overtravel	Blk	.610 sq.	1.142	1.490	2.20	1.65
57F2624	30-01-03-500-0303(R)	J	1	SPST-NO	Overtravel	Red	.610 sq.	1.142	1.490	2.20	1.65
57F2625	30-01-04-500-0707(B)	J	1	SPST-NO	Pos. feel	Blk	.610 sq.	1.259	1.607	2.95	2.21
57F2626	30-01-04-500-0303(R)	J	1	SPST-NO	Pos. feel	Red	.610 sq.	1.259	1.607	2.95	2.21
57F2627	30-05-01-502-0707(B)	F	1	SPST-NO	.....	Blk	.510 sq.	.932	1.280	2.10	1.58
57F2628	30-05-01-502-0303(R)	F	1	SPST-NO	.....	Red	.510 sq.	.932	1.280	2.10	1.58
57F2629	30-05-02-502-0707(B)	F	1	SPST-NC	.....	Blk	.510 sq.	.920	1.268	2.35	1.76
57F2630	30-05-02-502-0303(R)	F	1	SPST-NC	.....	Red	.510 sq.	.920	1.268	2.35	1.76
57F2631	30-05-03-502-0707(B)	F	1	SPST-NC	Overtravel	Blk	.510 sq.	1.002	1.350	2.20	1.65
57F2632	30-05-03-502-0303(R)	F	1	SPST-NO	Overtravel	Red	.510 sq.	1.002	1.350	2.20	1.65
57F2633	30-05-04-502-0707(B)	F	1	SPST-NO	Pos. feel	Blk	.510 sq.	1.132	1.480	2.95	2.21
57F2634	30-05-04-502-0303(R)	F	1	SPST-NO	Pos. feel	Red	.510 sq.	1.132	1.480	2.95	2.21
24F207	35-1	L	1/2	DPST-NO	Momentary	Red	3/4	.977	1.274	1.50	1.13
24F209	39-1	C	1/2	SPST-NO	Silent	Red	1 1/64	.315	.615	1.15	.86
24F236	39-2	C	1/4	SPST-NO	Silent	Blk	1 1/64	.490	.780	1.60	1.20
57F2635	39-3	C	1/2	SPST-NO	Silent	Blk	1 1/64	.315	.615	1.15	.86
24F238	39-201B	H	1/4	SPDT	PC mt.	Blk	PC mt.	.....	.375	1.95	1.46
24F237	39-201R	H	1/4	SPDT	PC mt.	Red	PC mt.	.....	.375	1.95	1.46
24F202	4001	B	1	SPST-NO	Silent	Red	3/4	.965	1.500	1.05	.79
24F203	4002	B	1	SPST-NC	Silent	Blk	3/4	.965	1.500	1.05	.79
23F895	46-101R	B	1/4	SPDT-BBM	Momentary	Red	1 7/64	.890	1.327	1.40	1.05
23F894	46-101B	B	1/4	SPDT-BBM	Momentary	Blk	1 7/64	.890	1.327	1.40	1.05
23F897	46-102R	E	1/4	SPDT-BBM	Momentary	Red	1 7/64	.890	1.327	1.50	1.13
23F896	46-102B	E	1/4	SPDT-BBM	Momentary	Blk	1 7/64	.890	1.327	1.50	1.13
23F918	46-110R	B	1/4	SPDT-MBB	Momentary	Red	1 7/64	.890	1.327	1.55	1.16
23F919	46-110B	B	1/4	SPDT-MBB	Momentary	Blk	1 7/64	.890	1.327	1.55	1.16
23F920	46-111R	E	1/4	SPDT-MBB	Momentary	Red	1 7/64	.890	1.327	1.65	1.24
23F921	46-111B	E	1/4	SPDT-MBB	Momentary	Blk	1 7/64	.890	1.327	1.65	1.24
23F899	46-200R	G	1/4	DPDT-BBM	Momentary	Red	1 7/64	.921	1.56	3.10	2.33
23F898	46-200B	G	1/4	DPDT-BBM	Momentary	Blk	1 7/64	.921	1.56	3.10	2.33
57F2636	46-01-05-500-0707(B)	K	1/4	SPDT-BBM	Momentary	Blk	.610 sq.	1.361	1.709	2.35	1.76
57F2637	46-01-05-500-0303(R)	K	1/4	SPDT-BBM	Momentary	Red	.610 sq.	1.361	1.709	2.35	1.76
57F2638	46-01-07-500-0707(B)	K	1/4	SPDT-BBM	Alt. action	Blk	.610 sq.	1.451	1.799	3.90	2.93
57F2639	46-01-07-500-0303(R)	K	1/4	SPDT-BBM	Alt. action	Red	.610 sq.	1.451	1.799	3.90	2.93
57F2640	46-01-08-500-0707(B)	J	1/4	DPDT	Momentary	Blk	.610 sq.	1.194	1.380	3.40	2.55
57F2641	46-01-08-500-0303(R)	J	1/4	DPDT	Momentary	Red	.610 sq.	1.194	1.380	3.40	2.55
57F2642	46-01-09-500-0707(B)	J	1/4	DPDT-BBM	Alt. action	Blk	.610 sq.	1.194	1.380	4.85	3.64
57F2643	46-01-09-500-0303(R)	J	1/4	DPDT-BBM	Alt. action	Red	.610 sq.	1.194	1.380	4.85	3.64
57F2644	46-05-05-502-0707(B)	F	1/4	SPDT-BBM	Momentary	Blk	.510 sq.	1.179	1.527	2.35	1.76
57F2645	46-05-05-502-0303(R)	F	1/4	SPDT-BBM	Momentary	Red	.510 sq.	1.179	1.527	2.35	1.76
57F2646	46-05-07-502-0707(B)	F	1/4	SPDT-BBM	Alt. action	Blk.	.510 sq.	1.428	1.776	3.90	2.93
57F2647	46-05-07-502-0303(R)	F	1/4	SPDT-BBM	Alt. action	Red	.510 sq.	1.428	1.776	3.90	2.93
57F2648	46-05-08-502-0707(B)	F	1/4	DPDT-BBM	Momentary	Blk	.510 sq.	1.188	1.536	3.40	2.55
57F2649	46-05-08-502-0303(R)	F	1/4	DPDT-BBM	Momentary	Red	.510 sq.	1.188	1.536	3.40	2.55

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Type 10-9: Wiping contact, .800″ dia. x .668″. **2201 and 2202:** Snap action, momentary; .880″ dia. x .796″. **23-1:** .468″ dia. x .476″. **Types 30-1 thru 30-15:** .375″ dia. with 1/4-32 thread. **30-17:** Positive feel, 15/32-32 thd. **Series 30-01:** Front panel bezel mtg., square button; 1/2-32 thread. **30-05,** same but round button. **Type 35-1:** .800″ dia. x .743″. **Types 39-1, -2, -3:** Butt contact, .250″ dia. **39-201:** Butt contact PC mount, .250 x .400 x .500″. **46-01:** front panel bezel mtg., square button; **46-05,** same but round button. **46-200:** .453 x .625 x .734″. **Types 46-101 to 46-111:** Wiping contact, make before break or break before make.

BINDING POSTS

29-1 29-100

29-1: Standard posts rated 15 amps cont. at 120 VDC. **29-100:** Plunger type, extends only 7/8″ above board, rated 20 amps at 120 VDC. Type **29-104** includes insulating washer.

Stock No.	Type	Feature	Color	Mtg. Hole	Each 1-99	Each 100-999
28F567	29-1B	Screw type	Black	3/8″	.50	.38
28F566	29-1R	Screw type	Red	3/8″	.50	.38
28F418	29-100B	Spring load	Black	1 1/64″	.45	.34
28F417	29-100R	Spring load	Red	1 1/64″	.45	.34
57F2650	29-110	Spring load	No cap	1 1/64″	.45	.34
28F422	29-104B	Spring load	Black	2 5/64″	.65	.49
28F421	29-104R	Spring load	Red	2 5/64″	.65	.49
28F557	29B11-1	Dual Black Mounting Base			.15	.12

TEST CLIPS

2-0 2-60 2-42

For panel mounting on test equipment, to allow rapid connections without manual opening and closing of jaws. Hex nut for tension adjustment. Nickel plated brass metal parts, except steel threaded stud.

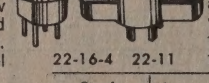
Stock No.	Type	Mounting	Overall Ht.	1-1999	2000-4999
28F550	2-0	Thrd. stud	1.59″	.30	.26
28F414	2-20	Thrd. stud	1.16″	.30	.26
57F2651	2-60	Tapped hole	1.14″	.20	.17
28F624	2-41	Thrd. stud	.79″	.30	.26
28F625	2-42	Double Clip	.79″	.35	.30

MOLDED INSULATING WASHERS

Molded of black electrical grade phenolic (EGP) for general purpose use; or mica filled phenolic (MFP) for low loss at high frequencies, low moisture absorption.

Stock No.	Type	Material	Dimensions A	Dimensions B	Each 1-499	Each 500-999
28F573	21B-1002-2	EGP	.500″	.171″	.10	.08
28F575	21B-1004-2	EGP	.500″	.258″	.10	.08
57F2652	21B-1006-1	MFP	.625″	.384″	.10	.08
28F577	21B-1006-2	EGP	.625″	.384″	.10	.08
57F2653	21B-1021-1	MFP	.375″	.145″	.10	.08
28F578	21B-1021-2	EGP	.375″	.145″	.10	.08

TRANSISTOR AND BI-PIN LAMP SOCKETS


22-16-4 22-11

For JEDEC transistors. Leads fit 100 mil grid for printed circuits. Mica filled phenolic. Wrap-around contacts, silver plated beryllium copper with gold plate. Type **22-16-2** has hole and term. at position 4 omitted; **22-16-3** has hole and term. at position 3 omitted.

Stock No.	Type	Transistor Outline	No. Pins	Each 1-499	Each 500-999
28F632	22-11	TO-12 and -13	4	.45	.36
57F2654	22-16-2	TO-5, 9, 11, 16, 26, 29, 31 and 39	3	.40	.32
28F633	22-16-3	Same as 22-16-2	3	.40	.32
57F2655	22-16-4	Same as 22-16-2	3	.40	.32
57F2656	22-3	Bi-Pin Lamp	2	.45	.36

Rotary Switches

Grayhill

SERIES 19 POWER ROTARY SWITCHES

U.L. LISTED—15 AMPS

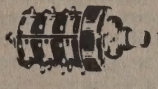
- **2 to 11 Positions—30° Indexing**
- **Life in Excess of 50,000 Cycles**
- **Solder or "Faston" Terminals**

Single pole, single deck rotary tap switches. Non-shorting contacts with 15 amp, 125 VAC resistive rating. Contact resistance, .010 ohm approx. for new switch, measured at 2 VDC and 100 mA. Insulation resistance, approx. 100,000 megohms. Breakdown between mutually insulated parts, 2500 VAC. Contact force, approx. 12 oz. Solder terminals with .125" wire hole, or "Faston" terminals with .080" wire hole. 2 to 11 positions. Wt., 1¾ oz.

Stock No.	Type No.	Taps	Terminals	1-9	10-24
43F800	19001-2UL	2	Solder	4.50	4.14
43F801	19001-3UL	3	Solder	4.75	4.37
43F802	19001-4UL	4	Solder	5.00	4.60
43F803	19001-5UL	5	Solder	5.25	4.83
43F804	19001-6UL	6	Solder	5.50	5.06
43F805	19001-7UL	7	Solder	5.75	5.29
43F806	19001-8UL	8	Solder	6.00	5.52
43F807	19001-9UL	9	Solder	6.25	5.75
43F808	19001-10UL	10	Solder	6.50	5.98
43F809	19001-11UL	11	Solder	6.75	6.21
57F1500	19101-2UL	2	Faston	4.50	4.14
57F1501	19101-3UL	3	Faston	4.75	4.37
57F1502	19101-4UL	4	Faston	5.00	4.60
57F1503	19101-5UL	5	Faston	5.25	4.83
57F1504	19101-6UL	6	Faston	5.50	5.06
57F1505	19101-7UL	7	Faston	5.75	5.29
57F1506	19101-8UL	8	Faston	6.00	5.52
57F1507	19101-9UL	9	Faston	6.25	5.75
57F1508	19101-10UL	10	Faston	6.50	5.98
57F1509	19101-11UL	11	Faston	6.75	6.21

SERIES 24 1-AMP MINIATURE TAP SWITCHES

One or two decks, with one pole per deck; 2 to 10 positions. Non-shorting contacts. Electrical rating: breaks 1 amp, carries 10 amps. Temperature range, −55°C to +85°C. Size: 1½" O.D.; ⅜" bushing mount. Depth behind panel: 1-deck type, .58"; 2-deck, 1.39". *indicates 10 positions plus common PC. Wt., 5 oz.



Stk. No.	Type No.	Taps	Decks	1-9	10-24
23F950	24001-2N	2	1	3.85	3.54
23F951	24001-3N	3	1	3.95	3.63
23F952	24001-4N	4	1	4.05	3.73
23F953	24001-5N	5	1	4.15	3.82
23F954	24001-6N	6	1	4.25	3.91
23F955	24001-7N	7	1	4.35	4.00
23F956	24001-8N	8	1	4.45	4.09
23F957	24001-9N	9	1	4.55	4.19
23F958	24001-10N	10	1	4.65	4.28
23F959	24002-2N	2	2	7.20	6.62
23F960	24002-3N	3	2	7.40	6.81
23F961	24002-4N	4	2	7.60	6.99
23F962	24002-5N	5	2	7.80	7.18
23F963	24002-6N	6	2	8.00	7.36
23F964	24002-7N	7	2	8.20	7.54
23F965	24002-8N	8	2	8.40	7.73
23F966	24002-9N	9	2	8.60	7.91
23F967	24002-10N	10	2	8.80	8.10
43F810	24778-10N	10 PC	1	5.25	4.83
43F811	24878-10N	10 PC*	1	5.25	4.83

SERIES 5000 1-AMP TAP SWITCHES

Break one amp at 115 VAC, carry 5 amps. All switches have stops except 10-tap unit, continuous rotation. Single deck; single pole; 2 to 10 positions. Size: 1⅛" diameter, .47" behind panel, ⅜" bushing. Non-shorting. For shorting type switches, contact Newark. Shpg. wt. 4 oz.

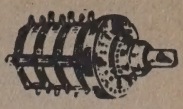
SINGLE DECK

Stk. No.	Type No.	Taps	1-9	10-24
24F225	5001-2N	2	2.85	2.62
24F226	5001-3N	3	2.90	2.67
24F227	5001-4N	4	2.95	2.71
24F228	5001-5N	5	3.00	2.76
24F229	5001-6N	6	3.05	2.81
24F230	5001-7N	7	3.10	2.85
24F231	5001-8N	8	3.15	2.90
24F232	5001-9N	9	3.20	2.94
24F233	5001-10N	10	3.25	2.99

SERIES 42D AND 44D ADJUSTABLE STOP

1-AMP ROTARY SWITCHES

- **Make/Break 1 Amp at 115 VAC**
- **Carry 10 Amps at 115 VAC**
- **10 or 12 Positions**
- **1 to 4 Decks, 1 to 4 Poles**



Fully enclosed switches, interchangeable with fixed stop 42A and 44A series. Electrical ratings: make or break 1 amp, carry 10 amps at 115 VAC, resistive. Insulation resistance: 50,000 megohms initially, 10,000 megohms minimum. Non-shorting contacts. Bushing, ⅜-32 NEF. Depth behind panel: 1-deck, 1.025"; 2-deck, 1.371"; 3-deck, 1.717"; 4-deck, 2.063".

SERIES 42D. 10-position switch with 36° indexing. Diameter, 1.000". Shpg. wt. 1½ oz.

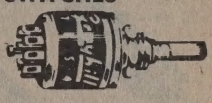
SERIES 44D. 12-position switch with 30° indexing. Diameter, 1.162". Shpg. wt., 1½ oz.

Stock No.	Type No.	Poles	Decks	Positions	1-9	10-24
57F1541	42D36-01-1-AJN	1	1	10	8.00	7.36
57F1544	42D36-01-2-AJN	2	1	10	8.80	8.10
57F1452	42D36-02-1-AJN	1	2	10	10.00	9.20
43F812	42D36-02-2-AJN	2	2	10	11.60	10.67
57F1543	42D36-03-1-AJN	1	3	10	12.00	11.04
57F1545	44D30-01-1-AJN	1	1	12	8.20	7.54
57F1548	44D30-01-2-AJN	2	1	12	9.00	8.29
43F813	44D30-01-3-AJN	3	1	12	9.40	8.65
43F814	44D30-01-4-AJN	4	1	12	9.80	9.02
57F1546	44D30-02-1-AJN	1	2	12	10.40	9.57
43F815	44D30-02-2-AJN	2	2	12	12.00	11.04
43F816	44D30-02-3-AJN	3	2	12	12.80	11.78
57F1547	44D30-03-1-AJN	1	3	12	12.60	11.59
43F817	44D30-03-2-AJN	2	3	12	15.00	13.80
43F818	44D30-03-4-AJN	4	3	12	17.40	16.01
43F819	44D30-04-1-AJN	1	4	12	14.80	13.62

9

SERIES 50 AND 51 ADJUSTABLE STOP ROTARY TAP SWITCHES

- **Make/Break 50 mA at 115 VAC**
- **Carry 6 Amps Continuous**
- **10 or 12 Positions**
- **Commercial or Military**



SERIES 50. Single deck, 10-position switch with 36° indexing. "CD" commercial types have no seals, phenolic base. "MD" military types have integral shaft and panel seal, diallyl phthalate base, meet MIL-S-3786/SR20 requirements. Contact resistance, 10 milliohms initially, 50 milliohms max. Non-shorting. Solder lug terminals. ½" dia.; .617" behind panel.

SERIES 51. Similar to above except 12-position (30° indexing). 9/16" diameter. "MD" types meet MIL-S-3786/SR35.

Stock No.	Type No.	Poles	Positions	1-9	10-24
57F1537	50CD36-01-1-AJN	1	10	7.45	6.85
57F1538	50CD36-01-2-AJN	2	10	9.75	8.97
57F1539	50MD36-01-1-AJN	1	10	9.05	8.33
57F1540	50MD36-01-2-AJN	2	10	11.30	10.40
43F820	51CD30-01-1-AJN	1	12	8.10	7.45
43F821	51CD30-01-2-AJN	2	12	10.40	9.57
57F1592	51MD30-01-1-AJN	1	12	9.70	8.92
43F822	51MD30-01-2-AJN	2	12	11.95	10.99

NEWARK Carries complete lines of top quality electronic equipment. Newark can supply all your needs, whether or not they are listed in this catalog.

REED PROXIMITY SWITCHES AND TEMPERATURE SENSING REED SWITCHES

Series 5701 Magnetic Actuator

Series 5801 SPST-Form A

- High reliability, and long life
- Come packaged for mounting in any position
- Hermetic seals—for safe use in hazardous environments

MAGNETICALLY ACTUATED REED PROXIMITY SWITCHES

Offer the long life and high reliability of reed switches. Include all the advantages of magnetic reed switches and come packaged ready for mounting. Epoxy packaging and Teflon coated wires resist solvents, acids and salts. These sensors are completely safe for use in hazardous environments and the shock and vibration characteristics are comparable with that of the basic reed switch. Series 5800 (Form A and C Reed Switch only) is recommended for either AC or DC loads and will switch up to ½ amp. Series 5900 (Reed Switch/Triac Combination) is rated at 1.5 amps at 240 VAC and is ideal for use in switching AC inductive loads.

FOR A & C TYPES FOR AC & DC OPERATION

Stock No.	Mfr's Type	Form	Contact Rating Watts	Switching Voltage VDC	Current AMPS	Break-Down Voltage	1-24	25-49	50-99	100-249	250-Up
33F1208	5801	A	10	200	.500	400 V	3.75	3.40	3.00	2.60	2.45
33F1209	5802	C	3	28	.250	200 V	7.75	7.00	6.20	5.35	5.00

FORM A 1½ AMP REED/TRIAC COMBINATION AC ONLY

Stock No.	Mfr's Type	Form	Current Rating	Voltage Rating	Break-Down Voltage	1-24	25-49	50-99	100-249	250-Up
33F1210	5901	A	1.5 AMPS	120-240 VAC 50-60Hz	400 V	7.75	7.00	6.20	5.35	5.00

MAGNETIC ACTUATOR

Stock No.	Mfr's Type	Operating Distance	Differential	Release Distance	1-24	25-49	50-99	100-249	250-Up
33F1211	5701	To ⅝"	⅛" to ¼"	5/16" to 13/16"	2.00	1.80	1.60	1.40	1.30

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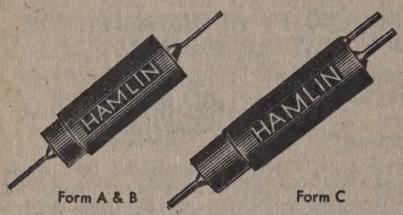
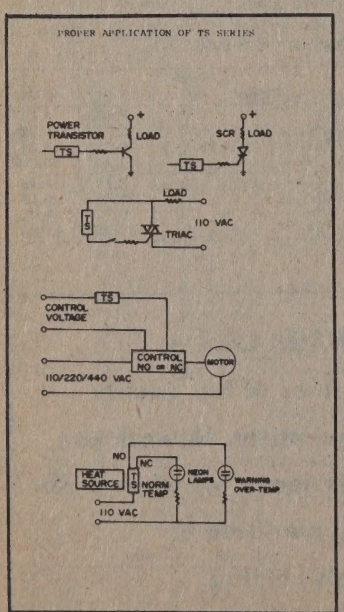


Form A & B Form C

TEMPERATURE REED SWITCHES

Hamlin temperature sensing reed switches feature automatic resetting, high reliability, compact size and a very long life. Hermetically sealed, safe for use in hazardous environments. Reed switch dependability permits millions of cycles. Typical applications include sensing temperature increases in highly sophisticated instrumentation, in liquids or semi-solids or anywhere that temperature control is needed.



SPECIFICATIONS

Description	Form A	Form B	Form C
Temperature Tolerance	±5°C	±5°C	±5°C
Reset Differential	10°C MAX	10°C MAX	10°C MAX
Contact Rating	10 Watts	10 Watts	3 Watts
Switching Voltage	100 VDC	100 VDC	28 VDC
Breakdown Voltage	200 VDC	200 VDC	200 VDC

SINGLE POLE SINGLE THROW NORMALLY OPEN—(FORM A)

Stock No.	Mfr's No.	Open Temperature	1-24	25-49	50-99	100-249	250-Up
33F1212	TS-0A1	0°C	2.45	2.20	2.00	1.70	1.60
33F1213	TS-25A1	25°C	2.45	2.20	2.00	1.70	1.60
33F1214	TS-50A1	50°C	2.45	2.20	2.00	1.70	1.60
33F1215	TS-70A1	70°C	2.45	2.20	2.00	1.70	1.60
33F1216	TS-100A1	100°C	2.45	2.20	2.00	1.70	1.60

SINGLE POLE SINGLE THROW NORMALLY CLOSED—(FORM B)

Stock No.	Mfr's No.	Close Temperature	1-24	25-49	50-99	100-249	250-Up
33F1217	TS-0B0	0°C	2.10	1.90	1.70	1.43	1.35
33F1218	TS-25B0	25°C	2.10	1.90	1.70	1.43	1.35
33F1219	TS-50B0	50°C	2.10	1.90	1.70	1.43	1.35
33F1220	TS-70B0	70°C	2.10	1.90	1.70	1.43	1.35
33F1221	TS-100B0	100°C	2.10	1.90	1.70	1.43	1.35

SINGLE POLE DOUBLE THROW—(FORM C)

Stock No.	Mfr's No.	Switching Temperature	1-24	25-49	50-99	100-249	250-499
33F1222	TS-0C2	0°C	5.65	5.10	4.55	3.90	3.70
33F1223	TS-25C2	25°C	5.65	5.10	4.55	3.90	3.70
33F1224	TS-50C2	50°C	5.65	5.10	4.55	3.90	3.70
33F1225	TS-70C2	70°C	5.65	5.10	4.55	3.90	3.70
33F1226	TS-100C2	100°C	5.65	5.10	4.55	3.90	3.70

Magnetic Reed Switches

HAMLIN

Dry and mercury wetted magnetic switches are precision created for reliable operation under most critical conditions. They offer excellent flexibility in a broad range of applications. These switches are hermetically sealed for safe, dependable use in any atmosphere—even under explosive conditions and are unaffected by high or low temperatures or pressure. They offer long life with high sensitivity and their rapid cycling rate make these ideal for a wide variety of uses. Applications include position indicators, counting devices, limiting switches, flow meters, communication instruments and reed relays. Actuating time: 1 millisecond or less. Life Expectancy; Dry reed switches—50 million operations. Mercury Wetted switches—1 billion operations. Contacts: Form A (SPST-NO). Form B (SPST-NC), Form C (SPDT). These switches may be actuated by permanent magnets, shown below, or electro magnets. Average shipping weight 1 oz. each.

MINIATURE MAGNETIC REED SWITCHES

Stock No.	Type	Size	Form	Maximum Cont. Ratg. Watts	Maximum Amps.	Maximum DC Volts	Maximum Cont. Rests.	Amp. Turn Pull In	Use Mag.	1-24	25-99	100-999	1000-4999	5000-& Up	SPECIAL FEATURES
33F1051	MRR-2-185	11	A	10	.500	200	.100	30±7.5	H-33	1.25	.94	.69	.56	.44	Miniature Form A—Rhodium Contacts
33F1053	MRH-15-185	11	A	10	.500	50	.150	30±7.5	H-33	2.50	1.87	1.50	1.30	1.12	High Insulation Rev.—10^{15} OHMS
33F1200	MAAC-3-327	8	A	1	.100	.12	.....	55±15	H-33	1.25	.94	.69	.56	.44	With Conductive Molded End Caps
33F1201	MLC-2-186	10	A	10	.500	100	.250	30±10	H-33	1.10	.83	.61	.50	.39	Economy Form A

SUB-MINIATURE MAGNETIC REED SWITCHES

33F1057	MSRR-2-185	9	A	10	.500	200	.100	30±7.5	H-33	1.25	.94	.69	.56	.44	Sub-Mini. Form A—Rhodium Contacts
33F1058	MSRR-2CD-155	9	A	3	.500	200	.200	25±7.5	H-33	1.75	1.31	1.05	.91	.79	Close Differential

TINY MAGNETIC REED SWITCHES

33F1061	MTRR-2-185	6	A	10	.250	100	.150	30±7.5	H-33	1.50	1.12	.83	.68	.53	Off Center Cap—Moderate Cur/Volt.
33F1064	MRG-DT-175	7	C	3	.250	28	.150	27.5±7.5	H-33	4.25	3.19	2.55	2.34	1.83	Form C—Moderate Current/Voltage
33F1202	MDRR-DT-175	4	C	3	.240	28	.150	27.5±7.5	H-33	4.50	3.38	2.70	2.50	1.94	Form C—Moderate Current/Voltage
33F1203	MLC-DT-186	7	C	3	.250	28	.150	30±10	H-33	3.25	2.44	1.95	1.79	1.40	Economy Form A

MICRO AND MINI MAGNETIC REED SWITCHES

33F1066	MMRR-2-185	1	A	.3	.010	28	.200	30±7.5	H-31	2.00	1.50	1.20	1.04	.90	The "Grain of Wheat"
33F1067	MINI-2-115	2	A	3	.110	28	.200	20±7.5	H-31	1.75	1.31	.96	.79	.61	The "Mini Reed"
33F1068	MINI-DT-125	3	C	.1	.010	10	.200	27.5±7.5	H-31	5.50	4.40	3.58	3.14	2.75	Low Profile Form C

HIGH CURRENT MAGNETIC REED SWITCHES

33F1204	DRHC-5-979	15	A	330VA	3.0	28		200 Max.	H-32	3.50	2.80	2.28	2.00	1.75	Power Switch—3 Amps
33F1078	SRT-2-455	15	A	110VA	1.0	28	.500	7.5±7.5	H-32	2.50	2.00	1.63	1.43	1.25	Power Switch—1 Amp

STANDARD MAGNETIC REED SWITCHES

33F1071	DRG-2-425	14	A	15	1.0	250	.075	70±7.5	H-34	1.50	1.12	.83	.68	.53	Standard Form A—Gold Contacts
33F1072	DRR-1-425	14	A	15	1.0	400	.060	70±7.5	H-34	1.50	1.12	.83	.68	.53	Standard Form A—Rhodium Contacts
33F1074	DRR-5-425	14	A	25	1.0	1,000	.060	70±7.5	H-34	1.60	1.28	1.04	.91	.80	High Breakdown Voltage
33F1075	DRT-5-425	14	A	50	3.0	1,000	.100	70±7.5	H-34	3.00	2.40	1.95	1.71	1.50	Inductive Load

COMPACT MAGNETIC REED SWITCHES

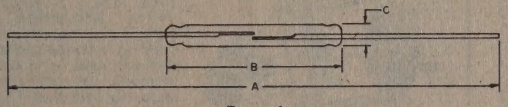
33F1077	SRR-2-425	12	A	15	1.0	400	.060	70±7.5	H-32	1.50	1.12	.83	.68	.53	Off Center Gap—Moderate Cur/Volt
33F1080	DRR-DTH-445	13	C	10	.5	250	.075	72.5±7.5	H-32	2.25	1.80	1.46	1.29	1.13	High Breakdown Voltage
33F1081	DRT-DTH-445	13	C	20	1.5	500	.150	72.5±7.5	H-34	5.00	4.00	3.25	2.85	2.50	Inductive Loads
33F1205	DLC-DT-327	13	C	10	.5	200	.100	55±15	H-32	1.25	1.00	.81	.71	.63	Economy Form C

HIGH VOLTAGE MAGNETIC REED SWITCHES

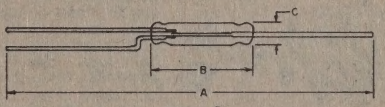
33F1083	DRVT-5-658	14	A	50	3.0	3,500	.080	120±20	H-34	3.50	2.80	2.63	2.45	2.28	Form A Breakdown Voltage 5 KVDC
33F1084	DRVT-10-658	14	A	50	3.0	7,500	.080	120±20	H-34	4.50	3.60	3.37	3.15	2.92	Form A Breakdown Voltage 10 KVDC
33F1085	DRVT-15-979	14	A	50	3.0	12,500	.100	200 Max.	H-34	8.50	6.80	6.37	5.95	5.52	Form A Breakdown Voltage 15 KVDC
33F1086	DRVT-20-979	14	A	50	3.0	17,500	.100	200 Max.	H-34	12.00	9.60	9.00	8.40	7.80	Form A Breakdown Voltage 20 KVDC
33F1206	DRVT-15B-999	14	B	50	.004	12,500		250 Max.	H-34	10.00	8.00	7.50	7.00	6.50	Form B Breakdown Voltage 15 KVDC

MERCURY WETTED MAGNETIC REED SWITCHES

33F1088	MRC-3-387	11	A	28	1.0	100	.050	65±15	H-33	4.25	3.19	2.55	2.33	1.83	Miniature Form A Mercury Wetted
33F1089	HRC-1-535	14	A	50	3.0	400	.050	80±7.5	H-34	4.25	3.19	2.55	2.33	1.83	Standard Form A Mercury Wetted
33F1207	MRC-DT-427	5	C	14	.500	28	.050	70±15	H-33	5.50	4.40	3.58	3.14	2.75	Form C Mercury Wetted



Form A



Form C

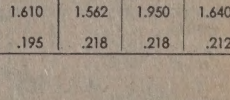
DIMENSION CHART FOR SWITCHES

Size Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A Overall Length—Nominal	2.000	2.000	1.385	2.076	1.500	2.125	2.125	.950	2.250	2.250	2.250	3.375	3.375	3.250	3.465
B Glass Length—Maximum	.375	.500	.475	.562	.850	.560	.810	.800	.800	.800	.800	1.610	1.562	1.950	1.640
C Glass Diameter—Maximum	.090	.070	.110x .076*	.105	.214	.092	.130	.145	.090	.105	.130	.195	.218	.218	.212

*Oval envelope.

ALNICO V PERMANENT MAGNETS

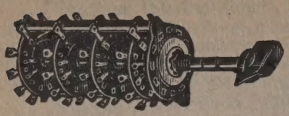
Stock No.	Magnet Type	Dimensions	1-24	25-99	100-999	1000-4999
33F1090	H31-604	1/16x1/16x1/2"	.30	.30	.30	.25
33F1091	H32-605	3/16x3/16x1"	.35	.35	.35	.30
33F1092	H33-606	1/8x1/8x3/4"	.30	.30	.30	.25
33F1093	H34-607	1/4x1/4x1"	.40	.40	.40	.35



MALLORY

Quality Switches

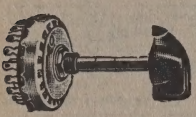
1200L AND 1300L SERIES GANG SWITCHES



Has one fixed, one adjustable stop, silver-plated contacts and phosphor-bronze springs. 3-and 4-gang spaced 1"; all others, ½". 2" notched shaft. Shorting-type make before break. Require 7/16" mtg. hole. With bar knob and mtg. hardware, less mtg. plate. *Has additional "off" position with all circuits open. Wt. av., 8 oz.

SHORTING Stk. No.	SHORTING Type	NON-SHORTING Stk. No.	NON-SHORTING Type	Gangs	Total Poles	Pos. per Pole	1-4	5-9	10-24	25-49	50-99	100-249
22F000	1211L	22F016	1311L	1	1	11	2.65	2.21	1.98	1.87	1.77	1.58
22F001	1215L*	22F017	1315L*	1	2	5	2.65	2.21	1.98	1.87	1.77	1.58
....	.....	22F018	1313L*	1	3	3	2.65	2.21	1.98	1.87	1.77	1.58
22F004	1221L	22F020	1321L	2	1	11	3.24	2.71	2.43	2.30	2.16	1.94
.....	.....	22F021	1325L*	2	2	5	3.24	2.71	2.43	2.30	2.16	1.94
.....	.....	22F023	1322L	2	4	2	3.24	2.71	2.43	2.30	2.16	1.94
.....	.....	22F024	1331L	3	1	11	4.08	3.41	3.06	2.89	2.72	2.45
.....	.....	22F025	1335L*	3	2	5	4.08	3.41	3.06	2.89	2.72	2.45
.....	.....	22F026	1341L	4	1	11	4.80	4.01	3.60	3.41	3.20	2.88
22F011	1245L*	22F027	1345L*	4	2	5	4.80	4.01	3.60	3.41	3.20	2.88
.....	.....	22F028	1351L	5	1	11	5.19	4.33	3.89	3.68	3.45	3.11
22F014	1261L	22F030	1361L	6	1	11	6.10	5.09	4.57	4.33	4.06	3.66

SINGLE GANG SWITCHES



Well-constructed and versatile units for servicing and industrial use. Compact, enclosed switches with 2" notched shaft; 3/8" threaded bushing 3/8" long. With bar knob and nut. All have adjustable stops. For band switching, etc. Use plates listed at right. A volume plate and a 0-100 plate are also available. 1¼" dia. 30°; 1 11/16 dia. 20°. Shpg. wt., 4 oz.

SHORTING Stk. No.	SHORTING Type	NON-SHORTING Stk. No.	NON-SHORTING Type	Poles	Pos.	Base Dia.	1-4	5-9	10-24	25-49	50-99	100-249
22F040	3115J	22F052	3215J	1	5	1¼"	1.29	1.08	.97	.91	.86	.77
22F041	31112J	22F053	32112J	1	12	1¼"	1.29	1.08	.97	.91	.86	.77
22F042	3122J	22F054	3222J	2	2	1¼"	1.29	1.08	.97	.91	.86	.77
22F043	3123J	22F055	3223J	2	3	1¼"	1.29	1.08	.97	.91	.86	.77
22F044	3126J	22F056	3226J	2	6	1¼"	1.29	1.08	.97	.91	.86	.77
22F045	3134J	22F057	3234J	3	4	1¼"	1.33	1.11	1.00	.95	.89	.79
22F046	3142J	22F058	3242J	4	2	1¼"	1.33	1.11	1.00	.95	.89	.79
22F047	3143J	22F059	3243J	4	3	1¼"	1.33	1.11	1.00	.95	.89	.79
22F048	31117J	22F060	32117J	1	17	1 11/16"	1.97	1.64	1.47	1.40	1.31	1.18
.....	.....	22F061	3229J	2	9	1 11/16"	1.97	1.64	1.47	1.40	1.31	1.18
22F050	3136J	22F062	3236J	3	6	1 11/16"	2.08	1.73	1.56	1.47	1.39	1.25
22F051	3163J	22F063	3263J	6	3	1 11/16"	2.08	1.73	1.56	1.47	1.39	1.25

LEVER ACTION SWITCHES

5000 Series elongated mounting holes with mounting centers of 29/32". The 6000 Series have round holes spaced 1 5/8" ctrs. May be mounted singly or grouped with ¾" between lever arm centers. Voltage breakdown rating 500 V AC-DC. Maximum and minimum breaking currents: resistive load, .125A @ 300V DC, 3A@6V DC, .2A@300V AC and 5A@6V AC.

SHORTING Stk. No.	SHORTING Type	NON-SHORTING Stk. No.	NON-SHORTING Type	No. of Poles	No. of Position	1-4	5-9	10-24	25-49	50-99	100-249
22F131	5124	22F134	5224	2	4	1.74	1.45	1.30	1.24	1.16	1.04
22F133	6143	22F136	6243	4	3	1.52	1.26	1.13	1.08	1.01	.90

DIAL PLATES FOR ROTARY SWITCHES

Types 372 to 390 for switches 1200L. 1300L and 1¼" base 3100J, 3200J typs. Others are designed for 1 11/64" base 3100J and 3200J types. All are etched aluminum. Shpt. wt., 1 oz.

PLATES FOR 1¼" BASE SWITCHES 30° SPACING

Stk. No.	Type	Mark
22F150	372	1 to 2
22F151	373	1 to 3
22F152	374	1 to 4
22F153	375	1 to 5
22F154	376	1 to 6
22F155	377	1 to 7
22F156	378	1 to 8
22F157	379	1 to 9
22F158	380	1 to 10
22F159	381	1 to 11
22F160	382	1 to 12
22F161	383	off 1 to 3
22F162	384	off 1 to 4
22F163	385	off 1 to 5
22F164	386	off 1 to 6
22F166	388	off 1 to 8
22F167	389	off 1 to 9
22F168	390	off 1 to 10

NET EACH ..... .20

PLATES FOR 1 11/16" BASE SWITCHES 20° SPACING

Stk. No.	Type	Mark
22F170	454	1 to 4
22F174	458	1 to 8
22F177	461	1 to 11
22F179	467	1 to 17
22F181	474	off 1 to 4
22F184	477	off 1 to 7
22F185	478	off 1 to 8
22F186	479	off 1 to 9

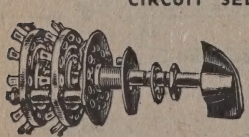
NET EACH ..... .20

22F188. Type 369. 0-100 plate for either type switch. EA. 38

22F190 Type 395. 0-10 plate for standard controls 38

22F292. Type 399. 0-10 for "E" type potentiometers 38

CIRCUIT SELECTOR SWITCHES



Ceramic-section switches with low RF losses. Adjustable stop. 2 gang spaced ½"; 3 gang, 1". With 2" grooved shaft, knob, and hardware. *Has 1 circuit and 11 positions. †Has 2 circuits and 5 positions. ‡Has 3 circuits and 3 positions per gang. # additional "off" pos. Wt. 8 oz.

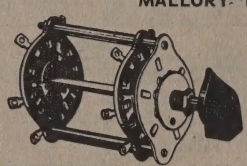
Stk. No.	Types	Gang	1-4	5-9	10-24	25-49	50-99	100-249
22F070	172C	1*	2.99	2.49	2.24	2.12	1.99	1.79
22F071	173C#	1†	2.99	2.49	2.24	2.12	1.99	1.79
22F072	174C#	1‡	2.99	2.49	2.24	2.12	1.99	1.79
22F073	176C#	2*	4.28	3.57	3.21	3.04	2.85	2.57
22F074	177C#	2†	4.28	3.57	3.21	3.04	2.85	2.57
22F075	178C#	2‡	4.28	3.57	3.21	3.04	2.85	2.57
22F077	180C	3*	5.44	4.54	4.08	3.86	3.62	3.26
22F078	181C#	3†	5.44	4.54	4.08	3.86	3.62	3.26

MALLORY DECADE SWITCHES

Use for capacitors or resistors for full decade. 153L for capacitors, 154L for resistors. Phenolic insulation. Mtg. depth behind panel 1". Lateral mtg. space 2". Steel shaft is ¼" dia. x 2" long. Complete with knob and instructions. Wt. 6 oz.

Stk. No.	Type	1-4	5-9	10-24	25-49	50-99	100-249
22F087	153L	3.40	2.84	2.54	2.41	2.26	2.04
22F088	154L	3.71	3.11	2.78	2.64	2.48	2.23

MALLORY "HAMSWITCHES"



Type 151L. 2-Section. 5-position switch. Non-shorting type. For switching meter circuits. 2¼" spacing between sections. Rated at 1000 volts AC or 1500 volts DC, 60° indexing between positions. With knob, nut, washer, Shpg. wt., 6 oz.

Type 13124L. Tap Switch. Single circuit 24-position non-shorting switch. Continuous-rotation. 3/8" bushing. 2" notched shaft. 15° indexing between positions. With bar knob, dial plate and mtg. hardware. Wt., 6 oz.

Type 1400L. Circuit Opening Switch. Opens any one of 12 "lines" for insertion of current reading meter. Maintains circuit on other 11 lines. Resistors can be wired so that switch not only opens line, but also cuts in selected resistor. With bar knob, dial plate, and hardware. Wt., 6 oz.

Stk. No.	Type	1-4	5-9	10-24	25-49	50-99	100-249
22F080	151L	3.48	2.84	2.54	2.41	2.26	2.04
22F085	13124L	3.40	2.91	2.62	2.48	2.33	2.09
22F086	1400L	5.89	4.92	4.42	4.19	3.93	3.54

Control Switches

LINEMASTER FOOT SWITCHES

UNIOR. Momentary contact switch for ghtest pressure contact. Use as Single ole, normally open or closed. Rated 20 mps at 125-250 VAC. Size, 5½x3¼x1¼". hpg. wt. 1 lb.

Stk. No.	Type	1-9	10-19	20-49
24F161	121-S	8.95	8.06	7.16

XECUTIVE. Two switches in one using the eter-totter principle to operate only one rcuit at a time. SPDT. 15 A at 125-250 VAC. 4⅝x1¼". 1¼ lbs.

Stk. No.	Type	1-9	10-19	20-49
24F169	72	8.35	7.52	6.68

UPLEX. Two SPDT switches in double-ressure housing. Light spring for seated peration. May be wired as Single Pole, ormally open or closed. Size, 8½x3½x2". hpg. wt. 1¾ lbs.

Stk. No.	Type	1-9	10-19	20-49
24F166	476S	14.25	12.83	11.40

ECTRO-LOCK. Has mechanical interlock at prevents both circuits from being perative at the same time. SPDT. Can be ired normally open or normally closed. 5 A at 125-250 VAC. 5x2¼x1⅛". 10 oz.

Stk. No.	Type	1-9	10-19	20-49
24F168	L-2-S	6.30	5.67	5.04

LIPPER. Designed for operation under eavy loads. Rated 20 amps at 125-250 VAC. PDT. 4½x3½x1½". Type 632-S has omentary contact, type 632-D has main-ined contact. Shpg. wt. 2¼ lbs.

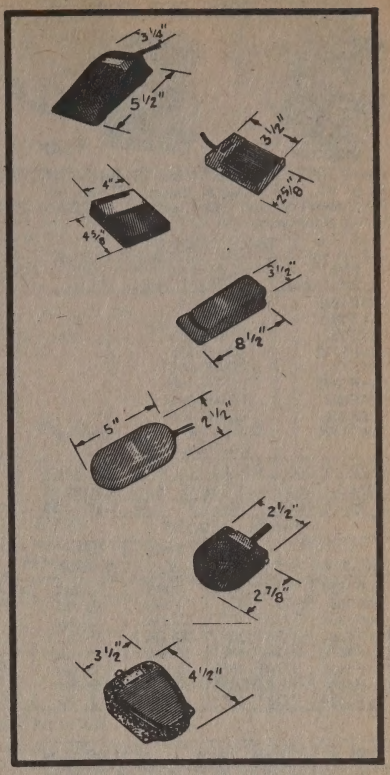
Stk. No.	Type	1-9	10-19	20-49
24F170	632-S	8.75	7.88	7.00
24F171	632-D	11.50	10.35	9.20

TREADLITE. A small yet versatile and rugged foot switch designed to give instantaneous and accurate control at low amperage loads. Less cord and plug set. Rated 7 Amps at 125-250 VAC. 3½x2⅝x1". Shpg. wt. 8 oz.
Model T-51-S. Single pole, double throw, momentary contact only. Can be used normally open or closed as desired.
Model T-51-SC. As above but SP-NO with 2-prong series plug and 6' cord set.
Model T-51-SC3. As above but SP-NO with 3-prong series plug and 6' cord set.
Model T-51-SC36. As above but SP-NO with 6' 18/3 SJ cord. No plug. Green lead grounded.
Model T-51-S1. Replacement interior for T-51-S.
Model T-52-S. Interior constructed so that a partial downward stroke of treadle actuates one interior and either opens or closes a circuit. Continued heavier pressure will open or close a second circuit. Both are SPDT.

Stk. No.	Type	1-9	10-19	20-49
24F163	T-51-S	3.05	2.75	2.44
24F155	T-51-SC	4.55	4.10	3.64
24F156	T-51-SC3	5.90	5.31	4.72
24F180	T-51-SC36	5.30	4.77	4.26
24F175	T-51-S1	.90	.81	.72
24F167	T-52-S	4.95	4.46	3.96

COMPACT. Lightweight SPDT switch, precision made for accurate operation and long life. Steel housing. Skidproof rubber base pad. Rated 10 amps at 125-250 VAC. Wt. 7 oz.
Model 491-S. Less cord and plug.
Model 491-SC. As above but with 2-prong series plug and 6' cord.
Model 491-S1. Replacement interior for above.
Model 491-SC3. As above but with 3-prong series plug and 8' cord.
Model 491-SC36. As above with 6-ft. 18/3 SJ cord. No plug. Green lead grounded.

Stk. No.	Type	1-9	10-19	20-49
24F165	491-S	3.75	3.38	3.00
24F162	491-SC	5.80	5.22	4.64
24F174	491-S1	1.90	1.71	1.52
24F154	491-SC3	6.90	6.21	5.52
24F181	491-SC36	6.45	5.81	5.16



STACKPOLE SWITCHES

SIZE CHART
A 17/32x1 3/8x 9/32"
B 17/32x1 3/8 x1 1/32"
C 17/32x1 5/64x 3/64"
D 17/32x1 5/64x 9/32"
E 17/32x 5/64x1 1/32"

Attractive low-cost AC-DC switches for hundreds of different applications. Mtg. holes are .136-.140" clearance holes. All switches are non-shorting types, break before make. Solder lug terminals designed to accept AMP Faston Series 110 or equiv. U.L. and CSA listed except SS-47 and SS-47-1.

SLIDE SWITCHES

The triggers are made of a high impact resistant molded black phenolic or nylon. 11/32" high. †Push button, momentary contact.

Stock No.	Type	Action	Amps@ 125VAC	Sz.	1-24-	25-49	50-99	100-499	500-999
60F3300	SS-15-1	SPST†	3.0	A	.34	.27	.22	.179	.129
60F3301	SS-26	SPST	4.0	A	.28	.22	.17	.142	.092
60F3302	SS-26-1	SPDT	4.0	A	.29	.23	.18	.144	.094
60F3303	SS-50	DPDT	3.0	B	.30	.24	.19	.158	.108
60F3304	SS-16	DP3T	6.0	C	.40	.32	.26	.212	.162
60F3305	SS-18	DP4T	6.0	C	.44	.35	.28	.233	.183
60F3306	SS-34	3PDT	6.0	C	.55	.44	.35	.287	.237
60F3308	SS-36-1	SPDT	6.0	A	.30	.24	.19	.159	.109
60F3309	SS-31	SP3T	6.0	A	.35	.28	.23	.187	.135
60F3310	SS-33	DPDT	6.0	C	.39	.31	.25	.209	.159
60F3311	SS-38	DP3T	6.0	C	.44	.35	.28	.233	.183
60F3312	SS-47	SPST	10.0	A	.38	.30	.24	.198	.148
60F3313	SS-47-1	SPDT	10.0	A	.41	.33	.26	.214	.164

ROCKER SWITCHES

Rocker knobs of molded Delrin. Approx. 11/16" above switch body. Two bracket configurations: flush (FB) or offset (OB). SPST and SPDT types rated 4 amps @ 125 VAC, DPDT 3 amps.

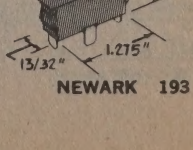
Stock No.	Type & Bracket	Action	Knob Color	Sz.	1-24	25-49	50-99	100-499	500-999
60F3314	RS-26-FB	SPST	Black	A	.48	.38	.30	.25	.198
60F3315	RS-26-FB	SPST	White	A	.53	.42	.33	.27	.209
60F3317	RS-26-OB	SPST	Black	D	.49	.39	.31	.26	.205
60F3318	RS-26-OB	SPST	White	D	.54	.43	.34	.28	.216
60F3320	RS-26-1-FB	SPDT	Black	A	.48	.38	.30	.25	.198
60F3321	RS-26-1-FB	SPDT	White	A	.53	.42	.33	.27	.209
60F3323	RS-26-1-OB	SPDT	Black	D	.49	.39	.31	.26	.205
60F3324	RS-26-1-OB	SPDT	White	D	.54	.43	.34	.28	.216
60F3326	RS-50-FB	DPDT	Black	B	.54	.43	.34	.28	.216
60F3327	RS-50-FB	DPDT	White	B	.50	.40	.32	.27	.216
60F3329	RS-50-OB	DPDT	Black	E	.53	.42	.33	.27	.223
60F3330	RS-50-OB	DPDT	White	E	.60	.48	.38	.30	.234

LEECRAFT ROCK-A-LITE SWITCHES

Ultra-compact lighted rocker switches snap instantly and securely into 1.281x.395" panel opening. Designed to minimize arcing. SPST self-wiping contacts rated 10 amps at 125 VAC. White nylon housing, 1 7/16x1 3/32x 19/16".

Hi-impact transparent plastic, faceted lens in choice of 4 colors. Male .250" tab terminals. 125 and 250 V types have neon lamps with ½-watt series resistors; other types have incandescent lamps.

Lamp Rating	Red Lens Stock No.	Red Lens Type 71-	Green Lens Stock No.	Green Lens Type 71-	Amber Lens Stock No.	Amber Lens Type 71-	White Lens Stock No.	White Lens Type 71-	1-24	25-99	100-249	250-499	500-999
125V, ⅓ W	25F2050	2131T	25F2051	2132T	25F2052	2133T	25F2054	2135T	1.85	1.33	1.15	.98	.89
250V, ⅓ W	25F2060	H-2131T	25F2061	H-2132T	25F2062	H-2133T	25F2064	H-2135T	1.85	1.33	1.15	.98	.89
13V, .20 Amp	25F2055	G1-2131T	25F2056	G1-2132T	25F2057	G1-2133T	35F2059	G1-2135T	1.97	1.45	1.29	1.20	1.07
14V, .08 Amp	25F2065	G3-2131T	25F2066	G3-2132T	25F2067	G3-2133T	25F2069	G3-2135T	1.97	1.45	1.29	1.20	1.07
28V, .04 Amp	25F2070	G5-2131T	25F2071	G5-2132T	25F2072	G5-2133T	25F2074	G5-2135T	1.97	1.45	1.29	1.20	1.07



Industrial Timer Controls

AUTOMATIC RESET TIME DELAY SERIES TDAB AND TDAF

TDAB

TDAF

Have SPDT switches rated 10 amps, 115 V, 60 Hz. TDAF, panel mount. TDAB, behind panel mount. Shpg. wt. 4 lbs. TDAB is UL approved.

BACK MOUNT

Stk. No.	Type
24F1848	TDAB-3S
24F1810	TDAB-6S
24F302	TDAB-15S
24F1849	TDAB-30S
24F1811	TDAB-60S
24F1812	TDAB-15M
24F303	TDAB-30M
24F304	TDAB-60M
24F1871	Type K Steel Housing Enclosure for TDAB

Type	1-3	4-5	6-11	12-24	25-49	50-99
TDAB	43.00	40.85	38.70	36.55	34.40	32.25
K	6.50	6.18	5.85	5.33	5.20	4.88

PANEL MOUNT

Stk. No.	Type	Time Cy.	Calibration
24F1850	TDAF-3S	3 sec	1/20 sec
24F305	TDAF-6S	6 sec	1/10 sec
24F1806	TDAF-15S	15 sec	1/4 sec
24F1807	TDAF-30S	30 sec	1/2 sec
24F1838	TDAF-60S	60 sec	1 sec
24F1808	TDAF-15M	15 min	15 sec
24F1809	TDAF-30M	30 min	30 sec
24F1839	TDAF-60M	60 min	60 sec

Type	1-3	4-5	6-11	12-24	25-49	50-99
TDAF	43.00	40.85	38.70	36.55	34.40	32.25

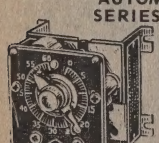
AUTOMATIC RESET SERIES TD AND CTD

Designed for "through the panel" mounting. 3" dia. extra strong bakelite case with terminals at rear. 115V. 60 Hz Wt. 1½ lbs. (*) 3½", (†) 5" depth. UL. recognized C.S.A. approved.

Stock No.	Type No.	Time Cycle	Calibration
24F1851	TD-6S	6 sec	1/10 sec.
24F275	TD15S*	15 sec	1/4 sec.
24F1852	TD-30S*	30 sec	1/2 sec.
24F276	CTD1M†	60 sec	1 sec.
24F277	CTD3M†	3 min	3 sec.
24F278	CTD5M†	5 min	5 sec.

1-3	4-5	6-11	12-24	25-49	50-99
30.50	28.98	27.45	25.93	24.40	22.88

AUTOMATIC RESET SERIES SF AND CSF

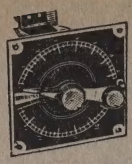


Designed for back of panel or chassis installation. 115V. 60 Hz. 2¾x3⅛x(*)2⅝", 2²⁹/₃₂". UL recognized C.S.A. approved.

Stock No.	Type No.	Time Cycle	Calibration
24F279	SF-6S*	6 sec.	1/10 sec.
24F1853	SF15S*	15 sec.	1/4 sec.
24F1854	SF-30S*	30 sec.	1/2 sec.
24F280	CSF1M†	60 sec.	1 sec.
24F281	CSF-3M†	3 min.	3 sec.
24F282	CSF5M†	5 min.	5 sec.

1-3	4-5	6-11	12-24	25-49	50-99
26.00	24.70	23.40	22.10	20.80	19.50

AUTOMATIC RESET SERIES HAND CH



Designed for panel mounting. Four screws hold timer in place. Terminals at rear. 115V. 60 Hz. 3⁹/₁₆X3⁷/₁₆X (*) 3¹¹/₁₆", (†) 3⅞". UL recognized. C.S.A. approved. Shpg. wt. 1½ lbs.

24F1855	H-6S*	6 sec.	1/10 sec.
24F296	H-15S*	15 sec.	1/4 sec.
24F1856	H-30S*	30 sec.	1/2 sec.
24F297	CH1M†	60 sec.	1 sec.
24F298	CH3M†	3 min.	3 sec.
24F299	CH5M†	5 min.	5 sec.

1-3	4-5	6-11	12-24	25-49	50-99
27.50	26.13	24.75	23.78	22.00	20.63

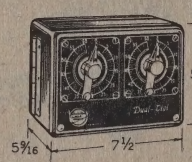
SERIES 90 DELAY TIMERS

Requires little or no field adjustments. No calibrated dial is supplied with it. Time cycle changed by offsetting one cam arm. Contacts are SPDT, 10 amps. rated at 115/60. Dimensions: 2⅝x2¼x2¼". UL recognized and C.S.A. approved. Shpg. wt. 1 lb.

Stk. No.	Type	Time Cycle	Calibration
24F1843	90-6S	6 sec.	1/2 sec.
24F1844	90-15S	15 sec.	1½ sec.
24F1845	90-30S	30 sec.	3 sec.
24F1846	90-60S	60 sec.	6 sec.
24F1847	90-90S	90 sec.	9 sec.

1-3	4-5	6-11	12-24	25-49	50-99
17.00	16.15	15.30	14.45	13.60	12.75

SERIES "DUAL TROL" RECYCLING TIMERS



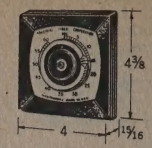
Dual-Trol is a compact recycling timer that continuously closes and opens a SPDT load switch. A complete unit consists of two TM timer modules—one to set the ON interval. Second to set the OFF interval—and a control cabinet. Any two modules from listing below may be used to achieve the desired combination of time cycles. TM modules are complete timing mechanisms, with 4-prong plugs that match receptacles within cabinet, for easy installation. Isolated SPDT load switch connects to terminal strip within cabinet; switch is rated 10A non-inductive at 115 VAC. 115 VAC/60 hz. 5⅛x5⁹/₁₆x7½" Wt. 2 lbs.

TIMING ELEMENTS (2 REQUIRED)

Stock No.	Type	Max. Time	Min. Time
24F1860	TM-6S	6 sec.	1/10 sec.
24F1861	TM-15S	15 sec.	1/4 sec.
24F1862	TM-30S	30 sec.	1/2 sec.
24F1863	TM-60S	60 sec.	1 sec.
24F1864	TM-3M	3 min.	3 sec.
24F1865	TM-5M	5 min.	5 sec.
24F1866	TM-15M	15 min.	15 sec.
24F1867	TM-30M	30 min.	30 sec.
24F1868	TM-60M	60 min.	1 min.
24F1869	TM-3H	3 hours	3 min.
24F1870	Control Cabinet		

Type	1-3	4-5	6-11	12-24	25-49
TM	27.50	26.13	24.75	23.38	22.00
24F1870	43.50	41.33	39.15	36.98	34.80

New Series MPB Automatic Reset Interval Timer Panel Mount



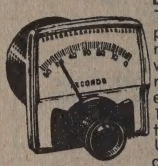
The Series MPB is an automatic reset, push-button operated interval timer. The MPB features an attractive bezel framed dial with time selector ring and start button combined into a single assembly. Time interval indication is viewed by a moving white pointer located within the selector ring. Repeat accuracy is ±½ of 1% of full scale with a reset time of ½ second at maximum dial setting. **Mounting:** Mounted through a 3½" diameter hole and is secured to the panel with four screws. **Electrical Specifications: Load switch rating:** SPDT snap action, 15 amp. non-inductive at 125/250 VAC. **Motor Voltage:** 120 v, 60 Hz. **Terminations:** ¼" push-on terminals. **Dimensions:** 4" L x 2-¹⁵/₃₂" D x 4-⅜" H. **Shipping Weight** 3 lbs.

TIME CYCLES and PRICES

Stk. No.	Model	Min. Setting	Max. Setting	Key
24F1756	MPB-60S	1 sec.	60 sec.	A
24F1757	MPB-5M	5 sec.	5 min.	B
24F1758	MPB-15M	15 sec.	15 min.	B
24F1759	MPB-60M	1 min.	60 min.	B
24F1760	MPB-3H	3 min.	3 hours	B

Key	1-3	4-5	6-11	12-24	25-49	50-99
A	17.50	16.63	15.75	14.88	14.00	13.13
B	19.50	18.53	17.55	16.58	15.60	14.63

AUTOMATIC RESET TIME DELAY TIMER MTD.

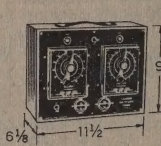


Timing cycle begins when power is applied to timer, motor; contacts transfer when progress indicator reaches zero point on timer dial. Operates from 115V, 60 Hz. SPDT contacts rated 10A/115V. Underwriters lab recognized.

Stock No.	Model No.	Max. Setting	Min. Setting
62F2036	MTD-15S	15 sec.	1/4 sec.
62F2037	MTD-60S	60 sec.	1 sec.
62F2038	MTD-5M	5 min.	5 sec.
62F2039	MTD-60M	60 min.	1 min.

1-3	4-5	6-11	12-24	25-49	50-99
39.50	37.53	35.55	33.57	31.60	29.63

TANDEM RECYCLING TIMER



Type A. Provides 2 adjustable and continuous time cycles. Controls: load control switch, pilot lamps, and male load plugs. Load circuit carried by SPDT relay, contact rating: 15 amps AC non-inductive.

Type B. Similar to Type A but designed for built-in tamper-proof applications. Load control switch located inside cabinet. 9x11x6". 11 lbs.

TIMING ELEMENT (2 REQUIRED)

Stock No.	Type	Max. Time	Dial Calib.
24F1840	ET-3S	3 sec.	1/20 sec.
24F286	ET-6S	6 sec.	1/10 sec.
24F287	ET-15S	15 sec.	1/4 sec.
24F288	ET-30S	30 sec.	1/2 sec.
24F289	ET-60S	60 sec.	1 sec.
24F290	ET-3M	3 min.	3 sec.
24F291	ET-5M	5 min.	5 sec.
24F292	ET-15M	15 min.	15 sec.
24F293	ET-30M	30 min.	30 sec.
24F294	ET-60M	60 min.	60 sec.
24F295	ET-3M	3 hours	3 min.
24F285	Type A control unit		
24F1826	Type B control unit		

Type	1-3	4-5	6-11	12-24	25-49
ET	44.00	41.80	39.60	37.40	35.20
A or B	75.00	71.25	63.75	63.75	60.00

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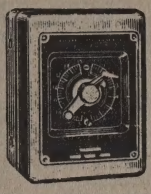
Industrial Timer Controls

INDUSTRIAL TIMER
A UNIT OF ESTERLINE CORPORATION

applications where dependable one- timers are required. Feature posi- adjustments automatic reset. These s are all manufactured to high stan- s of quality and will stand up under usage. Heavy-duty synchronous mo- operate on 115 volts-60 hz. Type and Type P contacts rated at 15 s non-inductive load, all others 10 s.

INSTANTANEOUS RESET PAB

igned for process rol where longevi- nd trouble-free op- ion is essential. tures automatic t. In steel enclo- e, 7⅛ x 5⅛ x 4¼". ½" knockouts for access to inter- terminal strip. g. wt., 6 lbs.



ock o.	Type No.	Time Cycle	Calibration
283	PAB6S	6 sec.	1/10 second
1872	PAB15S	15 sec.	¼ second
1800	PAB30S	30 sec.	½ second
1801	PAB60S	60 sec.	1 second
1802	PAB3M	3 min.	3 seconds
1803	PAB15M	15 min.	15 seconds
1804	PAB30M	30 min.	30 seconds
1873	PAB60M	60 min.	60 seconds
1805	PAB3H	3 hr.	3 minutes

1-3	4-5	6-11	12-24	25-49	50-99
55.00	52.25	49.50	46.75	44.00	41.25

ECONOMY SERIES P

-cost timing units plete with AC cord, built-in ac- ng start button two receptacles side of case for and remote con circuits. 5 x 5 x . Shpg. wt., 3

ock o.	Type No.	Time Cycle	Calibration
269	P4R	15 sec.	¼ second
1813	P2R	30 sec.	½ second *
256	P1M	60 sec.	1 second
274	P3M	3 min.	3 seconds
257	P5M	5 min.	5 seconds

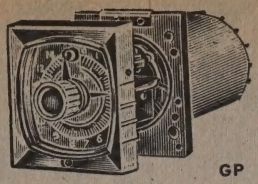
1-3	4-5	6-11	12-24	25-49	50-99
39.00	37.05	35.10	33.15	31.20	29.25

MANUAL RESET SERIES—"S"

ual reset signal- timers are de- ed to command al and audible at- on when a time rval is completed. ets on side of ti- provide for ection of addi- al lights, alarms controlled circuits 60 hz operation. 3¹⁵⁄₁₆". Wt., 3 lbs.

ock lo.	Type No.	Time Cycle	Calibration
1836	S-1M	1 min.	1 second
1837	S-5M	5 min.	5 seconds
1814	S-15M	15 min.	15 seconds
1815	S-30M	30 min.	30 seconds
266	S-1H	1 hr.	1 minute
267	S-3H	3 hrs.	3 minutes

1-3	4-5	6-11	12-24	25-49	50-99
29.00	27.55	26.10	24.65	23.20	21.75



GP

Series PC

SC-100

SERIES GP PLUG-IN AUTOMATIC RESET DELAY/INTERNAL TIMER WITH SPIDER CLUTCH

The GP is an automatic reset, synchronous motor driven plug-in timing control and is completely interchangeable with all popular plug-in timers. In its primary function the timer provides two delayed sets of contacts and two sets of instantaneous contacts with rating of 10 amps. Non-inductive at 125/250 VAC. The patented Spider Clutch is a new and unique concept that incorporates the high accuracy of infinite engagement clutches with the mechanical integrity of toothed clutches. Accuracy ¼ of 1%. Reset time — less than ½ sec. for full scale. For 120 VAC 60 Hz. Wt. 2 lb.7oz.

Stock No.	Type	Max. Time Cyc.	Dial Cal.	1-3	4-5	6-11	12-24
62F1990	GP-6S	6 sec.	1/10 sec.				
62F1991	GP-15S	15 sec.	¼ sec.				
62F1992	GP-30S	30 sec.	½ sec.				
62F1993	GP-60S	60 sec.	1 sec.				
62F1994	GP-3M	3 min.	3 sec.	46.50	44.17	41.85	39.52
62F1995	GP-5M	5 min.	5 sec.				
62F1996	GP-15M	15 min.	15 sec.				
62F1997	GP-30M	30 min.	30 sec.				
62F1998	GP-60M	60 min.	60 sec.				
62F1999	GP-3H	3 hrs.	180 sec.				

PERCENTAGE TIMERS

Series PC. Calibrated in percentage of a given time delay. Designed to close an electrical circuit within any desired percentage of rated time cycle for timer. Knob for setting of "on" time from 3% to 97%, with 100% position for continuous circuit operation. Cam operated snap switch rated at 15 amps. 3⅞ dia. x 4 1⁵⁄₁₆ deep. 115V., AC. 60 hz. 12 oz.

Stock No.	Type	Time Cycle	1-3	4-5	6-11	12-24	25-49	50-99
24F243	PC-15S	15 seconds						
24F244	PC-30S	30 seconds	31.00	29.45	27.90	26.35	24.80	23.25
24F245	PC-60S	60 seconds						

ELECTRIC STOP-CLOCK

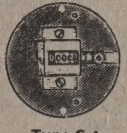
Model SC-100. Provides functions of mechanical stopwatch with advantage of electrical control. Measures intervals from .01 to 60 seconds; ideal for research, time-and-motion study, sporting events. Remote-control provision permits start/stop with push-button on cord, etc.; reset with button unit or remotely with a series switch. Compound dial has 2 pointers measuring 1-60 sec in 1-sec increments and .01-1 sec. in .01 sec increments respectively. Synchronous motor, automatic wear compensation. 115V 60 hz AC only. 5x5x4 25/32". Shpg. wt. 5 lbs.

Stock No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
24F300	SC-100	68.50	65.08	61.65	58.23	54.80	51.38

ELAPSED TIME METERS

Provide exact record of operating hours of AC machines and appliances. Long-life synchronous self-lubricating motors, connected to counters. Series C-2A enclosed in a 3½" bakelite meter case; requires a 2 7/8" diameter hole in panel for mounting. Series C-5 is resettable to zero, has a ¾" square flange and requires a 2¾" diameter mounting hole. Series C-4 open type 2½" round flange. 2" diam. mtg. holes. All 115 V 60 hz except C-2* which is 230 volts. Shpg. wt., 1 lb. Max. no. of minutes.

Type C-2



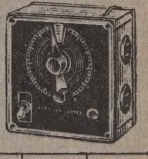
Type C-4

Type C-5

Stk. No.	Type	Max. Hrs.	Calib.	1-3	4-5	6-11	12-24	25-49	50-99
55F670	C-2	10,000	1/10 hr	20.00	19.00	18.00	17.00	16.00	15.00
55F671	C-2*	10,000	1/10 hr.	22.50	21.38	20.25	19.13	18.00	16.88
55F680	C-5	10,000	1/10 hr.	42.50	40.38	38.25	36.13	34.00	31.88
24F1816	C-2-A	100,000	1 hr.	20.00	19.00	18.00	17.00	16.00	15.00
24F1817	C-4	10,000	1/10 hr.	16.50	15.68	14.85	14.03	13.20	12.38
24F1841	C-2-F	100,000	1 min.	20.00	19.00	18.00	17.00	16.00	15.00

SIGNALLING TIMER—AUTOMATIC RESET SERIES SAR

Provides an audible signal at the end of a pre-set time cycle. Load receptacles are provided on the side of the case for either a load to be operated during the time cycle or at the end of the time cycle. Toggle switch on front of unit. SPDT switching action. SPDT contacts rated at 10 amps. 115 volt 60 hz. Shipping weight: 3 lbs.



Stock No.	Type	Time Cycle	Calibration*	1-3	4-5	6-11	12-24	25-49	50-99
24F343	SAR-1M	1 min.	1 sec.						
24F344	SAR-5M	5 min.	5 sec.						
24F345	SAR-15M	15 min.	15 sec.	43.50	41.33	39.15	36.97	34.80	32.63
24F346	SAR-30M	30 min.	30 sec.						
24F347	SAR-1H	1 hr.	1 min.						
24F348	SAR-3H	3 hr.	3 min.						

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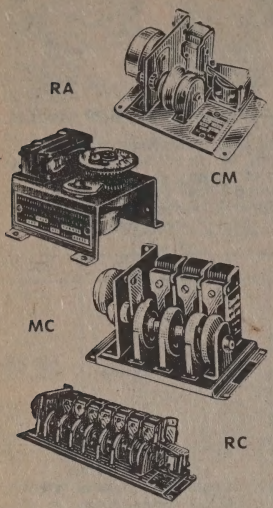
INDUSTRIAL TIMER
A UNIT OF ESTERLINE CORPORATION

Industrial Timer Controls

HOW TO ORDER CAM TIMERS

Locate desired time cycle duration in "Gear Assemblies" chart below, order gear-and-rack assembly listed in left-hand column. Appropiate foundation (motor-switch) units appear at top of "Time Cycle" columns. Example: 4 circuits are to be controlled, with a 30-second time cycle, recyling. Order gear-and-rack assembly. A12, stk. no. 24F315, and note that foundation unit MC2 is required. At bottom of page, locate MC2 under heading "4 SWITCH CHASSIS". Order stk. no. 62F2010. U/L & CSA approved.



GEAR ASSEMBLIES—TOTAL TIME CYCLE*

Stock No.	Mfrs. Type	CMO RCO MCO	MCI CMI RCI	CM2 MC2 RC2	CM3 MC3 RC3	CM4 MC4 RC4	CM5 RC5 MC5	CM6 MC6 RC6	CM7 MC7 RC7	CM8 MC8 RC8	CM9 MC9 RC9	CM10 MC10 RC10	CM12 MC12 RC12	NET
24F306	E12	40c	4S	10S	20S	40S	2M	3M20S	10M	20M	40M	2H	8H	
24F307	E15	50c	5S	12.5S	25S	50S	2M30S	4M10S	12M30S	25M	50M	2H30M	10H	
24F308	C12	1S	6S	15S	30S	60S	3M	5M	15M	30M	60M	3H	12H	
24F309	C14	70c	7S	17.5S	35S	70S	3M30S	5M50S	17M30S	35M	70M	3H30M	14H	
24F310	C15	75c	7.5S	18.75S	37.5S	75S	3M45S	6M15S	18M45S	37M30S	75M	3H45M	15H	
24F311	B12	80c	8S	20S	40S	80S	4M	6M40S	20M	40M	80M	4H	16H	
24F312	C18	90c	9S	22.5S	45S	90S	4M30S	7M30S	22M30S	45M	90M	4H30M	18H	
24F313	B15	100c	10S	25S	50S	100S	5M	8M20S	25M	50M	100M	5H	20H	
24F314	C22	110c	11S	27.5S	55S	110S	5M30S	9M10S	27M30S	55M	110M	5H30M	22H	
24F315	A12	2S	12S	30S	60S	2M	6M	10M	30M	60M	2H	6H	24H	
24F316	C26	2S10c	13S	32.5S	65S	130S	6M30S	10M50S	32M30S	65M	2H10M	6H30M	26H	
24F317	A14	2S20c	14S	35S	70S	140S	7M	11M40S	35M	70M	2H20M	7H	28H	
24F318	A15	2S30c	15S	37.5S	75S	150S	12M30S	12M30S	37M30S	75M	2H30M	7H30M	30H	1.75
24F319	A16	2S40c	16S	40S	80S	160S	8M	13M20S	40M	80M	2H40M	8H	32H	
24F320	C34	2S50c	17S	42.5S	85S	170S	8M30S	14M10S	42M30S	85M	2H50M	8H30M	34H	
24F321	A18	3S	18S	45S	90S	3M	9M	15M	45M	90M	3H	9H	36H	
24F322	A20	3S20c	20S	50S	100S	200S	10M	16M40S	50M	100M	3H20M	10H	40H	
24F323	A22	3S40c	22S	55S	110S	220S	11M	18M20S	55M	110M	3H40M	11H	44H	
24F324	A24	4S	24S	60S	2M	4M	12M	20M	60M	2H	4H	12H	48H	
24F325	A26	4S20c	26S	65S	130S	260S	13M	21M40S	65M	2H10M	4H20M	13H	52H	
24F326	A28	4S40c	28S	70S	140S	280S	14M	23M20S	70M	2H20M	4H40M	14H	56H	
24F327	A30	5S	30S	75S	150S	5M	15M	25M	75M	2H30M	5H	15H	60H	
24F328	A32	5S20c	32S	80S	160S	320S	16M	26M40S	80M	2H40M	5H20M	16H	64H	
24F329	A34	5S40c	34S	85S	170S	340S	17M	28M20S	85M	2H50M	5H40M	17H	68H	
24F330	A36	6S	36S	90S	3M	6M	18M	30M	90M	3H	6H	18H	72H	

* C=cycles (refers to 60 cps current; e.g. 50 c=⅚ sec), S=seconds, M=minutes, H=hours.

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SERIES RA SINGLE-CAM SINGLE-CYCLE TIMER

Performs a single electrical cycle upon momentary actuation from a remote position. 115V 60 Hz. Order with any gear assembly (above) for time cycles from 2 to 18 minutes. Wt., 1 lb.

Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
62F2000	RA5	28.75	27.31	25.87	24.43	23.00	21.57

SERIES CM SINGLE-CAM RECYCLING TIMER

Snap action totally-enclosed, dustproof SPDT switch. Rated 10A-115V, 10A-220V, non-inductive AC, Cam and gear train interchangeable for longer or shorter time cycle, attach to motor chassis by single 6-32 screw. Can be set so switch is actuated from 2% to 98% of total time cycle; each cycle automatically repeats until power is turned off. 3 1/16 x 2 13/16 x 2 1/4". 115 volts 60 Hz operation. Order motor switch chassis covering required time range, and gear asemblies for specific time cycles. Wt., 1 lb.

Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
24F1827	CM0	24F1829	CM3	24F252	CM6	24F1820	CM9	18.75	17.81	16.88	15.94	15.00	14.06
24F1828	CM1	24F250	CM4	24F1819	CM7	24F254	CM10						
24F268	CM2	24F251	CM5	24F253	CM8	24F255	CM12						

SERIES MC MULTI-CAM RECYCLING TIMER

Recycling type identical in operation to CM timer but with multiple cams to operate more than one switch. The cams are mounted on a single driving shaft, coupled to the motor by a gear and rack assembly (see gear assembly chart above). Cams can be adjusted in any combination of timed sequences. Each cam is individually adjustable from 2 to 98% of the total time cycle. Order Motor-Switch chassis plus any gear assembly to achieve required time cycle. For 115 v.-60 Hz.

SERIES RC SINGLE CYCLE MULTI-CAM TIMER

Similar to MC series, except operates one cycle only. See "How to Order," above. For 115VAC, 60 Hz.

2 SWITCH CHASSIS

Stk. No	Type	Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
62F2001	MC0	62F2052	MC6						
62F2050	MC1	62F2053	MC7						
62F2002	MC2	62F2054	MC8						
62F2051	MC3	62F2055	MC9	33.75	32.06	30.37	28.69	27.00	25.51
62F2005	MC4	62F2056	MC10						
62F2006	MC5	62F2057	MC12						
62F2003	RC0	62F2061	RC6						
62F2004	RC1	62F2062	RC7						
62F2007	RC2	62F2008	RC8						
62F2058	RC3	62F2063	RC9	48.75	46.31	43.87	41.44	39.00	36.56
62F2059	RC4	62F2064	RC10						
62F2060	RC5	62F2065	RC12						

4 SWITCH CHASSIS

Stk. No	Type	Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
.....	.....	62F2068	MC6						
.....	.....	62F2069	MC7						
62F2010	MC2	62F2070	MC8						
62F2067	MC3	62F2071	MC9	50.75	48.21	45.67	43.14	40.60	38.06
62F2013	MC4	62F2072	MC10						
62F2014	MC5	62F2073	MC12						
.....	.....	62F2077	RC6						
.....	.....	62F2078	RC7						
62F2015	RC2	62F2016	RC8						
62F2074	RC3	62F2079	RC9	66.25	62.94	59.63	56.31	53.00	49.69
62F2075	RC4	62F2080	RC10						
62F2076	RC5	62F2081	RC12						

6 SWITCH CHASSIS

Stk. No	Type	Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
.....	.....	62F2084	MC6						
.....	.....	62F2085	MC7						
62F2018	MC2	62F2086	MC8						
62F2083	MC3	62F2087	MC9	67.25	63.89	60.53	57.17	53.80	50.44
62F2021	MC4	62F2088	MC10						
62F2022	MC5	62F2089	MC12						
.....	.....	62F2093	RC6						
.....	.....	62F2094	RC7						
62F2023	RC2	62F2024	RC8						
62F2090	RC3	62F2095	RC9	83.75	79.56	75.38	71.19	67.00	62.81
62F2091	RC4	62F2096	RC10						
62F2092	RC5	62F2097	RC12						

8 SWITCH CHASSIS

Stk. No	Type	Stk. No.	Type	1-3	4-5	6-11	12-24	25-49	50-99
.....	.....	62F2100	MC6						
.....	.....	62F2101	MC7						
62F2026	MC2	62F2102	MC8						
62F2099	MC3	62F2103	MC9	84.25	80.04	75.82	71.61	67.40	69.19
62F2029	MC4	62F2104	MC10						
62F2030	MC5	62F2105	MC12						
.....	.....	62F2109	RC6						
.....	.....	62F2031	RC7						
62F2110	RC2	62F2032	RC8						
62F2106	RC3	62F2111	RC9	100.25	95.24	90.23	85.21	80.20	65.16
62F2107	RC4	62F2112	RC10						
62F2108	RC5	62F2113	RC12						

4 SWITCH CHASSIS

62F2009	MCO	86.25	81.94	77.63	73.31	69.00	64.69
62F2066	MCI	88.25	83.84	79.43	75.01	70.60	66.19
62F2011	RCO	101.75	96.66	91.58	86.49	81.40	76.31
62F2012	RCI	103.75	98.56	93.38	88.19	83.00	77.81

6 SWITCH CHASSIS

62F2017	MCO	102.75	97.61	92.18	87.34	82.20	77.06
62F2082	MCI	104.75	99.51	94.28	89.04	83.80	78.56
62F2019	RCO	119.25	113.29	107.33	101.36	95.40	89.44
62F2020	RCI	121.25	116.19	109.13	103.06	97.00	90.94

8 SWITCH CHASSIS

62F2025	MCO	119.75	113.76	108.78	101.79	95.80	89.81
62F2098	MCI	121.75	115.66	109.58	103.49	97.40	91.31
62F2027	RCO	135.75	128.96	122.18	115.39	108.60	101.81
62F2028	RCI	137.75	130.86	123.98	117.09	110.20	103.31

Timers and Time Delays

635 AND 636 ELAPSED TIME INDICATORS

Type 635. Compact, non-resettable indicators with 1" diameter number wheels for excellent readability. Quick stop and start induction motor. Six-digit register. **Type 636.** Similar to 635, but has unique pushbutton reset with no danger of overshoot; 5-digit register. For 115 VAC, 60 Hz. Case Styles: E has 3½" round bezel; S has 3½" square bezel; G is utility type with 2½" round bezel; X is 2½" round bezel; Y, 2½" square bezel; K, utility type with 2½" square bezel. 3½" units mount in 2.82" dia. panel cutout; 2½" units mount in 2.22" cutout.

TYPE 635 SIX-DIGIT

Stock No.	Type	Case Style	Total Count	1-9	10-24	25-49	50-99
55F4396	10052	E	999,999 minutes				
55F4397	10053	E	99,999.9 minutes				
55F4398	10054	E	999,999 hours				
55F4399	10055	E	99,999.9 hours	17.00	15.30	13.60	12.92
55F3140	10060	S	999,999 minutes				
55F3141	10061	S	99,999.9 minutes				
55F3142	10062	S	999,999 hours				
55F3143	10063	S	99,999.9 hours				
55F3145	10068	G	999,999 minutes				
55F3146	10069	G	99,999.9 minutes	10.75	9.68	8.60	8.17
55F3147	10070	G	999,999 hours				
55F3148	10071	G	99,999.9 hours				
55F3802	10183	K	999,999 minutes				
55F3803	10184	K	99,999.9 minutes	11.75	10.58	9.40	8.93
55F3804	10185	K	999,999 hours				
55F3805	10186	K	99,999.9 hours				
55F3198	10065	X	99,999.9 minutes				
55F3199	10066	X	999,999 hours				
55F4392	10056	Y	999,999 minutes	17.00	15.30	13.60	12.92
55F4393	10057	Y	99,999.9 minutes				
55F4394	10058	Y	999,999 hours				
55F4395	10059	Y	99,999.9 hours				

TYPE 636 FIVE-DIGIT

55F4444	10072	X	9,999.9 seconds				
55F4447	10074	X	9,999.9 minutes				
55F4450	10075	X	9,999.9 hours				
55F4460	10076	E	9,999.9 seconds				
55F4463	10078	E	9,999.9 minutes				
55F4466	10079	E	9,999.9 hours	28.25	25.43	22.60	21.47
55F4452	10080	Y	9,999.9 seconds				
55F4455	10082	Y	9,999.9 minutes				
55F4458	10083	Y	9,999.9 hours				
55F4468	10084	S	9,999.9 seconds				
55F4471	10086	S	9,999.9 minutes				
55F4474	10087	S	9,999.9 hours				

TYPE 241 AUTOMATIC RESET INTERVAL TIMER

Start button integral with setting knob turns on load and starts timer. SPDT contacts rated 15 amps at 115 VAC, 60 Hz; 10 amps at 250V, non-inductive. Repeat accuracy: ±0.25% except 15 second time range ±0.5%. Three-hole mounting on 1.687" radius. Silver-cadmium oxide snap-action load contacts. High visibility dial with 300° scale. 115 VAC.

Stk. No.	Type	Time Range	Calibration	1-9	10-24	25-49
55F351	10000	60 seconds	1 second			
55F3800	10001	5 minutes	5 seconds			
55F352	10002	15 minutes	15 seconds			
55F378	20001	30 minutes	30 seconds	33.50	30.15	26.80
55F353	10003	60 minutes	1 minute			
55F3801	10004	5 hours	5 minutes			
55F4476	10005	24 hours	30 minutes			

TYPE 691-E-A ELECTRIC STOP CLOCKS

Precision totalizer or stop clock. Measures elapsed time to an accuracy of .02 second. Safety switch prevents damage when resetting pointer while still timing. 115 VAC, 60 Hz clutch and motor. Power consumption: motor 3 watts, clutch 7.5 watts, reset 25 watts. Reset solenoid duty cycle: 20% on, 80% off, max. 5 seconds on. Size: 3 11/32" x 3 11/32" square; dia. behind bezel, 3.062"; depth behind dial with AC motor, 4 7/32".

Stk. No.	Type	Time Range	1-9	10-24	25-49
55F369	10092	60 seconds	85.00	76.50	68.00
55F5661	10093	60 minutes	85.00	76.50	68.00

402

RESET AND CYCLE TIMERS

360

561

SERIES 402 PLUG-IN RESET TIMER WITH PILOT LIGHT

Accurate, adjustable interval or timing delay between operation of a control circuit and closing of load circuits. Repeat accuracy: ±0.4%. Motor voltage: 115 VAC, 60 Hz. Power input: motor 3.0 watts, clutch 5 watts. Snap-action SPDT switches rated 10 amps res. Size, 3⅞" sq. x 4 9/32" deep.

Stock No.	Type	Time Range	1-24	25-49
35F3806	10006	6 seconds		
35F3807	20002	15 seconds		
35F3808	10007	30 seconds		
35F3809	10008	60 seconds	48.50	43.65
35F3810	10009	5 minutes		
35F3811	10010	60 minutes		
35F3812	10011	5 hours		

SERIES 360 LOW-COST RESET TIMER

Adjusts easily by moving arm around notched dial. Interval or delay timing, without external relay. Slip clutch. Repeat accuracy: ±0.75%. Motor voltage: 115 VAC, 60 Hz. SPDT switches rated 10 amps res. Size, 3.312 x 2.750 x 2 11/16".

35F3813	10175	5.5 seconds		
35F3814	10176	15 seconds	18.00	16.20
35F3815	10177	60 seconds		
35F3816	10178	5.25 minutes		

SERIES 561 PERCENTAGE CYCLE TIMER

Fully adjustable, continuous repeating. On or off time may be set at any portion of total cycle between 4% and 96%. Repeat accuracy within 1%. Load switch rated 20 amps at 115/220 VAC, resistive, 50/60 Hz. 3.750" dia. x 3.093" behind panel.

Stk. No.	Type	Time Range	1-9	10-24	25-49
35F3817	10179	15 seconds			
35F3818	10180	30 seconds	27.75	24.98	22.20
35F3819	10181	60 seconds			
35F3820	10182	5 minutes			

SERIES 3800 SOLID STATE TIME DELAY RELAYS

Compact, adjustable timer plugs into octal socket. Solid state timing circuit activates DPDT relay output contacts at end of set time, resets when control power is removed. Repeat accuracy: within 2%. Recycle time: 150 msec nom. Contacts: 10A with resistive load. 115 VAC, 50/60 Hz.

Stk. No.	Type	Time Range	1-9	10-24	25-49
35F3821	10097	1 second			
35F3822	10098	10 seconds			
35F3823	10099	30 seconds	24.00	21.60	19.20
35F3824	10100	60 seconds			
35F3825	10101	5 minutes			

SERIES 3801 SOLID STATE INTERVAL TIMER

Provides control of load during timed interval. Application of momentary start signal transfers load contacts and initiates timing. Contacts retransfer and timer resets automatically at end of set time. 11-pin plug-in base. Repeat accuracy within 2%. Recycle: 50 msec nom. DPDT contacts; 10 amps resis. 115 VAC, 50/60 Hz.

35F3826	10194	1 second			
35F3827	10195	10 seconds			
35F3828	10196	30 seconds	28.00	25.20	22.40
35F3829	10197	60 seconds			
35F3830	10198	5 minutes			

SERIES 3810 SOLID STATE TIME DELAY RELAY

Bracket mount, low-cost delay relay. Sustained control signal initiates timing; contacts transfer at end of delay and timer resets upon removal of control voltage. Repeat accuracy: ±4%. Recycle time: 150 msec nom. DPDT contacts rated 10 amps resis. 3.312x2.750x2.125". 115 VAC, 50/60 Hz.

Stk. No.	Type	Time Range	1-9	10-24
55F1900	10102	1 second		
55F1901	10103	10 seconds		
55F1902	10104	30 seconds	24.00	21.60
55F1903	10105	60 seconds		
55F1904	10106	5 minutes		

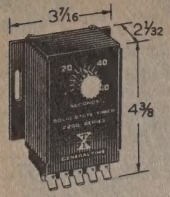
SERIES 3811 SOLID STATE INTERVAL TIMER

Bracket mount. Provides control of load during timed interval. Application of momentary start signal transfers load contacts and initiates timing. Repeat accuracy within 4%. Recycle: 50 msec nom. DPDT contacts, 10 amps res. For 115 VAC, 50/60 Hz.

35F3831	10199	1 second		
35F3832	10200	10 seconds		
35F3833	10201	30 seconds	28.00	25.20
35F3834	10202	60 seconds		
35F3835	10203	5 minutes		

9

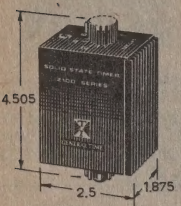
SOLID STATE TIMERS



Eleven time ranges. Isolated outputs. AC or DC inputs. −10°C to +55°C. No first cycle effect. UL/CSA recognized. Repeat Acc: ±2% of set point under constant volt./temp; under 1 sec, ±20 msec.

HOW TO ORDER

SPECIFY SERIES: Series 2111 Plug-in or Series 2211 Rear Mount. Delay Mode Timer. Delay starts when voltage is applied. At end of delay, integral relay energizes. Removal of input voltage de-energizes relay, resets timer.



SERIES 2112 Plug-in or Series 2212 Rear Mount. Interval or D.O.D. Mode Timer. Input voltage supplied to timer always with interval mode. On closure of switch, integral relay energizes load for time period selected. At end of period relay de-energizes, load removed from line. In D.O.D. mode on closure of switch output relay energizes. Timing period begins when control switch is opened. At end of time interval, relay de-energizes.

Add Input Suffix: Suffix-1P for 117 VAC/DC, 50/60 Hz, 3.5 W max; e.g., 2111-1P.

Add Output Suffix: e.g., 2112-1P-F.

Suffix	Type	Volts	Amps & Load	Contacts
—F	With Relay	117 VAC	10 A resistive; 5 A induct.	DPDT
		117 VAC	2.5 A resistive	
		28 VDC	10 amps resistive	

ADD TIME RANGE (FINAL) SUFFIX: e.g. 2112-PF-118. Minimum reset time, 300 msec for lower third of time bank on Type 2111: 100 msec, all others.

Suffix	Time Setting		Suffix	Time Setting	
	Max.	Min.		Max.	Min.
—001	1 sec.	.10 sec.	—060	60 sec.	3.0 sec.
—003	3 sec.	.15 sec.	—118	3 min.	9.0 sec.
—005	5 sec.	.25 sec.	—130	5 min.	15.0 sec.
—010	10 sec.	.50 sec.	—160	10 min.	60 sec.
—015	15 sec.	.75 sec.	—190	15 min.	90 sec.
—030	30 sec.	1.50 sec.			

SERIES 2111-1PF—Relay output, 117V AC/DC, 8-pin plug.

Stock No.	Time Range Suffix	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
54F250	—001	22.95	22.35	21.80	20.65	18.35	17.20
54F251	—003	22.95	22.35	21.80	20.65	18.35	17.20
54F252	—005	22.95	22.35	21.80	20.65	18.35	17.20
54F253	—010	22.95	22.35	21.80	20.65	18.35	17.20
54F254	—015	22.95	22.35	21.80	20.65	18.35	17.20
54F255	—030	22.95	22.35	21.80	20.65	18.35	17.20
54F256	—060	22.95	22.35	21.80	20.65	18.35	17.20
54F257	—118	22.95	22.35	21.80	20.65	18.35	17.20
54F258	—130	23.95	23.25	22.65	21.45	19.15	17.95
54F259	—160	28.95	28.30	27.70	26.25	23.55	22.40
54F260	—190	30.50	29.80	29.05	27.60	25.00	23.55

SERIES 2112-1PF—Relay output, 117V AC/DC, 11-pin plug.

54F262	—001	26.95	26.20	25.60	24.25	21.55	20.00
54F263	—003	26.95	26.20	25.60	24.25	21.55	20.00
54F264	—005	26.95	26.20	25.60	24.25	21.55	20.00
54F265	—010	26.95	26.20	25.60	24.25	21.55	20.00
54F266	—015	26.95	26.20	25.60	24.25	21.55	20.00
54F267	—030	26.95	26.20	25.60	24.25	21.55	20.00
54F268	—060	26.95	26.20	25.60	24.25	21.55	20.00
54F269	—118	26.95	26.20	25.60	24.25	21.55	20.00
54F270	—130	27.95	27.10	26.45	25.05	22.35	20.75
54F271	—160	33.35	32.30	31.45	29.85	26.95	25.15
54F272	—190	34.90	33.75	32.80	31.10	28.10	26.20

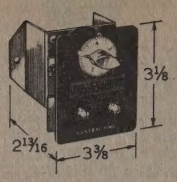
SERIES 2211-1PF—Relay output, 117V AC/DC, 8-spade termin.

54F273	—001	23.65	23.00	22.45	21.30	18.90	17.70
54F274	—003	23.65	23.00	22.45	21.30	18.90	17.70
54F275	—005	23.65	23.00	22.45	21.30	18.90	17.70
54F276	—010	23.65	23.00	22.45	21.30	18.90	17.70
54F277	—015	23.65	23.00	22.45	21.30	18.90	17.70
54F278	—030	23.65	23.00	22.45	21.30	18.90	17.70
54F279	—060	23.65	23.00	22.45	21.30	18.90	17.70
54F280	—118	23.65	23.00	22.45	21.30	18.90	17.70
54F281	—130	24.70	23.94	23.35	22.10	19.75	18.50
54F282	—160	29.80	29.15	28.55	27.25	24.25	23.05
54F283	—190	31.40	30.70	29.95	28.45	25.75	24.25

SERIES 2212-1PF—Relay output, 117V AC/DC, 10 spade term.

54F284	—001	27.75	27.00	26.35	24.95	22.20	20.60
54F285	—003	27.75	27.00	26.35	24.95	22.20	20.60
54F286	—010	27.75	27.00	26.35	24.95	22.20	20.60
54F287	—015	27.75	27.00	26.35	24.95	22.20	20.60
54F288	—030	27.75	27.00	26.35	24.95	22.20	20.60
54F289	—060	27.75	27.00	26.35	24.95	22.20	20.60
54F290	—130	28.75	27.90	27.25	25.80	23.00	21.35
54F291	—160	34.35	33.25	32.40	30.75	27.75	25.90
54F292	—190	35.95	34.75	33.80	32.05	28.95	27.00

SERIES DA11 AND DA21 RESET TIMERS



Type DA11. For use where delay, interval, or repeat cycle time functions are required for adjustable time periods. Repeat cycle requires two units. Resets to start when power removed. Manual knob adjustment. Rear mounted. SPDT switch. 20 Amps. Solder lug terminals. 5 watt motor. Repeat Acc: ± ¾%. Min. Time Setting: 0 sec. UL recognized. CSA listed. 3⅜ x 3 1/16 x 2 13/16". Shpg. wt.: 1 lb. **DA21.** Same as DA11 exc. locknut adjustment.

120 VOLTS AC

Maximum Setting	Reset	DA11 Stk. No.	Type	DA21 Stk. No.	Type
5.7 Sec.	.25 Sec.	54F000	DA11-036	.....	.....
14 Sec.	1.0 Sec.	54F001	DA11-031	54F006	DA21-001
57 Sec.	1.5 Sec.	54F002	DA11-032	54F007	DA21-002
4.5 Min.	15 Sec.	54F004	DA11-033	54F009	DA21-003
9.5 Min.	120 Sec.	54F005	DA11-034	54F010	DA21-004

NET EACH

PRICE	1-4	5-9	10-24	25-49	50-99	100-249
	19.35	18.40	17.40	16.45	15.45	14.50

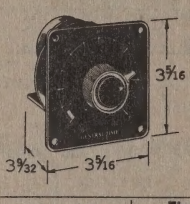
240 VOLTS AC

57 Sec.	1.5 Sec.	54F076	DA11-032	54F081	DA21-002
4.5 Min.	15 Sec.	54F078	DA11-033	54F083	DA21-003
9.5 Min.	120 Sec.	54F079	DA11-034	54F084	DA21-004

NET EACH

PRICE	1-4	5-9	10-24	25-49	50-99	100-249
	20.30	19.30	18.28	17.25	16.25	15.25

SERIES DP-11 PANEL MOUNT RESET TIMERS



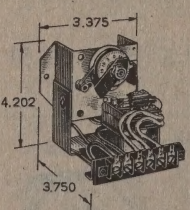
Apply wherever delay, interval, or repeat cycle timing (requires two timers) are needed. Simple pointer knob for timing adjustment. Reset to start position when power is removed. Time elapse readout in center of adjustment knob. SPDT switch, 10 amps, 5 watt timing motor, 120 VAC 60 hz. Repeat accuracy, +1% of total time. Screw term. Size: 3⅜ sq. x 3 9/32" depth. Requires 3⅜" dia. mounting hole.

Stk. No.	Type DP11-	Time Setting Max	Min	Maximum Reset Time	Dial Grads. Maj.	Min.
54F072	007	6 Sec.	0.3 Sec.	.5 Sec.	1 Sec.	1 Sec.
54F011	001	15 Sec.	0.8 Sec.	1.0 Sec.	1 Sec.	.2 Sec.
54F012	006	30 Sec.	1.5 Sec.	1.5 Sec.	5 Sec.	.5 Sec.
54F013	002	60 Sec.	3.0 Sec.	1.5 Sec.	10 Sec.	1 Sec.
54F015	003	5 Min.	0.2 Sec.	15 Sec.	1 Min.	.1 Min.
54F016	004	10 Min.	0.4 Sec.	120 Sec.	1 Min.	.2 Min.

NET EACH

PRICE	1-4	5-9	10-24	25-49	50-99	100-249
	23.50	22.30	21.15	19.95	18.80	17.60

SERIES BN ADJUSTABLE RESET TIMERS



Rear mounting delay timer has built-in relay and adjustable time range. Dial and setting knob with readout of elapsed time by pointer in center of knob. SPDT relay rated 10 amps at 125/250 VAC. Motor rating, 5 W max. at 120 VAC. Repeat accuracy, ¾ of 1% of total time range. Locknut setting adjustment, where only occasional time period changes are required. UL Recognized. Size, 3.375" w x 4.202" h. x 3.750" d.

Stock No.	Type	Time Setting Max.	Min.	Max. Reset Time	Dial Grads. Major	Minor
54F131	BN22-001	13.5 sec.	.7 sec.	.5 sec.	1 sec.	.5 sec.
54F134	BN22-004	9.5 min.	30 min.	120 sec.	1 min.	5 sec.

NET EACH

PRICE	1-4	5-9	10-24	25-49	50-99	100-249	250-Up
	27.40	26.05	24.65	23.30	21.90	20.55	19.20

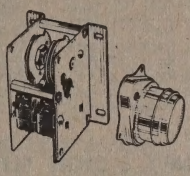
Timers

SERIES RG21 REPEAT CYCLE TIMERS

Cam-actuated, single switch timers for rear mounting. Runs continuously, repeating a set cycle of switching operations. Cam adjustable from 7° min. to 169° max. (±3%). SPDT switch. 20 A. 3.7 W. motor. 120 VAC. 60 Hz. Size 2 5/16 x 3 1/8 x 2 1/2". U.L. Recognized.

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-Up
54F017	RG21-090	7½ Sec	14.90	14.20	13.45	12.70	11.95	11.20
54F018	RG21-091	15 Sec						
54F019	RG21-092	30 Sec						
54F020	RG21-093	1 Min						
54F021	RG21-094	5 Min						
54F022	RG21-095	10 Min						
54F023	RG21-096	15 Min						
54F024	RG21-097	30 Min						
54F025	RG21-098	60 Min						

SERIES RE REPEAT CYCLE MULTI-CAM TIMERS



Same specifications as RG21, except 2 to 6 switches may be actuated during cycle. Adjustable friction loaded cams. Complete unit requires one switch stack and one drive motor. Size: 2 5/16"H x 3 3/32"W x 3 9/16"D. Add 1 1/16" to depth for each additional switch. U.L. Recognized.

SWITCH STACKS

Stk. No.	Type	Swi.	1-4	5-9	10-24	25-49	50-99	100-Up
54F027	RE62-091	2	13.85	13.15	12.45	11.75	11.05	10.40
54F028	RE63-092	3	18.50	17.60	16.90	15.75	14.80	13.85
54F029	RE64-093	4	23.15	22.00	20.85	19.70	18.50	17.35
54F030	RE65-094	5	28.30	26.85	25.45	24.05	22.65	21.20
54F031	RE66-095	6	32.95	31.30	29.65	28.00	26.35	24.70

DRIVE MOTORS

Order with switch stack for complete unit

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-Up
54F032	MP10-390	7½ Sec	7.20	6.85	6.45	6.10	5.75	5.40
54F115	MP10-400	10 Sec						
54F033	MP10-391	15 Sec						
54F034	MP10-392	30 Sec						
54F035	MP10-393	1 Min						
54F036	MP10-394	5 Min						
54F037	MP10-395	10 Min						
54F038	MP10-396	15 Min						
54F039	MP10-397	30 Min						
54F040	MP10-398	1 Hr						

ELAPSED TIME INDICATORS

- HIGHLY ACCURATE
- -12°C TO +55°C
- 125 OR 240 VAC

EF13

EF27

Highly accurate time measurement and readout. Ideal for preventive maintenance, lighting systems, test equipment, photographic and recording equipment. Non-resettable, synchronous motor driven units. White numerals on black. 125 VAC or (*) 240 VAC. Power input at 60 Hz: EF27, 5 watts; EF13, 2.5 watts. Oper. temp. range: —12°C. to +55°C. Mounts in 2 1/8" dia. panel cutout. 6" wire leads. EF13-2.88" Dia. bezel, mounted with #6 screws. EF27 2 3/8" sq. bezel with mounting studs.

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-up
54F061	EF1333	99999.9 Min	11.00	10.45	9.90	9.35	8.80	8.25
54F062	EF1335	99999.9 Hrs	11.00	10.45	9.90	9.35	8.80	8.25
54F168	EF2733	99999.9 Min	12.95	12.30	11.65	11.00	10.40	9.75
54F170	EF2735	99999.9 Hrs	12.95	12.30	11.65	11.00	10.40	9.75
54F171	EF2735*	9999.9 Hrs	13.95	13.25	12.55	11.85	11.15	10.45
54F091	EF1335*	99999.9 Hrs	12.00	11.15	10.80	10.20	9.60	9.00

ELAPSED TIME INDICATORS

ED

ER30

7010

EN

Provides readout. All units operate at 120VAC 60 Hz. except 7010-004 which is 115V 400 Hz. Oper. temp.:—12°C to 55°C. Except 7010-004 which is—55°C to +85°C and is hermetically sealed. All units operate at 120 volts 60 Hz. U.L. Recognized. 7010-004 conforms to MIL-M-7793-D MIL std. MS28053-6.

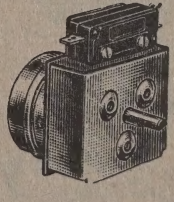
SPECIFICATIONS

Type	Bezel	Depth	Mtg. Hole	Input @ 60 Hz	Leads or Terminals
ED71 Non-Reset	1¾" Sq	2 37/64"	1 9/16"	2.5 wts	11¼" Leads
ED72 Non-Reset	1¾" Sq	2 37/64"	1 9/16"	2.5 wts	Solder
EN30 Non-Reset	3" Sq	2¾"	2¾"	3.7 wts	8-32 Studs
ER30 Non-Reset	3" Sq	2¾"	2¾"	3.7 wts	8-32 Studs
ER35 Reset	3½" Rd	2¾"	2¾"	3.7 wts	8-32 Studs
EN35 Non-Reset	3½" Rd	2¾"	2¾"	3.7 wts	8-32 Studs
7010 Non-Reset	1¾" Sq	2 37/64"	1 9/16"	2.5 wts	Solder

Stk. No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-up
54F063	ED7112	9999.9 Hrs	25.70	24.40	23.15	21.85	20.55	19.25
54F073	ED7212	9999.9 Hrs	27.90	26.50	25.10	23.70	22.30	20.95
54F065	EN3012	99999.9 Hrs	19.60	18.60	17.60	16.65	15.65	14.70
54F067	EN3512	99999.9 Hrs	19.60	18.60	17.60	16.65	15.65	14.70
54F068	ER3020	99999.9 Min	28.40	26.95	25.55	24.15	22.70	21.40
54F069	ER3022	99999.9 Hrs	28.40	26.95	25.55	24.15	22.70	21.40
54F071	ER3522	99999.9 Hrs	28.40	26.95	25.55	24.15	22.70	21.40
54F060	7010-004	9999.9 Hrs	41.14	39.08	37.03	34.97	32.91	30.86
54F100	7010-010	9999.9 Hrs	41.14	39.08	37.03	34.97	32.91	30.86

SERIES AB HAND SET INTERVAL TIMER

Type AB51. Rotation energizes the load and timing motor. On release motor drives timer to zero; motor and load is then de-energized. Setting can be changed during cycle without damage. Mount behind panel, using three equally spaced. 180 dia. tapped holes on .562 R. Setting shaft: ¼" diam. flattened to .156 for ½". Flat is located 180° from "0" time. Single Pull Double Throw switch rated 25 amps. 125 or 250 Volts Alternating Current resistive. spade terminals. Motor 120 VAC 60 Hz. Size: 2½"x3 3/16"x3. Weight: 1 lb. U. L. Recognized.



SERIES A HAND SET INTERVAL TIMER

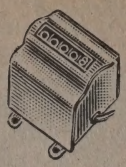
Stock No.	Type	Time Range	1-4	5-9	10-24	25-49	50-99	100-249
54F145	AB51-001	1 Min.	8.80	8.40	7.95	7.50	7.05	6.60
54F146	AB51-002	6 Min.						
54F147	AB51-003	15 Min.						
54F148	AB51-004	30 Min.						
54F149	AB51-005	60 Min.						
54F150	AB51-006	2 Hrs.						
54F151	AB51-007	6 Hrs.						
54F152	AB51-008	8 Hrs.						
54F153	AB51-010	12 Hrs.						
54F154	AB51-016	24 Hrs.						

- Adjustable During Cycle
- Rotation Energized
- Behind Panel Mount
- SPDT Switch/25 Amps

ITT General Counters

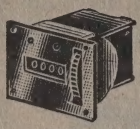
ELECTRIC COUNTERS

CE40BN



CE40AN

CE40AS



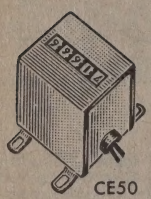
CE40BS

Rugged and dependable CE Series Electric Counters from ITT General in a wide variety of styles and sizes. Available with 3 to 6 digit count mechanism, in reset or non-reset types, for AC or DC operation. Easy to read and easy to set up for demanding industrial and commercial applications. For mechanical stroke counters, see the CM Series (on opposite page).

SERIES CE40 4-DIGIT OR 5-DIGIT COUNTERS

Reset or non-reset type; base or panel mount. Operate in any position. Tamper-proof construction; large white numerals for easy readability. Actuation by switch, relay, or other device with minimum pulse width of .050 second on to operate, and .050 second off between pulses. Power consumption, 5 watts. Has 6" leads. 600 cpm. Size, 2.5 x 1.7 x 1.5". AC types for 60 Hz. Shpg. wt. 10 oz.

Stock No.	Type	Volts	Digit	Reset	Mount	1-9	10-24	25-49	50-99	100-249
57F1800	CE40AN501	24 AC	5	Non	Base	8.20	6.97	6.56	6.15	5.74
57F1801	CE40AN502	120 AC	5	Non	Base	8.20	6.97	6.56	6.15	5.74
57F1842	CE40AN5016	24 DC	5	Non	Base	8.20	6.97	6.56	6.15	5.74
57F1802	CE40BN501	24 AC	5	Non	Panel	8.96	7.62	7.17	6.72	6.27
57F1803	CE40BN502	120 AC	5	Non	Panel	8.96	7.62	7.17	6.72	6.27
46F111	CE40BN5016	24 DC	5	Non	Panel	8.96	7.62	7.17	6.72	6.27
57F1804	CE40AS401	24 AC	4	Knob	Base	15.25	12.96	12.20	11.44	10.68
57F1805	CE40AS402	120 AC	4	Knob	Base	15.25	12.96	12.20	11.44	10.68
57F1846	CE40AS4016	24 DC	4	Knob	Base	15.25	12.96	12.20	11.44	10.68
57F1806	CE40BS401	24 AC	4	Wheel	Panel	17.25	14.66	13.80	12.94	12.08
57F1807	CE40BS402	120 AC	4	Wheel	Panel	17.25	14.66	13.80	12.94	12.08
57F1849	CE40BS4016	24 DC	4	Wheel	Panel	17.25	14.66	13.80	12.94	12.08

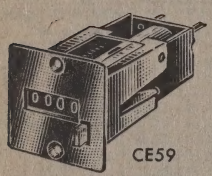


CE50

SERIES CE50 ECONOMY 5-DIGIT ELECTRIC COUNTERS

Economical non-reset totalizer, ideal for vending machines. Speed: .050 second on and .050 second off (600 counts per minute). Operating temperature range of 0° to 160° F. Life: 1 million operations, minimum. Power consumption: 3.6 watts. Size, 2.67 x 1.56 x 1.35". Shpg. wt. 9 oz.

Stock No.	Type	Volts	Freq.	Digit	Mount	1-9	10-24	25-49	50-99	100-249
57F1897	CE50AN502	120 AC	50/60 Hz	5	Base	4.50	3.83	3.60	3.38	3.15
57F1898	CE50BN502	120 AC	50/60 Hz	5	Panel	4.50	3.83	3.60	3.38	3.15

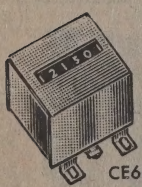


CE59

SERIES CE59 MINIATURE PUSHBUTTON RESET ELECTRIC COUNTERS

Panel or base mounting 3-digit and 4-digit counters with pushbutton reset. Miniature size; takes minimum panel space. 3-digit model is 1.37 x 1.53 x 3.60" deep, including terminals; 4-digit model is 1.57 x 1.53 x 3.60" deep, including terminals. Speed: .030 second on and .030 second off (1000 counts per minute). Designed for quiet operation. Power required: 5.5 watts AC, 3.5 watts DC. Shpg. wt. 12 oz.

Stock No.	Type	Volts	Freq.	Digit	Mount	1-9	10-24	25-49	50-99	100-249
57F1879	CE59AP302	120 AC	50/60 Hz	3	Base	18.07	15.36	14.46	13.55	12.65
57F1880	CE59AP3016	24 DC	.....	3	Base	12.51	10.63	10.01	9.38	8.76
57F1881	CE59BP302	120 AC	50/60 Hz	3	Panel	18.07	15.36	14.46	13.55	12.65
57F1882	CE59BP3016	24 DC	.....	3	Panel	12.51	10.63	10.01	9.38	8.76
57F1883	CE59AP402	120 AC	50/60 Hz	4	Base	18.07	15.36	14.46	13.55	12.65
57F1884	CE59AP4016	24 DC	.....	4	Base	13.16	11.19	10.53	9.87	9.21
57F1885	CE59BP402	120 AC	50/60 Hz	4	Panel	18.07	15.36	14.46	13.55	12.65
57F1886	CE59BP4016	24 DC	.....	4	Panel	13.16	11.19	10.53	9.87	9.21



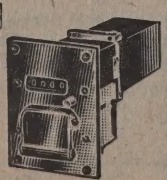
CE60

SERIES CE60 6-DIGIT NON-RESET TOTALIZERS

Operates over wide temperature range (−40° to +160° F). Tamper-resistant; ideal for outdoor applications. Panel or base mounting. Speed: .050 second on and .050 second off (600 counts per minute). Minimum life: 1 million operations on AC, 6 million on DC. Power consumption: 5.4 watts AC, 2.16 watts DC. Size, 2.5 x 1.75 x 1.5". Shpg. wt. 10 oz.

Stock No.	Type	Volts/Freq.	Mount	1-9	10-24	25-49	50-99	100-249
57F1866	CE60AN601	24 AC/60 Hz	Base	8.90	7.56	7.12	6.68	6.23
57F1867	CE60AN602	120 AC/60 Hz	Base	8.90	7.56	7.12	6.68	6.23
57F1868	CE60AN6016	24 DC	Base	8.90	7.56	7.12	6.68	6.23
46F150	CE60BN601	24 AC/60 Hz	Panel	9.44	8.02	7.55	7.08	6.61
57F1869	CE60BN602	120 AC/60 Hz	Panel	9.44	8.02	7.55	7.08	6.61
46F151	CE60BN6016	24 DC	Panel	9.44	8.02	7.55	7.08	6.61

CE62BP



CE62BE

SERIES CE62 4-DIGIT PREDETERMINING ELECTRIC COUNTERS

Predetermining operation—turns on or off switch within counter after preset number is reached. Predetermined output is held until reset is finished. Easy to set up. Available with 4-digit pushbutton reset, or electric reset. Speed: .033 second on and .025 second off (900 counts per minute). Power consumption: 3 watts DC and 5 VA on AC. Size: pushbutton, 2.74 x 2.9 x 3.78"; electric reset, 6.1 x 2.9 x 3.7". Shpg. wt.: pushbutton, 2 lbs.; electric reset, 4 lbs.

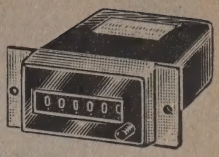
Stock No.	Type	Volts/Freq.	Reset	1-9	10-24	25-49	50-99	100-249
57F1889	CE62BP402	120 AC/60 Hz	Pushbutton	56.91	48.37	45.53	42.68	39.84
57F1890	CE62BE402	120 AC/60 Hz	Electric	71.69	60.94	57.35	53.77	50.18

ITT General Counters

SERIES CE63 PUSHBUTTON RESET ELECTRIC COUNTERS

4-digit and 6-digit counters with pushbutton reset. 6-digit model operates at speed of. 020 second on and .020 second off (1500 counts per minute); 4-digit model operates at .025 second on and .025 second off (1200 counts per minute). Count life: 30 million operations. Power consumption: 5 watts. 13" leads. Size: 3.2 x 1.07 x 1.94". Shpg. wt. ½ or ¾ lb.

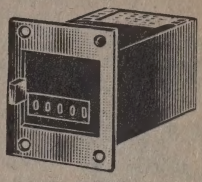
Stock No.	Type	Volts	Freq.	Digit	Mount	1-9	10-24	25-49	50-99	100-249
46F132	CE63AP602	120 AC	50/60 Hz	6	Base	29.75	25.29	23.80	22.31	20.83
46F134	CE63AP6016	24 DC	.....	6	Base	23.55	20.02	18.84	17.66	16.49
46F125	CE63BP602	120 AC	50/60 Hz	6	Panel	30.15	25.63	24.12	22.61	21.11
46F127	CE63BP6016	24 DC	.....	6	Panel	23.95	20.36	19.16	17.96	16.77
46F152	CE63AP402	120 AC	50/60 Hz	4	Base	24.80	21.08	19.84	18.60	17.36
46F153	CE63AP4016	24 DC	.....	4	Base	18.60	15.81	14.88	13.95	13.02
46F154	CE63BP402	120 AC	50/60 Hz	4	Panel	25.20	21.42	20.16	18.90	17.64
46F155	CE63BP4016	24 DC	.....	4	Panel	19.00	16.15	15.20	14.25	13.30


CE63

NEW SERIES CE75 PUSHBUTTON RESET 5-DIGIT COUNTERS

Add and subtract with pushbutton reset. Keep track of position, inventory or any value which rises and falls. Panel mounting. Speed: .050 second on and .050 second off (600 counts per minute). Power consumption: 6.2 watts. Size, 3.4 x 1.97 x 2.36". Shpg. wt. 11 oz.

Stock No.	Type	Volts	Freq.	Digit	1-9	10-24	25-49	50-99	100-249
46F156	CE75BP502	120 AC	60 Hz	5	59.00	50.15	47.20	44.25	41.30
46F157	CE75BP5016	24 DC	.....	5	52.50	44.63	42.00	39.38	36.75

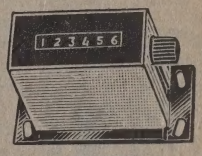

CE75

SERIES CE900 LONG-LIFE 6-DIGIT ELECTRIC COUNTERS

Long-life 6-digit counters are interchangeable with CE600 series. Count life: 100 million. Easy-to-read figures. Choice of three styles: base mount with knob reset and adapter plate; panel mount with wheel reset; or panel mount with lock and key reset. Speed: DC, .015 second on and .015 second off (2000 counts per minute); AC, .025 second on and .025 second off (1200 counts per minute). Continuous duty coils. Shpg. wt. 11½ oz.

Stock No.	Type	Volts	Freq.	Mount	Reset	1-9	10-24	25-49	50-99	100-249
46F158	CE900AS601	24 AC	50/60 Hz	Base	Knob					
46F112	CE900AS602	120 AC	50/60 Hz	Base	Knob	22.40	19.04	17.92	16.80	15.68
46F159	CE900AS604	240 AC	50/60 Hz	Base	Knob					
46F113	CE900AS6015	12 DC	.....	Base	Knob					
46F114	CE900AS6016	24 DC	.....	Base	Knob					
46F160	CE900BS601	24 AC	50/60 Hz	Panel	Wheel					
46F115	CE900BS602	120 AC	50/60 Hz	Panel	Wheel	23.00	19.55	18.40	17.25	16.10
46F161	CE900BS604	240 AC	50/60 Hz	Panel	Wheel					
46F116	CE900BS6015	12 DC	.....	Panel	Wheel					
46F117	CE900BS6016	24 DC	.....	Panel	Wheel					
46F162	CE900BK601	24 AC	50/60 Hz	Panel	Key					
46F118	CE900BK602	120 AC	50/60 Hz	Panel	Key	29.60	25.16	23.68	22.20	20.72
46F163	CE900BK604	240 AC	50/60 Hz	Panel	Key					
46F119	CE900BK6015	12 DC	.....	Panel	Key					
46F120	CE900BK6016	24 DC	.....	Panel	Key					

CE900AS


CE900BS

CE900BK

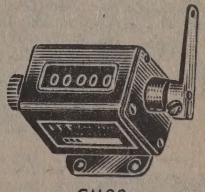
9

MECHANICAL STROKE COUNTERS

SERIES CM33 COMPACT 5-DIGIT KNOB RESET COUNTERS

Extremely compact—only 2.5 x 1.44 x 1.29". Available with drive lever extending either left or right, with coming or going stroke direction. Interchangeable with more expensive mechanical counters. Shpg. wt. 6 oz.

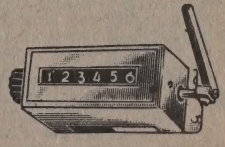
Stock No.	Type	Reset	Arm Action	Shaft Extension	1-9	10-24	25-49	50-99	100-249
57F1893	CM33AS501C	Knob	Top Coming	Right					
57F1894	CM33AS502C	Knob	Top Coming	Left	5.88	5.00	4.70	4.41	4.12
57F1895	CM33BS501C	Knob	Top Going	Right					
57F1896	CM33BS502C	Knob	Top Going	Left					

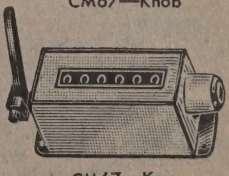

CM33

SERIES CM67 HEAVY-DUTY, LONG-LIFE 6-DIGIT MECHANICAL COUNTERS

Six-digit, knob or key reset mechanical stroke counters for reliable, long life operation. Large, easy-to-read figures (5/16" white figures on black background). Available with drive lever to right or left, coming or going stroke direction. Size, 5.0 x 2.0 x 1.80". Shpg. wt. 19 oz.

Stock No.	Type	Reset	Arm Action	Shaft Extension	1-9	10-24	25-49	50-99	100-249
46F104	CM67AS601	Knob	Top Coming	Right					
46F105	CM67AS602	Knob	Top Coming	Left	21.00	17.85	16.80	15.75	14.70
46F106	CM67BS601	Knob	Top Going	Right					
46F107	CM67BS602	Knob	Top Going	Left					
46F164	CM67AK601	Key	Top Coming	Right					
46F165	CM67AK602	Key	Top Coming	Left	32.00	27.20	25.60	24.00	22.40
46F166	CM67BK601	Key	Top Going	Right					
46F167	CM67BK602	Key	Top Going	Left					


CM67—Knob


CM67—Key

Intermatic

Timers

GENERAL PURPOSE TIMERS

T 101

Model T101. Turns device on and off for any period over 1 hour. . .once every 24 hours. May be set up for more operations with additional tripper sets (below). Can be manually operated without upsetting automatic sequence. SPST switch. U-Beam blades, high-power switching mechanism, and tungsten rating of 40 amps to carry incandescent lighting loads. Size, 7¾"x5x3". For 125 V, 60 Hz AC. 3 lbs.
24F978. EACH 12.64

Model T103. Same as above, but DPST.
24F977. EACH 13.97
24F982. Set of extra trippers ..... .50

7-DAY "SKIPPER" TIME SWITCHES

Model T171, T173, T175.

Model T171, T173, T175. Provides a program of operations for most commercial or industrial needs. For use where it is desired to skip operations on weekends or other selected days. Has 24-hour time dial and 7-day skipper dial. Small skipping screws are merely inserted into respective day holes for skipping operation. Contacts rated up to 40 amps per pole. 3 skipping screws, one cutout, one off tripper included. 125 VAC, 60 Hz. Drawn steel case, gray finish. 7¾x5x3". 3 lbs.

Model T173. DPST.
24F1890. EACH **17.31**

Model T175. SPDT.
24F1891. EACH **17.31**

Model T171. SPST.
24F1892. EACH **15.97**
24F982. Set of extra trippers. Each 1.00

Model P171-30. SPST portable unit with plug-in cord set. Rated 15 amps, 125 VAC.
24F1899 EACH **15.97**

PROGRAM TIME SWITCH

T1905

Type T1905. Provides up to 96 on and off operations in 15-minute steps every 24 hours! Ideal for devices requiring frequent control. Permanently attached trippers are spotted every 15 minutes around the dial. . .slide easily, and can't get lost. 20-amp. contacts can be set up for: SPST normally open or closed, or SPDT. Knockout box, 7¾"x5x3". For 125v, 60 hz. AC. 4 lbs.
24F973. EACH **23.65**

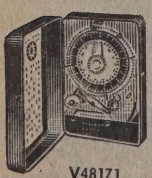
Type T1975. As above, with "skipper" feature.
24F980. EACH **27.65**

SUPERVISOR DELUXE

V47171

Ideal for control of background music, industrial process operations, heating systems. Periods of operation can be varied in multiples of 5 minutes. Repeats program every 24 hours and skips any days desired. Includes toggle switches for testing signal and cutting off automatic operations. Gray steel case 10⅞"x7⅜"x3⅝". 125 V, 60 Hz. AC. Weight 8½ lbs.
24F1893. Model V47171 One Circuit **73.00**
24F1894. Model V47177 Two Circuit **77.67**

SCHEDULER



V48171

Provides 1 to 288 short interval operations per day. Operates for periods of from 4-60 second durations of 5 min. intervals. Has skipper feature which allows signals to be omitted for any 12 or 24 hour period. Furnished with 9 skipper trippers, 8 advance warning and 24 signal trippers. For 120 VAC, 60 Hz. Size, 10⅞" x 7⅜" x 3⅝". Wt. 8½ lbs.

Model V48171. 1 Circuit, 24 hour.
43F042. EACH 77.67

Model 49177. 2 Circuit, 24 hour.
43F043. EACH 82.34

CYCLE TIMER

C8815.

Cycler-88. Repeat cycles of 5 minutes to 4 hours. For controlling fans, spray equipment, heaters, motors, etc. Ten sets of combination "on-off" trippers included. SPDT switch rating, 20 amps per pole at 125 V; ½ hp; 2500 watts. Drawn steel case in gray hammertone finish. Size, 5" x 3" x 7¾". Wt. 3¾ lbs.
24F2416. Model C8815. 10-minute cycle; 5 sec. tripper actuating time. 17.98
24F2417. Model C8835. 30-minute cycle; 5 sec. tripper actuating time. 17.98

SEVEN DAY PROGRAMMERS

V46401

Model V46401. Provides different program for every day of the week. Up to 4 operations per day, with minimum of 3 hours between operations. 40 amp tungsten rated contacts. For 120 VAC, 60 Hz. Gray steel case, 10⅞" x 7⅜" x 3⅝". Shpg. wt., 6¼ lbs.
24F1897. 4PST switch 28.31

Model V46107. Same as above, but with DPDT switch. Shpg. wt. 6½ lbs.
24F1898. ..... 28.31

PHOTO CONTROL ON STEM

K1111

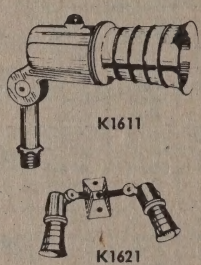
Series K1100. Adjustable stem permits mounting at almost any angle up to 80° (mount lens in northerly direction for best results). Relay type; CSA Listed. For 105-130 VAC, 50/60 Hz. Activation: 1-3 FC ON; 3-7 FC OFF. Three 8" color-coded leads. White epoxy. Size, 2½" w. x 5¾" h. Wt. ½ lb.
24F2418. Model K1111. 650 watts 12.64
24F2419. Model K1121. 1500 watts 13.97

PHOTO CONTROL WITH SWIVEL HEAD

K1211

Series K1200. Easy to install—just plug in. Housing swivels in either direction for pointing lens toward north after installation. Has lightning arrestor, light selective louvers, standard 3-prong NEMA twist-and-lock plug. Conforms to IEEE and NEMA specs. Relay type; CSA listed. For 105-130 VAC, 50/60 Hz. Activation: 1-3 FC ON, 3-7 FC OFF. Size, 3½" dia. x 4½" high. White. ¾ lb.
24F2420. Model K1211. 650 watts 12.64
24F2421. Model K1221. 1500 watts 13.97

PHOTO CONTROL—PAR LAMP HOLDER



K1611

K1621

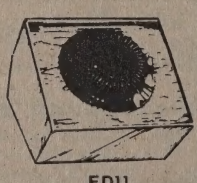
SERIES K1600. Relay type automatic outdoor spot for decorative or flood lighting. External switch leg provides automatic control of light cluster with total of 1000 watts max. Weatherproof, 2-pc. unit includes medium base porcelain socket, cast aluminum housing with heat dissipating fins, photo control, jointed stem with ½" dia. pipe, three 8" color-coded leads. For 105-130 VAC, 50/60 Hz. Activation: 1½-2 FC ON, 5-6 FC OFF. Size, 6⁹⁄₁₆x2⅞x6⅝". White epoxy. ¼ lb.
24F2422. Model K1611. Single unit 11.31
24F2423. Model K1621. Two par lamp holder kit; mounts to single-gangbox. 3 lbs. 16.64

IN-WALL TIME SWITCH

E1012

Series E1000. Built-in wall switch and outlet timer. Automatic timing control of hall, ceiling, porch and outdoor lights. Small size (2x3x2") for installation into wall switch or electrical outlet box. Two grounded outlets: one timed, one continuous. Rated 12 amps. SPST; 1875 watts. 3¼x5 ⅛". 2 lbs.
24F2424. Model E1012. 24-hour dial divided in ½ hour increments with permanently attached On and Off tripper 10.64
24F2425. Model E1022. Accommodates 12 On and Off trippers (2 sets included) 10.97

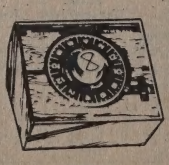
MULTIPLE PROGRAM TIMER



ED11

Model ED11. Same as above, but with cord set. Multiple program trippers turn lights on and off automatically one or more times, repeat the cycle(s) every 24 hours. Rated 15 amps, 1875 watts at 125 VAC, 60 Hz. With 2 On and 2 Off trippers. 3x4¼x3⅝". 2 lbs.
24F2426 ..... 9.30
24F2427. Extra set of trippers. (2 On and 2 Off) 1.00

TIME-ALL TIMERS

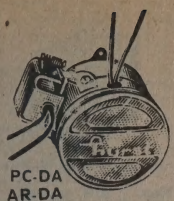


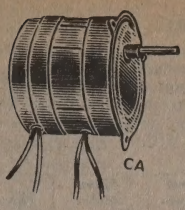
EC21

EC Series. The automatic way to turn lights on and off, discourage burglers, make appliances automatic. Low angle face for easy viewing. Color-coded on-off trippers. Outlet and 5-ft. cord at back. Minimum On time: ½ hour. Maximum On time: 22½ hours. 2 lbs.
24F2428. Model EC21. Rated 875 watts, 7 amps, 125 VAC, 60 Hz. Oyster White case with burl wood panel and dial 7.97
24F2429. Model EC11. 1875 watts, 15 amps. Champagne white case; burl panel 8.64

9

Motors





SERIES PC-DA

Continuous duty reversible synchronous motor, 120 oz-in at 1 RPM. Positive clutch and instantaneous brake stops the shaft rotation within 2° at 1 RPM and 12° at 60 RPM. Starting time for the shaft is within 20 msec. Capacitor included. Ship. Wt. 1 lb. 5 oz.

Stk. No.	Type	RPM	1-9	10-24	25-49	50-99	100-249
24F1471	PC-DA-1	1					
24F1582	PC-DA-2	2					
24F1472	PC-DA-4	4					
24F1473	PC-DA-6	6	**26.79**	**24.12**	**22.91**	**21.76**	**20.67**
24F1474	PC-DA-10	10					
24F1583	PC-DA-12	12					
24F1475	PC-DA-30	30					
24F1476	PC-DA-60	60					

SERIES DA

Continuous dity synchronous motor, 150 in. oz. at 1 RPM. Instantly reversible with SPDT switching. Accurate both clockwise and counter clockwise. Capacitor included. Dimensions: 2½" dia. x 1¾" depth. Shaft of stainless steel 3/16" dia. x 1" long flatted. 60 Hz. 95/130V, 5 watts. Ship. Wt. 14 oz.

24F1456	DA-1	1					
24F1580	DA-2	2					
24F1457	DA-4	4	**19.38**	**17.45**	**16.57**	**15.76**	**14.96**
24F1458	DA-6	6					
24F1459	DA-10	10					
24F1581	DA-12	12					
24F1461	DA-60	60					

SERIES AR-DA

100 inch-ounce, reversible, high accuracy both clockwise and counter-clockwise. Operates as an automatic reset motor when a return spring is attached to the output shaft. When clutch is de-energized, the shaft is free for manual or automatic reset. Maximum error in seconds. 15625 divided by the rpm. Case: 2½x2 1/16" dia. Clutch actuator, 7/8"H x 1 3/16"W. Shpg. wt., 1½ lbs.

Stk. No.	Type	RPM	1-9	10-24	25-49	50-99	100-249
24F3550	AR-DA 1	1					
24F3551	AR-DA 4	4	**31.60**	**28.55**	**27.03**	**25.67**	**24.38**
24F3552	AR-DA 6	6					
24F3553	AR-DA 10	10					
24F3555	AR-DA 60	60					

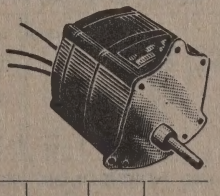
SERIES CA

Instantly reversible with SPDT switching. 100 inch-ounce torque rating at 1RPM. Case dimensions, 2½" dia. x 2⅛". Shaft, 3/16" dia. x 1" long flattened. Ship. Wt. 1 lb. 2 oz.

24F1584	CA-½	½					
24F1494	CA-1	1					
24F1585	CA-2	2					
24F1495	CA-4	4	**16.62**	**14.95**	**14.21**	**13.51**	**12.84**
24F1496	CA-6	6					
24F1497	CA-10	10					
24F1586	CA-15	15					
24F1498	CA-30	30					
24F1499	CA-60	60					

SERIES GA

Capacitor phased hysteresis-synchronous reversible motors. Utilize full output torque without gearing damage. Lifetime lubrication. ¼x1" (flatted) except 3600 rpm, 1/8" dia. 1.0μF capacitor (±5%) included. Case: 2¾ x 2⅜ x 3". Adapter plate (below) permits output shaft and stud locations to match many motors, 115 V, 60 Hz AC. Shpg. wt. 2¾ lbs. Specify speed.

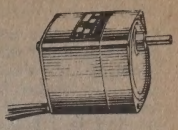


Stk. No.	RPM	Torque (Oz.-in.)	1-9	10-24	25-49	50-74	75-99	100-249
24F3563	300	2.0						
24F3567	120	5.0	**35.12**	**33.36**	**31.61**	**29.86**	**28.11**	**24.59**
24F3568	100	6.0						
24F3570	30	20.0	38.04	36.14	34.24	32.34	30.44	26.65
24F3571	18	33.0	38.04	36.14	34.24	32.34	30.44	26.65
24F3572	10	60.0						
24F3573	6	100.0						
24F3574	5	120.0	**40.50**	**38.48**	**36.46**	**34.43**	**32.43**	**28.37**
24F3576	3	200.0						
24F3577	2	300.0						
24F3581	1	600.0						

24F3582 Adapter Plate. Wt., 4 oz. ..... Each .83

hurst

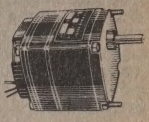
NEW MODEL T



Permanent magnet synchronous reversible instrument motor. Specs: Gear train loading: 250 oz in @ 1 RPM. Heat rise: 40°C F.L. Voltage: 115 VAC. Freq: 60 Hz. Power input: 8½ watts. Rotation: reversible fast start/stop. Rotor speed: 300 RPM (synchronous). Torque (@ 300 RPM): 8 in. Dim.: 2 17/32" x 2⅜" dia. Wt. less than 2 lbs.

Stk. No.	Part Number	Speed RPM	Rated Output Torque	1-9	10-24	25-49	50-99	100-249
24F1500	2602-001	1	250	31.18	29.44	27.71	25.98	23.52
24F1501	2602-004	2	233	29.56	27.91	26.27	24.63	22.35
24F1502	2602-012	4	218	29.56	27.91	26.27	24.63	22.35
24F1503	2602-013	6	210	28.17	26.60	25.04	23.47	21.34
24F1504	2602-006	10	168	28.17	26.60	25.04	23.47	21.34
24F1505	2602-014	30	64	28.17	26.60	25.04	23.47	21.34
24F1506	2602-009	60	32	28.17	26.60	25.04	23.47	21.34
24F1507	2602-015	120	16	28.17	26.60	25.04	23.47	21.34
24F1508	2601-001	300	8	18.56	17.52	16.49	15.46	12.92

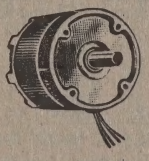
MODEL K-DET

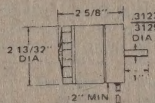


Synchronous, geared and direct drive reversible instrument motors. For continuous duty applications requiring exceptional reliability, compact size and high output torque. Torque: Gear train rating, 250 oz-in at 1 RPM. Temp. rise: 40°C. Power: 115 VAC, 60 Hz. Dimensions: geared, 2-3/8" dia.; direct, 2-3/8" square. Wt. less than 2 lbs.

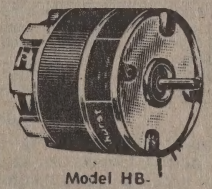
Stk. No.	Type	RPM	Torque, Oz.-In.	Lgth., In.	1-9	10-24	25-49	50-74	75-99	100-249
24F1509	2535	1	250	2 17/32	38.93	36.23	35.48	28.22	27.80	26.15
24F1510	2625	1.5	200	2 17/32	38.93	36.23	35.48	28.22	27.80	26.15
24F1511	2536	2	150	2 17/32	38.93	36.23	35.48	28.22	27.80	26.15
24F1512	2537	3	100	2 17/32	38.93	36.23	35.48	28.22	27.80	26.15
24F1513	2538	4	85	2 17/32	38.93	36.23	35.48	28.22	27.80	26.15
24F1514	2540	6	50	2 17/32	38.02	35.38	34.64	27.55	27.14	25.53
24F1515	2541	6	95	3 1/32	40.27	37.49	36.70	29.19	28.76	27.06
24F1516	2542	10	30	2 17/32	38.02	35.38	34.64	27.55	27.14	25.53
24F1517	2543	10	72	3 1/32	40.27	37.49	36.70	29.19	28.76	27.06
24F1518	2546	15	20	2 17/32	38.02	35.38	34.64	27.55	27.14	25.53
24F1519	2547	15	48	3 1/32	40.27	37.49	36.70	29.19	28.76	27.06
24F1520	2552	25	12	2 17/32	37.11	34.54	33.81	26.89	26.49	24.92
24F1521	2553	25	29	3 1/32	39.37	36.65	35.87	28.53	28.11	26.44
24F1522	2554	30	12	2 17/32	37.11	34.54	33.81	26.89	26.49	24.92
24F1523	2555	30	27	3 1/32	39.37	36.65	35.87	28.53	28.11	26.44
24F1524	2557	60	15	3 1/32	39.37	36.65	35.87	28.53	28.11	26.44
24F1525	2559	100	8.9	2 7/8	37.14	34.57	33.84	26.91	26.51	24.94
24F1526	2560	150	5.9	2 7/8	37.14	34.57	33.84	26.91	26.51	24.94
24F1527	2561	200	4.4	2 7/8	37.14	34.57	33.84	26.91	26.51	24.94
24F1228	2562	300	2.9	2 7/8	37.14	34.57	33.84	26.91	26.51	24.94
24F1529	2588	1800	0.6	2 3/16	24.51	22.68	21.61	18.29	17.97	17.45

SERIES HB & MB

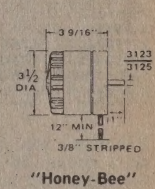




•New Mini-Bee
Series MB 1/100 hp



Model HB-



"Honey-Bee"

Precision hysteresis-synchronous motors for accurate speed. Sealed ball bearings, lifetime lubrication. Dimensions: Model MB, 2-13/32" dia. x 2-5/8" long; Model HB, 3½" dia. x 3-9/16" long. For 120 VAC, 60 Hz. Shpg. wts. MB, 2 lbs.; HB, 4 lbs.

SPECIFICATIONS FOR MODELS MB AND HB

Model and Speed	Locked Rotor	Pull-in	Pull-out	Temp. Rise, Full Load	HP Rating	Watts
MB1800 RPM	6	5.25	5.50	40°C	1/100	30
HB-1800 RPM	23.5	16.8	17.0	40°C	1/35	70
HB-1200 RPM	17.6	12.6	12.8	40°C	1/70	50
HB-900 RPM	14.1	10.1	10.2	40°C	1/115	40

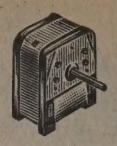
Stk. No.	Type	1-4	5-9	10-24	25-49	50-99
24F3579	MB-1800	52.25	50.16	49.64	44.82	41.23
24F3580	HB-1800	67.93	64.79	60.09	51.04	47.43
24F1530	HB-1200	71.06	67.93	63.22	54.17	50.57
24F1531	HB-900	72.11	68.97	64.27	55.22	51.61

9

Motors and Drives

SERIES 9 CYCLONOME® STEPPING MOTORS

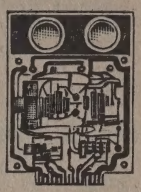
Series 9 motors are single phase, basically unidirectional motors with step angles of either 15° (24 steps/rev.) or 18° (20 steps/rev.) with torques from 1-12 oz.-in. Each current reversal in coil advances motor one step. Winding is in two sections so that alternate winding halves may be energized successively to give flux reversals when current reversals are inconvenient. Motors have de-energized detent torques which equal or exceed advancing torques, very high torque to inertia ratios. *Max. torque with 8 gmcm² external load. **At 25°C.



Stock No.	Model No.	Coil Res. (Ohms)	Step Angle	Start Step Torque* (Oz.-In.)	Hold Torque (Oz.-In.)	Detent Torque (Oz.-In.)	Rotor Inertia (Oz.-In.²)	Phase Current	Coil Dissip. (DC Watts)	Wght. (Oz.)	Max. SPS	L/R (ms)	NET EACH
24F3500	9AG4	.18	18°	5.0	10.4	5.2	.0044	6.2A	8	12	250	11	98.00
24F3501	9AH4	.18	18°	4.8	10	5	.0098	6.2A	8	23	225	11	130.00
24F3502	9AK4	.18	15°	5.8	13.2	6.6	.0044	6.2A	8	12	275	11	98.00
24F3503	9AL4	.18	15°	5.0	12	6	.0098	6.2A	8	23	250	11	130.00

UNI-POLAR DRIVE MODULE

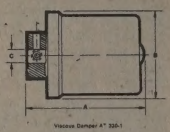
Module 9F02 solid-state plug-in module drives any externally dampened Series 9 stepping motor from a #24 VDC power source, Operates by reversing the direction of the current in the winding. Number and rate of reversals directly proportional to the number of steps and the steps/second of the motor. Step input signal is square wave contact closure or equivalent, 2V minimum to 20V maximum. Output capability is 7.5 amperes maximum.



24F3523. NET.....86.00

DAMPER FOR SERIES 9 STEPPING MOTORS

For use with Series 9 motors with stepping speeds above 50 steps per second. Fluid-type damper limits speed used with motors above limits speed to 250 steps. per second maximum. Life-rated at 10,000 hours at 240 steps per second. Dimension A at right is 1⅛", B is 25/32", C is .1255—.1260" diameter X .625" minimum depth. Units mount using 2 number 3-48 mounting screws. For use with models 9AG4, 9AH4, 9AK4, and 9AL4 above. Type AT 330-1.



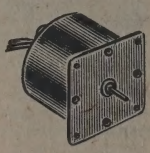
22F1070. NET.....45.00

SERIES 18 STEPPING MOTORS

Series 18 motors are bi-directional, of two-phase, permanent magnet design with torque ranges from 0.5 to 70 oz.-in. Have lower torque and larger step angles than Series 20 below. Step angles of 9° (40 steps per revolution) 11¼° (32 steps per revolution) and 22.5° (16 steps per revolution). Stepping error is ±4% of the final step. Designed for use in such applications as small printers, tape readers, chart drives and display controls.

18-140

18-2013

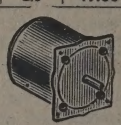


18-2520

Stock No.	Model No.	Step Angle	Max. Speed (SPS)	Step Torque (50 SPS)	Hold Torque (Oz.-In.)	Detent Torque (Oz.-In.)	Rotor Inertia (Oz.-In.²)	Mot. Pwr. (Watts)	Mot. Amps	Res./ Phase (Ohms)	Ind./ Phase (mh)	Sft. Dia. (in.)	Wt. (oz.)	Frame Dia. (in.)	NET EACH
24F3512	18-1408D40-F195	9°	300	0.51 oz.-in.	1.1	0.11	.066	1.2	.055	195	127	.079	2.9	1.4	22.50
24F3513	18-2013D32-F75	11.25°	180	2.3 oz.-in.	5.91	0.25	.42	3.6	.155	75	259	.118	8.5	2.0	32.00
24F3514	18-2520D16-F35	22.5°	200	1.4 oz.-in.	5.6	1.03	.52	7.7	.320	35	33	.118	17.5	2.5	49.00

SERIES 20 STEPPING MOTORS

Bi-directional stepping motors of two or four phase permanent magnet type in 2" and 3" frame diameters with output running torques ranging from 30 to 400 oz.-in. Step angles are 1.8° (200 steps per revolution). Positioning accuracy: shaft angle after any number of steps is correct within ±3% of final step (.06°), noncumulative. Standard motors have 8 leads for maximum driving efficiency. * below is speed with Bi-polar R/L drive, ** is with Bi-polar chopper drive. † is torque with Bi-polar R/L drive, ‡ with Bi-polar chopper drive.



Stock No.	Model No.	Step Angle (°)	Speed (SPS)	*	**	Step Torque (50 SPS) (oz.-in.)	†		‡	Hold Torque (oz.-in.)	Det. Torque (oz.-in.)	Rotor Inertia (oz.-in.²)	Mot. Pwr. (Watts)	Mot. Amps Uni-	Mot. Amps Bi-	Res./ Phase (Ohms)	Ind./ Phase (mh)	Shft. Dia. (")	Frame Dia. (")	Wt. (lbs.)	NET EACH
22F1071	20-2215D200-F1.5	1.8	1200	4000	10,000	24	28	30		24	1.1	.3	7.0	1.5	2.2	1.5	1.1	.250	2.2	.75	70.00
24F3516	20-2223D200-F6	1.8	800	1300	4000	40	50	56		56	2.5	.65	9.0	.9	1.3	6.0	8.4	.250	2.2	1.6	70.00
22F1072	20-2235D200-F3.7	1.8	600	1200	4000	100	125	140		130	3.7	1.3	16.0	1.5	2.1	3.7	8.1	.250	2.2	2.5	90.00
24F3517	20-3424D200-F1.8	1.8	600	900	5000	90	110	115		120	6.0	3.55	10.0	1.7	2.4	1.8	3.8	.375	3.4	4.12	70.00
24F3518	20-3437D200-F075	1.8	800	1200	6000	180	250	265		278	9.0	7.1	24	4.0	5.7	.75	2.8	.375	3.4	5.2	85.00
22F1073	20-3450D200-F1.2	1.8	550	3000	5000	300	350	400		425	15	10.7	29	3.5	5.0	1.2	4.0	.375	3.4	7.2	100.00

SERIES 20 SLOW SPEED SYNCHRONOUS MOTORS

Two-phase, slow-speed, bi-directional 72 rpm (at 60 Hz) synchronous motors with starting torques ranging from 40 to 300 oz.-in. Provide simple but accurate speed control in single or multiple applications (the permanent magnet motors lock with no slip to the AC line). Speed at 50 Hz., 60 rpm. Nominal voltage source is 120 volt, 60 Hz, AC. *Phase shift components not with motors.

Stock No.	Model No.	Torque (Nom./60 Hz) (Oz.-In.)	Rotor Inertia (Oz.-In.²)	Res./Ind. Phase (120 VAC mod.)	Amps (With Phase Shift Comp.)	Shft. Dia.	Wt. (oz.)	Frame Dia. (")	Phase Shift Net. 60 Hz, 120 VAC Ohms	uF	VAC	50 Hz, 220 VAC Ohms	uF	VAC	NET EACH
24F3504	20-2223S72-A120	44	.65	970/2.3	.08	.250	25	2.2	200	.75	330	200	1	330	48.00
22F1074	20-2235S72-A120	100	1.3	265/1.15	.2	.250	40	2.2	400	2.25	330	1500	.6	660	68.00
24F3505	20-3424S72-A120	100	3.55	240/1.0	.18	.375	52	3.4	500	2	330	1000	.8	660	48.00
24F3506	20-3437S72-A120	210	7.1	100/.53	.35	.375	80	3.4	200	4	330	800	1.5	660	68.00
22F1075	20-3450S72-A120	300	10.7	62/.42	.45	.375	117	3.4	200	5	330	800	2	660	95.00

DRIVERS FOR SIGMA STEPPING AND SYNCHRONOUS MOTORS

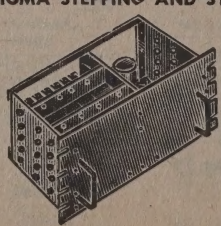
MODEL 29B BI-POLAR CHOPPER/DRIVER

Type 29B-01. Bi-polar chopper driver for very high motor performance. Ideal for high speed slewing and rapid start-stop applications. Requires only one-third power supply capacity. Eliminates external series resistance and related heat dissipation equipment. Power supply included. Motor supply voltage, 35 V, 5 A per phase.

22F1076. NET.....525.00

TYPE 29B-02. Same as Type 29B-01, but 65 volts, 10 amps per phase.

22F1077. NET.....675.00



MOTOR DRIVERS

Series 29A. Stepping motor drive systems accept standard low power IC level digital control pulses and converts them to proper phase format for motor windings. Power amplifier switches the required power through the windings. For Series 18 & 20.

Type 29A-45. Uni-polar R/L driver. Motor supply 1-50V, 5A/phase. ¾" high.

22F1078. NET.....60.00

Type 29A-46. Above, but 1-80V, 5A. 1" high.

22F1079. NET.....72.00

QUICK INDEX TO RELAYS

Newark's staff of merchandising experts have carefully selected these relays for a wide variety of electronic installations—from the simple to the highly sophisticated. All relays listed are in stock, at factory OEM prices, for fast shipment. See page 1 for the Newark facility closest to you. Call your Newark man or write for additional data on prices.

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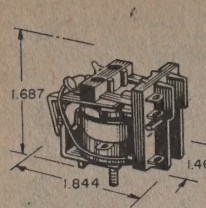
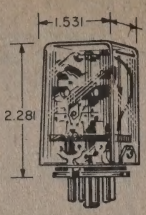
AMF | POTTER & BRUMFIELD General Purpose Relays

KA AND KAP SERIES



KA Series



KAP Series

KAP5

KAP14

KAP11

COIL DATA—KA SERIES

Input Volts	DC Coils Ohms	Milliamps	Input Volts	AC Coils Ohms	Milliamps
6	32	188	6	6	335
12	120	100	12	21	168
24	472	51	24	75	84
...	...	...	120	2,250	17.5
110	10,000	11.5	240	9,110	8.75
220	Use 110 v. relay with 10K 5W wire-wound resistor in series				

KA OPEN—5 AMPERES—AC TYPES

Stock No.	Type	Action	Input Volts	1-24	25-50	51-99	100-249	250 499
24F545	KA5AY	SPDT	6					
24F1308	KA5AY	SPDT	12	3.75	3.56	3.38	2.63	2.44
24F593	KA5AY	SPDT	24					
24F515	KA5AY	SPDT	120					
45F022	KA5AY	SPDT	240	4.25	4.04	3.83	2.98	2.76
24F547	KA11AY	DPDT	6					
24F1309	KA11AY	DPDT	12	4.55	4.42	4.19	3.26	3.02
24F594	KA11AY	DPDT	24					
24F517	KA11AY	DPDT	120					
24F1310	KA11AY	DPDT	240					
24F549	KA14AY	3PDT	6					
24F1213	KA14AY	3PDT	12	4.95	4.70	4.46	3.47	3.22
24F595	KA14AY	3PDT	24					
24F519	KA14AY	3PDT	120	4.20	3.99	3.78	2.94	2.73
62F3089	KA14AY	3DPT	240	5.45	5.18	4.91	3.82	3.54

KA OPEN—5 AMPS—DC TYPE

24F552	KA5DY	SPDT	6					
24F1214	KA5DY	SPDT	12	3.60	3.42	3.24	2.52	2.34
24F596	KA5DY	SPDT	24					
24F1311	KA5DY	SPDT	110	4.30	4.09	3.87	3.01	2.80
24F553	KA11DY	DPDT	6					
24F1215	KA11DY	DPDT	12	4.00	3.80	3.60	2.80	2.60
24F597	KA11DY	DPDT	24					
67F1069	KA11DY	DPDT	48	4.20	3.99	3.78	2.94	2.73
24F554	KA11DY	DPDT	110	4.70	4.47	4.23	3.29	3.06
24F523	KA14DY	3PDT	6					
24F1216	KA14DY	3PDT	12	4.50	4.28	4.05	3.15	2.93
24F598	KA14DY	3PDT	24					
24F1217	KA14DY	3PDT	110	5.20	4.94	4.68	3.64	3.38

KAP ENCLOSED—5 AMPERES—AC TYPE

24F2565	KAP11AY	DPDT	24	7.10	6.75	6.39	4.97	4.62
24F2566	KAP11AY	DPDT	120					
24F2567	KAP11AY	DPDT	240	7.50	7.13	6.75	5.25	4.88
24F2576	KAP14AY	3PDT	24	8.75	8.31	7.88	6.13	5.69
24F2577	KAP14AY	3PDT	120					
24F2578	KAP14AY	3PDT	240	9.15	8.69	8.24	6.41	5.95

Small, Low Cost Relays For Light Power Loads

Highly efficient general purpose relays for light power loads such as small motors, solenoids and other relays and general automation work. Relays with "Y" suffix bear CSA listing (File No. LR-15734) and carry UL component recognition (File No. E22575). Mechanical life expectancy: 10 million operations. Duty - continuous. Contacts: "Y" Suffix-Moveable, Gold flashed silver; stationary, Silver overlay, 5A. "G" Suffix silver-cadmium oxide on movable rated 10 amps.

KA Series is the open version of this series. Mounting: one No. 6-32 threaded stud and locating tab on .438" centers. Wt. 2 oz.

KAP Series is the enclosed model and is protected by a clear polycarbonate dust cover. Terminals: 8 or 11 pin plug. Wt. 3 oz.

KAP ENCLOSED—5 AMPS—DC TYPE

Stock No.	Type	Action	Volts	1-24	25-50	51-99	100-249	250-499
24F2573	KAP11DY	DPDT	12	7.05	6.70	6.35	4.94	4.58
24F2574	KAP11DY	DPDT	24	7.05	6.70	6.35	4.94	4.58
24F2575	KAP11DY	DPDT	110	7.75	7.36	6.98	5.43	5.04
24F2583	KAP14DY	3PDT	12	8.65	8.22	7.79	6.06	5.62
24F2584	KAP14DY	3PDT	24	8.65	8.22	7.79	6.06	5.62
24F2585	KAP14DY	3PDT	110	9.35	8.88	8.42	6.55	6.08

KA OPEN—TYPE 10 AMPERES—AC TYPE

24F1665	KA5AG	SPDT	6					
24F1666	KA5AG	SPDT	12	3.80	3.61	3.42	2.66	2.47
24F1667	KA5AG	SPDT	24					
24F1668	KA5AG	SPDT	120					
24F1669	KA5AG	SPDT	240	4.30	4.09	3.87	3.01	2.80
24F1670	KA11AG	DPDT	6					
24F1671	KA11AG	DPDT	12	4.65	4.42	4.19	3.26	3.02
24F1672	KA11AG	DPDT	24					
24F1673	KA11AG	DPDT	120					
24F1674	KA11AG	DPDT	240	5.05	4.80	4.55	3.54	3.28
24F1675	KA14AG	3PDT	6					
24F1676	KA14AG	3PDT	12	5.15	4.89	4.64	3.61	3.35
24F1677	KA14AG	3PDT	24					
24F1678	KA14AG	3PDT	120					
24F1679	KA14AG	3PDT	240	5.65	5.37	5.09	3.96	3.67

KA OPEN -10 AMPS- DC TYPE

45F023	KA5DG	SPDT	6	3.65	3.47	3.29	2.56	2.37
45F024	KA5DG	SPDT	12	3.65	3.47	3.29	2.56	2.37
45F025	KA5DG	SPDT	24	3.65	3.47	3.29	2.56	2.37
45F026	KA5DG	SPDT	110	4.35	4.13	3.92	3.05	2.83
45F027	KA11DG	DPDT	6	4.15	3.94	3.74	2.91	2.70
45F028	KA11DG	DPDT	12	4.15	3.94	3.74	2.91	2.70
45F029	KA11DG	DPDT	24	4.15	3.94	3.74	2.91	2.70
45F030	KA11DG	DPDT	110	4.85	4.61	4.37	3.40	3.15
62F3090	KA14DG	3PDT	6	4.70	4.47	4.23	3.29	3.06
45F031	KA14DG	3PDT	12	4.70	4.47	4.23	3.29	3.06
45F032	KA14DG	3PDT	24	4.70	4.47	4.23	3.29	3.06
45F033	KA14DG	3PDT	110	5.40	5.13	4.86	3.78	3.51

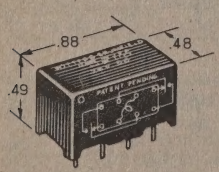
KAP ENCLOSED—10 AMPS—AC TYPES

62F3091	KAP5AG	SPDT	24	6.45	6.13	5.81	4.52	4.19
45F034	KAP5AG	SPDT	120	6.45	6.13	5.81	4.52	4.19
24F2568	KAP11AG	DPDT	6	7.20	6.84	6.48	5.04	4.68
24F2569	KAP11AG	DPDT	24	7.20	6.84	6.48	5.04	4.68
24F2570	KAP11AG	DPDT	120	7.20	6.84	6.48	5.04	4.68
24F2579	KAP14AG	3PDT	24	8.90	8.46	8.01	6.23	5.79
24F2580	KAP14AG	3PDT	120	8.90	8.46	8.01	6.23	5.79

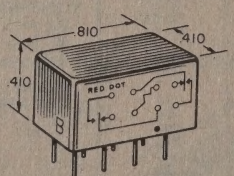
KAP ENCLOSED—10 AMPS—DC TYPES

62F3092	KAP5DG	SPDT	24	6.35	6.03	5.72	4.45	4.13
62F3093	KAP5DG	SPDT	110	7.05	6.70	6.35	4.94	4.58
24F2571	KAP11DG	DPDT	24	7.15	6.79	6.44	5.01	4.65
24F2572	KAP11DG	DPDT	110	7.85	7.46	7.07	5.50	5.10
24F2581	KAP14DG	3PDT	24	8.85	8.41	7.97	6.20	5.75
24F2582	KAP14DG	3PDT	110	9.55	9.07	8.60	6.69	6.21
24F2586	9KA1	hold down spring		.12	.115	.11	.09	.08

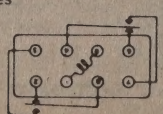
HP AND HPS SERIES HALF SIZE CRYSTAL CASE



HP Series



HPS Series



HP SERIES. Circuit board or socket mounting. Encased in a nylon heat-sealed (non-hermetic) cover. Terminals on .2 grid. Wt. .3 oz.
HPS SERIES. Hermetically sealed version of **HP SERIES.** Designed for prolonged submersion of pc boards in cleaning solvents. Recommended for use in applications requiring more critical specs than HP provides. HP socket may be used for mounting. Sealed metal enclosed. Wt. ¼ oz.

Stk. No.	Type	Action	VDC	1-24	25-50	51-99	100-249
67F1070	HP11D	DPDT	6	8.40	7.98	7.56	5.88
24F2898	HP11D	DPDT	12	8.40	7.98	7.56	5.88
24F2899	HP11D	DPDT	24	8.40	7.98	7.56	5.88
45F227	HP11D	DPDT	48	8.95	8.50	8.06	6.27
24F3367	HPS11D	DPDT	12	10.15	9.64	9.14	7.11
24F3368	HPS11D	DPDT	24	10.15	9.64	9.14	7.11

9HP1 solder terminal socket and retainer for HP relay.

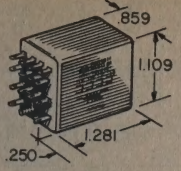
Stk. No.	Type	1-24	25-50	51-99	100-249
24F2950	9HP1	.48	.45	.43	.33

10

General Purpose Relays

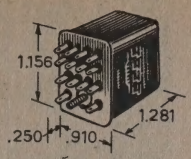
AMF | POTTER & BRUMFIELD

KHU—KHP—KHS SERIES COMPACT RELAYS



KHP

KHU Series Dimensions Same as KHP



KHS

Small 4PDT relays. Designed to meet exacting requirements of data processing, computer and process control applications. **Suffix-1** denotes gold-flashed silver contacts rated 3 amps @ 30 VDC or 120 VAC, resistive. **Suffix-2** denotes silver-cadmium oxide contacts rated 3 amps. **Suffix-3** indicates gold alloy contacts for low level to 2 amp application. **Suffix-6** indicates gold overlay on silver bifurcated contacts rated 1 amp @ 30 VDC resistive or 120 VAC. Mounting: solder terminals with 3-48 stud 0.312" long. **KHU Series** is recognized under component program of UL and has clear polycarbonate cover. **KHP Series** has nylon dust cover. **KHS Series** is hermetically sealed in metal enclosure. Weight without socket: KHU and KHP—1.12 oz. KHS—1.63 oz.

SOCKETS AND SPRING FOR KH SERIES

Stock No.	Type	Description	1-24	25-49	50-99	100-249	250-499
24F1396	9KH-1	Solder Term. Skt.	.66	.63	.59	.46	.43
24F1397	9KH-2	PC. Socket.	.66	.63	.59	.46	.43
24F1398	9KH-3	Hold Down Spring	.11	.105	.099	.077	.072

DC VOLTS—Nylon Dust Cover—3 AMPS except (††) 2 AMPS (**) 1 AMP

Stock No.	Type	Coil Input Volts	Contact Rating Amps	1-24	25-50	51-99	100-249	250-499
24F1390	KHP17D11	6	40	5.10	4.85	4.59	3.57	3.32
24F1391	KHP17D11	12	160	5.10	4.85	4.59	3.57	3.32
24F1392	KHP17D11	24	650	5.10	4.85	4.59	3.57	3.32
24F1393	KHP17D11	48	2600	5.30	5.04	4.77	3.71	3.45
24F1394	KHP17D11	90	9000	5.95	5.65	5.36	4.17	3.87
24F1395	KHP17D11	110	11000	5.95	5.65	5.36	4.17	3.87
67F1053	KHP17D12	12	160	5.25	4.99	4.73	3.68	3.41
24F1697	KHP17D12	24	650	5.25	4.99	4.73	3.68	3.41
67F1054	KHP17D12	48	2600	5.45	5.18	4.91	3.82	3.54
24F1698	KHP17D12	110	11000	6.10	5.80	5.49	4.27	3.97
24F3281	KHP17D13††	24	650	7.15	6.79	6.44	5.01	4.65
67F1055	KHP17D13††	48	2600	7.35	6.98	6.62	5.15	4.78
56F1056	KHP17D16**	12	160	6.05	5.75	5.45	4.24	3.93
67F1057	KHP17D16**	24	650	6.05	5.75	5.45	4.24	3.93

DC VOLTS—Hermetically Sealed Metal—3 AMP except (††) 2 AMPS

24F2561	KHS17D11	6	40	8.60	8.17	7.74	6.02	5.59
24F2562	KHS17D11	12	160	8.60	8.17	7.74	6.02	5.59
24F2563	KHS17D11	24	650	8.60	8.17	7.74	6.02	5.59
24F2564	KHS17D11	110	11000	9.45	8.98	8.51	6.62	6.14
24F3280	KHS17D12	24	650	8.75	8.31	7.88	6.13	5.69
67F1058	KHS17D12	110	11000	9.60	9.12	8.64	6.72	6.24
67F1059	KHS17D13††	24	650	10.70	10.17	9.63	7.49	6.96

DC VOLTS—U.L. Recognized Clear Plastic—3 AMP except (**) 1 AMP

45F035	KHU17D11	6	40	5.10	4.85	4.59	3.57	3.32
45F036	KHU17D11	12	160	5.10	4.85	4.59	3.57	3.32
45F037	KHU17D11	24	650	5.10	4.85	4.59	3.57	3.32
45F038	KHU17D11	48	2600	5.30	5.04	4.77	3.71	3.45
62F3083	KHU17D11	90	9000	5.95	5.65	5.36	4.17	3.87
45F039	KHU17D11	110	11000	5.95	5.65	5.36	4.17	3.87
45F140	KHU17D12	24	650	5.25	4.99	4.73	3.68	3.41
45F041	KHU17D12	110	11000	6.10	5.80	5.49	4.27	3.97
62F3080	KHU17D16**	12	160	6.05	5.75	5.45	4.24	3.93
62F3082	KHU17D16**	24	650	6.05	5.75	5.45	4.24	3.93

AC VOLTS—Nylon Dust Cover—3 AMPS

24F1661	KHP17A11	6	10.5	5.60	5.32	5.04	3.92	3.64
24F1662	KHP17A11	12	43	5.60	5.32	5.04	3.92	3.64
24F1663	KHP17A11	24	160	5.60	5.32	5.04	3.92	3.64
24F1664	KHP17A11	120	3900	6.10	5.80	5.49	4.27	3.97
24F3282	KHP17A12	120	3900	6.25	5.94	5.63	4.38	4.06
67F1060	KHP17A13	120	3900	8.15	7.74	7.34	5.71	5.30

AC VOLTS—Hermetically Sealed Metal—3 AMPS

24F2557	KHS17A11	6	10.5	9.60	9.12	8.64	6.72	6.24
24F2558	KHS17A11	12	43	9.60	9.12	8.64	6.72	6.24
24F2559	KHS17A11	24	160	9.60	9.12	8.64	6.72	6.24
24F2560	KHS17A11	120	3900	9.95	9.45	8.96	6.97	6.47
24F3283	KHS17A12	120	3900	10.15	9.64	9.14	7.11	6.60
67F1061	KHS17A13	120	3900	11.75	11.16	10.58	8.23	7.64

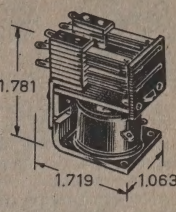
AC VOLTS—UL Recognized Clear Plastic—3 AMPS

45F042	KHU17A11	6	10.5	5.60	5.32	5.04	3.92	3.64
45F043	KHU17A11	12	43	5.60	5.32	5.04	3.92	3.64
45F044	KHU17A11	24	160	5.60	5.32	5.04	3.92	3.64
45F045	KHU17A11	120	3900	6.10	5.80	5.49	4.27	3.97
62F3082	KHU17A12	120	390	6.25	5.94	5.63	4.38	4.06

GA SERIES—MULTIPLE LEAF

- **Low Cost**
- **Multiple Contact**
- **For Industrial Control**

Low Cost, all purpose, multiple contact, voltage switching relay. Used for many industrial control applications. Tinned, pierced solder type terminals. Contacts: Silver rated 5 amps, designed for maximum self-cleaning action. Mounting: 8-32 tapped core with locating boss. Weight: 3½ oz.



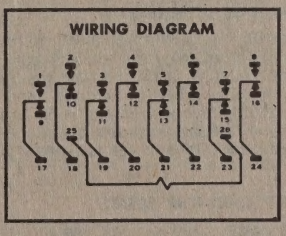
GA SERIES

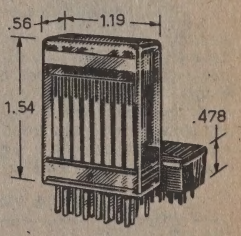
COIL DATA—GA SERIES

Volts	DC Coils Ohms	DC Coils Milliamps	Volts	AC Coils Ohms	AC Coils Milliamps
6	18	333	6	1.7	1,000
12	72	167	12	6.8	500
24	288	83	24	26.0	260
110	6,050	18	120	690	50
			240	2,950	25

Stock No.	Type	Action	Coil Input	1-24	25-50	51-99	100-249	250-499
24F1183	GA11A	DPDT	6VAC					
24F1184	GA11A	DPDT	24VAC	4.05	3.85	3.65	2.84	2.63
24F1185	GA11A	DPDT	120VAC					
62F3094	GA11A	DPDT	12VAC	4.05	3.85	3.65	2.84	2.63
62F3095	GA14A	3PDT	24VAC	4.85	4.61	4.37	3.40	3.15
24F1186	GA17A	4PDT	6VAC					
24F1187	GA17A	4PDT	12VAC	5.85	5.56	5.27	4.10	3.80
24F1188	GA17A	4PDT	24VAC					
24F1189	GA17A	4PDT	120VAC					
24F1190	GA11D	DPDT	6VDC					
24F1191	GA11D	DPDT	12VDC	4.05	3.85	3.65	2.84	2.63
24F1192	GA11D	DPDT	24VDC					
24F1193	GA11D	DPDT	110VDC	4.55	4.32	4.10	3.19	2.96
24F1194	GA17D	4PDT	6VDC					
24F1195	GA17D	4PDT	12VDC	5.85	5.56	5.27	4.10	3.80
24F1196	GA17D	4PDT	24VDC					
24F1197	GA17D	4PDT	110VDC	6.35	6.03	5.72	4.45	4.15
62F3096	GA14A	3PDT	120VAC	4.85	4.61	4.37	3.40	3.15

KDP SERIES— COMPACT GENERAL PURPOSE RELAY





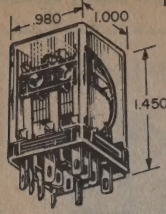
- **Multiple Pole DC Relay**
- **Compact—General Purpose**

Compact, general purpose 24 VDC relay offers 8 Form C (8PDT) switching with bifurcated gold over silver contacts rated 1 amp @ 30 VDC, resistive or 0.5 amp @ 120 VAC. Designed for dense packaging applications. Provides electrical isolation on both input and switching sides. Operate speed is 15 milliseconds @ nominal voltage @ 25°C. Mechanical life: in excess of 10 million operations. Duty: Continuous. Clear polycarbonate dust cover. Mounting: solder terminal sockets with snap-lock spring for front insertion into chassis or panel. Wt. w/o socket—1.3 oz.

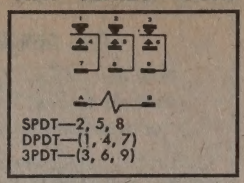
Stk. No.	Type	1-24	25-50	51-99	100-249	250-499
45F088	KDP29D11	9.40	8.93	8.46	6.58	6.11
45F089	9KD2 socket	.95	.90	.86	.67	.63
45F102	9KD3 springs	.11	.105	.099	.077	.071

10

KNP SERIES—COMPACT—3 AMP RELAYS



Small AC or DC General Purpose Relay



Recognized under the Component Program of UL and CSA for ratings of 1/10 HP @ 120 VAC; 3 amps @ 32 VDC resistive or 3 amps @ 240 VAC 80% PF. U/L File No. E22575. Contacts are fine silver cross bars for low resistance point contact. Terminals are .110" quick-connect/solder. Fit sockets below. **KNP-11 Series** has 6-32" tapped hole with locating tab for chassis mounting. **KNP-21 Series** has 3-48" stud for chassis mounting. Enclosed in clear polycarbonate dust cover. Size when seated 1.45" high max. Wt. 1.4 oz.

COIL DATA—KNP SERIES

DC Coils			AC Coils		
Input	Ohms	Milliamps	Input	Ohms	Milliamp
6 V	18	333	6 V	1.7	1000
12 V	72	167	12 V	6.8	500
24 V	288	83	24 V	26.0	260
110 V	6050	18	110 V	2950	25
			120 V	690	50
			240 V	2950	25

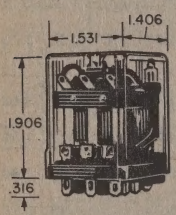
KNP SOCKETS

9KN1. Solder terminals with grounding lug. **9KN2.** PC terminals with grounding lug. **9KN3.** Hold down spring.

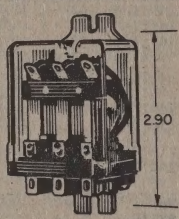
Stock No.	Type	1-24	25-49	50-99	100-249	250-499
45F200	9KN1	.70	.66	.63	.49	.45
45F201	9KN2	.70	.66	.63	.49	.45
45F202	9KN3	.10	.095	.09	.07	.065

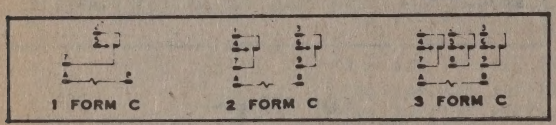
Stock No.	Type	Action	Coil	1-24	25-50	51-99	100-249	250-499
AC VOLTS—3 AMPS								
24F3334	KNP5A21	SPDT	6	3.80	3.61	3.42	2.66	2.47
24F3333	KNP5A21	SPDT	12					
24F3332	KNP5A21	SPDT	24					
24F3335	KNP5A21	SPDT	120					
67F1099	KNP11A11	DPDT	6	4.50	4.28	4.05	3.15	2.93
67F1100	KNP11A11	DPDT	12					
67F1101	KNP11A11	DPDT	24					
67F1102	KNP11A11	DPDT	120					
24F3336	KNP11A21	DPDT	6	4.50	4.28	4.05	3.15	2.93
24F3337	KNP11A21	DPDT	12					
24F3338	KNP11A21	DPDT	24					
24F3339	KNP11A21	DPDT	120					
24F3340	KNP14A21	3PDT	6	5.05	4.80	4.55	3.54	3.28
24F3341	KNP14A21	3PDT	12					
24F3342	KNP14A21	3PDT	24					
24F3343	KNP14A21	3PDT	120					
DC VOLTS—3 AMPS								
24F3320	KNP5D21	SPDT	6	3.65	3.47	3.29	2.56	2.37
24F3321	KNP5D21	SPDT	12	3.65	3.47	3.29	2.56	2.37
24F3322	KNP5D21	SPDT	24	3.65	3.47	3.29	2.56	2.37
24F3323	KNP5D21	SPDT	110	4.20	3.99	3.78	2.94	2.73
67F1103	KNP11D11	DPDT	6	4.05	3.85	3.65	2.84	2.63
67F1104	KNP11D11	DPDT	12	4.05	3.85	3.65	2.84	2.63
67F1105	KNP11D11	DPDT	24	4.05	3.85	3.65	2.84	2.63
67F1106	KNP11D11	DPDT	48	4.20	3.99	3.78	2.94	2.73
67F1107	KNP11D11	DPDT	110	4.70	4.47	4.23	3.29	3.06
24F3324	KNP11D21	DPDT	6	4.05	3.85	3.65	2.84	2.63
24F3325	KNP11D21	DPDT	12	4.05	3.85	3.65	2.84	2.63
24F3326	KNP11D21	DPDT	24	4.05	3.85	3.65	2.84	2.63
67F1111	KNP11D21	DPDT	48	4.20	3.99	3.78	2.94	2.73
24F3327	KNP11D21	DPDT	110	4.70	4.47	4.23	3.29	3.06
24F3328	KNP14D21	3PDT	6	4.65	4.42	4.19	3.26	3.02
24F3329	KNP14D21	3PDT	12	4.65	4.42	4.19	3.26	3.02
24F3330	KNP14D21	3PDT	24	4.65	4.42	4.19	2.26	3.02
67F1112	KNP14D21	3PDT	48	4.80	4.56	4.32	3.36	3.12
24F3331	KNP14D21	3PDT	110	5.30	5.04	4.77	3.71	3.45

KUP SERIES—RELIABLE 10 AMP RELAYS



For Industrial Control





- **Quick Connect/Solder Type Terminals**
- **Silver-Cadmium Oxide Contacts For Long Life**

10 amp relay for industrial control. Terminals are 0.187" quick connect/solder type. Suffix-15 indicates relay enclosed in clear polycarbonate dust cover. Silver cadmium oxide contacts assure long contact life. Operation—continuous. All are recognized under component program of UL (File 22575). Flange type (suffix 55) are not suitable for socket mounting. 0.187" terminals are quick connect/solder type with a slot width of .078" and are for direct to chassis mounting. Wt. 3 oz.

COIL DATA FOR KU AND KUP SERIES

DC COILS			AC COILS 1 & 2 Poles			AC COILS 3 Poles		
Volts	DC Ohms	Ma	Volts	DC Ohms	Ma	Volts	DC Ohms	Ma
6	32.1	188	6	6.0	235	6	4.2	460
12	120	100	12	21	168	12	18	230
24	472	51	24	85	84	24	72	115
110	10000	11.5	240	9110	8.7	240	7200	12

For 220V Use 110V relay with 10K wire-wound resistor in series

SOCKETS AND SPRINGS FOR KUP RELAYS

Stock No.	Type	Description	1-24	25-50	51-99	100-249
45F046	9KU1	Standard socket	.80	.76	.72	.56
45F047	9KU2	Printed circuit socket	.95	.90	.86	.67
45F048	9KU3	Hold down spring	.11	1.05	.099	.077
45F049	9KU6	DPDT Relay only	3.50	3.33	3.15	2.45
45F050	9KU5	Quick connect terminal	1.26	1.20	1.13	.80

Stock No.	Type	Action	Coil V	1-24	25-50	51-99	100-249	250-499
AC VOLTS—10 AMPS except (*) 5 AMPS								
24F2600	KUP5A15	SPDT	6	4.15	3.94	3.74	2.91	2.70
24F2601	KUP5A15	SPDT	12	4.15	3.94	3.74	2.91	2.70
24F2602	KUP5A15	SPDT	24	4.15	3.94	3.74	2.91	2.70
24F2603	KUP5A15	SPDT	120	4.15	3.94	3.74	2.91	2.70
24F2604	KUP5A15	SPDT	240	4.60	4.37	4.14	3.22	2.99
67F1108	KUP11A11*	DPDT	120	4.90	4.66	4.41	3.43	3.19
24F2609	KUP11A15	DPDT	6	5.05	4.80	4.55	3.54	3.28
24F2610	KUP11A15	DPDT	12	5.05	4.80	4.55	3.54	3.28
24F2611	KUP11A15	DPDT	24	5.05	4.80	4.55	3.54	3.28
24F2612	KUP11A15	DPDT	120	5.05	4.80	4.55	3.54	3.28
24F2613	KUP11A15	DPDT	240	5.50	5.23	4.95	3.85	3.58
67F1109	KUP14A11*	3PDT	120	5.45	5.18	4.91	3.82	3.54
24F2618	KUP14A15	3PDT	6	5.65	5.37	5.09	3.96	3.25
24F2619	KUP14A15	3PDT	12	5.65	5.37	5.09	3.96	3.25
24F2620	KUP14A15	3PDT	24	5.65	5.37	5.09	3.96	3.25
24F2621	KUP14A15	3PDT	120	5.65	5.37	5.09	3.96	3.25
24F2622	KUP14A15	3PDT	240	6.10	5.80	5.49	4.27	3.99
DC VOLTS—10 AMPS except (*) 5 AMPS								
24F2605	KUP5D15	SPDT	6	4.00	3.80	3.60	2.80	2.60
24F2606	KUP5D15	SPDT	12	4.00	3.80	3.60	2.80	2.60
24F2607	KUP5D15	SPDT	24	4.00	3.80	3.60	2.80	2.60
24F2608	KUP5D15	SPDT	110	4.65	4.42	4.19	3.26	3.02
24F2614	KUP11D15	DPDT	6	4.55	4.32	4.10	3.19	2.96
24F2615	KUP11D15	DPDT	12	4.55	4.32	4.10	3.19	2.96
24F2616	KUP11D15	DPDT	24	4.55	4.32	4.10	3.19	2.96
24F2617	KUP11D15	DPDT	110	5.25	4.99	4.73	3.68	3.41
67F1110	KUP11D11*	DPDT	24	4.40	4.18	3.96	3.08	2.86
21F2623	KUP14D15	3PDT	6	5.20	4.94	4.68	3.64	3.38
24F2624	KUP14D15	3PDT	12	5.20	4.94	4.68	3.64	3.38
24F2625	KUP14D15	3PDT	24	5.20	4.94	4.68	3.64	3.38
24F2626	KUP14D15	3PDT	110	5.65	5.37	5.09	3.96	3.67
FLANGED TYPE								
AC VOLTS—10 AMPS								
24F3264	KUP5A55	SPDT	120	4.15	3.94	3.74	2.91	2.70
24F3265	KUP11A55	DPDT	24	5.05	4.80	4.55	3.54	3.28
24F3266	KUP11A55	DPDT	120	5.05	4.80	4.55	3.54	3.28
24F3267	KUP14A55	3PDT	6	5.65	5.37	5.09	3.96	3.67
24F2891	KUP14A55	3PDT	12	5.65	5.37	5.09	3.96	3.67
24F2892	KUP14A55	3PDT	24	5.65	5.37	5.09	3.96	3.67
24F2893	KUP14A55	3PDT	120	5.65	5.37	5.09	3.96	3.67
24F3268	KUP14A55	3PDT	240	6.10	5.80	5.49	4.27	3.97
DC VOLTS—10 AMPS								
24F3274	KUP5D55	SPDT	24	4.00	3.80	3.60	2.80	2.60
24F3275	KUP11D55	DPDT	6	4.55	4.32	4.10	3.19	2.96
24F3276	KUP11D55	DPDT	12	4.55	4.32	4.10	3.19	2.96
24F3277	KUP11D55	DPDT	24	4.55	4.32	4.10	3.19	2.96
24F3278	KUP11D55	DPDT	110	5.25	4.99	4.73	3.68	3.41
24F3279	KUP14D55	3PDT	6	5.20	4.94	4.68	3.64	3.38
24F2894	KUP14D55	3PDT	12	5.20	4.94	4.68	3.64	3.38
24F2895	KUP14D55	3PDT	24	5.20	4.94	4.68	3.64	3.38
24F2896	KUP14D55	3PDT	110	5.65	5.37	5.09	3.96	3.67

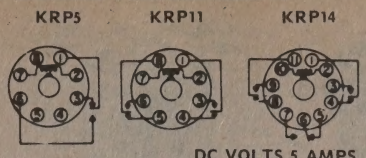
GP and Power Relays

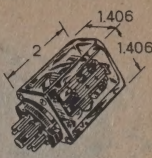
AMF | POTTER & BRUMFIELD

KRP AND KRP-N SERIES MEDIUM GENERAL PURPOSE RELAYS

KRP Series. Versatile, multi-contact arrangement. Enclosed in clear polycarbonate dust cover. Standard 8 pin octal type plug for KPR5 and KPR11. 11 pin for KPR-14. Contacts: 5 amps are gold flashed silver, 10 amps are silver cadmium oxide. **KRP-N Series.** Indicator Lamp Relay incorporating a lamp to indicate current or voltage availability in power circuit. Mounting: standard octal plug. Contacts: Silver cadmium oxide rated 10 amps. Enclosed in clear polycarbonate dust cover. Approximate weight: 3 oz.

KRP5 KRP11 KRP14





AC VOLTS 5 AMPS

Stock No.	Type	Input Volts	Action	1-24	25-50	51-99	100-249	250-499
24F522	KRP5A	6V	SPDT					
67F1113	KRP5A	12V	SPDT	6.35	6.03	5.72	4.45	4.13
24F524	KRP5A	24V	SPDT					
24F520	KRP5A	120V	SPDT					
24F548	KRP11A	6V	DPDT					
24F1223	KRP11A	12V	DPDT	7.05	6.70	6.35	4.94	4.58
24F525	KRP11A	24V	DPDT					
24F518	KRP11A	120V	DPDT					
24F1324	KRP11A	240V	DPDT	7.50	7.13	6.75	5.25	4.88
24F1224	KRP14A	6V	3PDT					
24F1225	KRP14A	12V	3PDT	8.75	8.31	7.88	6.13	5.69
24F526	KRP14A	24V	3PDT					
24F527	KRP14A	120V	3PDT					
45F103	KRP14A	240V	3PDT	9.20	8.74	8.28	6.44	5.98

AC VOLTS 10 AMPS

24F1330	KRP5AG	6V	SPDT					
67F1114	KRP5AG	12V	SPDT	6.50	6.18	5.85	4.55	4.23
24F1331	KRP5AG	24V	SPDT					
24F1332	KRP5AG	120V	SPDT					
24F1333	KRP11AG	6V	DPDT					
24F1334	KRP11AG	12V	DPDT	7.30	6.94	6.57	5.11	4.75
24F1335	KRP11AG	24V	DPDT					
24F1336	KRP11AG	120V	DPDT					
24F1696	KRP11AG	240V	DPDT	7.75	7.36	6.98	5.43	5.04
24F1337	KRP14AG	6V	3PDT					
24F1338	KRP14AG	12V	3PDT	9.10	8.65	8.19	6.37	5.92
24F1339	KRP14AG	24V	3PDT					
24F1340	KRP14AG	120V	3PDT					
24F2947	KRP14AG	240V	3PDT	9.55	9.07	8.60	6.69	6.21

AC VOLTS 10 AMPS WITH INDICATOR LAMP

24F1435	KRP11AN	6V	DPDT					
24F1436	KRP11AN	12V	DPDT	8.35	7.93	7.52	5.85	5.43
24F1437	KRP11AN	24V	DPDT					
24F1438	KRP11AN	120V	DPDT					
24F1439	KRP14AN	240V	DPDT	10.15	9.64	9.14	7.11	6.60
62F3085	KRP14AN	6V	3PDT	10.15	9.64	9.14	7.11	6.60
62F3086	KRP14AN	12V	3PDT	10.15	9.64	9.14	7.11	6.60
62F3087	KRP14AN	24V	3PDT	10.15	9.64	9.14	7.11	6.60
24F1329	KRP14AN	120V	3PDT	10.15	9.64	9.14	7.11	6.60
62F3084	KRP14AN	240V	3PDT	10.60	10.07	9.54	7.42	6.89

DC VOLTS 5 AMPS

Stk.	Type	Input Volts	Action	1-24	25-50	51-99	100-249	250-499
24F1226	KRP5D	6V	SPDT					
24F1325	KRP5D	12V	SPDT	6.30	5.99	5.67	4.41	4.10
24F1227	KRP5D	24V	SPDT					
24F1326	KRP5D	110V	SPDT					
24F680	KRP11D	6V	DPDT					
24F683	KRP11D	12V	DPDT	7.00	6.65	6.30	4.90	4.55
24F528	KRP11D	24V	DPDT					
67F1115	KRP11D	48V	DPDT	7.40	7.03	6.66	5.18	4.81
24F682	KRP11D	110V	DPDT	7.70	7.32	6.93	5.39	5.01
24F1228	KRP14D	6V	3DPT					
24F1229	KRP14D	12V	3PDT	8.65	8.22	7.79	6.06	5.62
24F679	KRP14D	24V	3PDT					
67F1116	KRP14D	48V	3PDT	9.05	8.60	8.15	6.34	5.88
24F1327	KRP14D	110V	3PDT	9.35	8.88	8.42	6.55	6.08

DC VOLTS 10 AMPS

62F3088	KRP5DG	6V	SPDT	6.45	6.18	5.85	4.55	4.23
45F104	KRP5DG	12V	SPDT	6.45	6.18	5.85	4.55	4.23
24F1343	KRP5DG	24V	SPDT	6.45	6.18	5.85	4.55	4.23
24F1344	KRP5DG	110V	SPDT	7.15	6.79	6.44	5.01	4.65
24F1345	KRP11DG	6V	DPDT					
24F1346	KRP11DG	12V	DPDT	7.25	6.89	6.53	5.08	4.71
24F1347	KRP11DG	24V	DPDT					
67F1117	KRP11DG	48V	DPDT	7.65	7.27	6.89	5.36	4.95
24F1348	KRP11DG	110V	DPDT	7.95	7.55	7.16	5.57	5.17
24F1349	KRP14DG	6V	3DPDT					
24F1350	KRP14DG	12V	3PDT	9.00	8.55	8.10	6.30	5.85
24F1359	KRP14DG	24V	3PDT					
67F1118	KRP14DG	48V	3PDT	9.40	8.93	8.46	6.58	6.11
24F1351	KRP14DG	110V	3PDT	9.70	9.22	8.73	6.79	6.31

DC VOLTS 10 AMPS WITH INDICATOR LAMP

24F1440	KRP11DN	6V	DPDT					
24F1441	KRP11DN	12V	DPDT	8.25	7.84	7.43	5.78	5.36
24F1442	KRP11DN	24V	DPDT					
24F1443	KRP11DN	110V	DPDT	9.00	8.55	8.10	6.30	5.85
67F1119	KRP24DN	24V	3 PDT	10.05	9.55	9.05	7.04	6.53

KCP-KRP HOLD DOWN SPRING

Type 9-KR-15. Fits all KCP and KRP plug-in relays. Steel spring can be moved aside for relay removal and installation. Mounting: 2 3/32" dia. holes on 1 5/16" centers. Wt. 3 oz. for 50.

Stk. No.	Type	1-24	25-50	51-99	100-249	250-499
24F1358	9-KR-15	.12	.11	.10	.08	.075

AB AND ABC SERIES MEDIUM POWER 10 AMP RELAYS

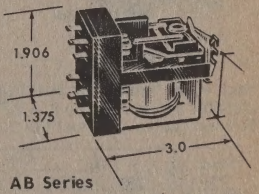
DPDT AC TYPE

Stock No.	Type	Input Volts	Ohms	1-24	25-50	51-99	100-249
62F2961	AB11AY	6VAC	1.3	6.20	5.89	5.58	4.34
62F2962	AB11AY	24VAC	23	6.20	5.89	5.58	4.34
24F1121	AB11AY	120VAC	510	6.20	5.89	5.58	4.34
45F000	AB11AY	240VAC	2050	6.70	6.37	6.03	4.69
62F2963	ABC11AY	6VAC	1.3	7.45	7.08	6.71	5.22
62F2964	ABC11AY	24VAC	23	7.45	7.08	6.71	5.22
24F1129	ABC11AY	120VAC	510	7.45	7.08	6.71	5.22
45F001	ABC11AY	240VAC	2050	7.95	7.55	7.16	5.57

DPDT DC TYPE

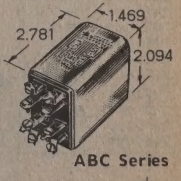
62F2965	AB11DY	12VDC	72	6.15	5.84	5.54	4.31
62F2966	AB11DY	24VDC	288	6.15	5.84	5.54	4.31
62F2967	AB11DY	110VDC	6050	6.65	6.32	5.99	4.66
62F2968	ABC11DY	6VDC	18	7.45	7.08	6.71	5.22
62F2969	ABC11DY	12VDC	72	7.45	7.08	6.71	5.22
62F2970	ABC11DY	24VDC	288	7.45	7.08	6.71	5.22
62F2971	ABC11DY	110VDC	6050	7.95	7.55	7.16	5.57

Equipped with terminals to fit snap-on connectors and may be applied to PC using dip soldering. Recognized under component program of UL and are CSA listed. Silver contacts.



AB Series

AB Series. For appliance and general purpose applications. Mtg.—Two 8-32 tapped holes on 1¼" centers. Wt. 5 oz.



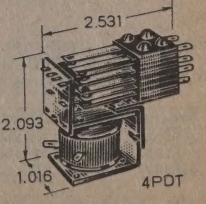
ABC Series

ABC Series. Medium duty power relay with dust cover. For small motors, industrial control and similar applications. Mtg.—One 8-32 threaded stud 3/8" long and locating tab on 0.562" centers. Wt. Approx. 7 oz.

GF SERIES MEDIUM POWER RELAYS

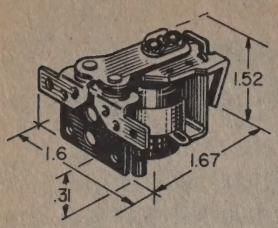
Stk. No	Type	Input Volts	Ohms	1-24	25-50	51-99	100-249
62F2972	GF17A	12VAC	6.8	7.65	7.27	6.89	5.36
62F2973	GF17A	24VAC	24	7.65	7.27	6.89	5.36
24F2590	GF17A	120VAC	690	7.65	7.27	6.89	5.36
24F2591	GF17A	240VAC	2950	8.10	7.70	7.29	5.67
62F2974	GF17D	6VDC	18	7.65	7.27	6.89	5.36
24F2593	GF17D	12VDC	72	7.65	7.27	6.89	5.36
24F2594	GF17D	24VDC	288	7.65	7.27	6.89	5.36
24F2595	GF17D	110VDC	6050	8.20	7.79	7.38	5.74

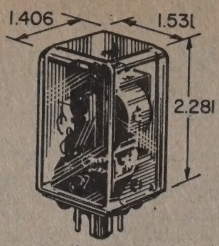
Medium duty power relay for industrial control applications. Long contact arms have silver contacts rated at 10 amps @ 120 VAC or 28 VDC resistive. 4PDT contacts have excellent self-cleaning action. Tinned pierced solder terminals. Mtg. —8-32 tapped core with locating boss. Wt. 4.75 oz.



AMF | POTTER & BRUMFIELD Heavy Duty Power Relays

KR3-H AND KRP3-H COMPACT RELAYS





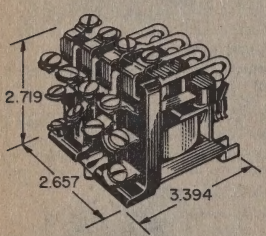
- **Used where limited space is a factor**
- **Weighs only 2 oz.**

Heavy duty relay ideal for limited space. Copper alloy movable contact carrier has twin silver-cadmium oxide contacts rated 20 amps @ 120V AC 60 Hz resistive or 28V DC; 1 HP 120/240V 60 Hz. Contact arrangement is 1 Form X (SPST-NO-DM) only. Terminals suitable for .250" quick connect, also solder; for contacts: solder only for coil. Mtg.: one 6-32 stud and locating tab on .437" center. Size: 1.6"x1.671"x1.52". Seated height: 1.21". **KRP3-H Series.** As above except enclosed in clear polycarbonate dust cover with an octal plug-in case. 1.406x1.531x2.281".

Stock No.	Type	Contacts	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249
62F3039	KR3AH	SPST-NO-DM	12 VAC	21	4.60	4.37	4.14	3.22
24F2630	KR3AH	SPST-NO-DM	24 VAC	85	4.60	4.37	4.14	3.22
24F2631	KR3AH	SPST-NO-DM	120 VAC	2250	4.60	4.37	4.14	3.22
62F3040	KRP3AH	SPST-NO-DM	12 VAC	21	7.40	7.03	6.66	5.18
24F2638	KRP3AH	SPST-NO-DM	24 VAC	85	7.40	7.03	6.66	5.18
24F2639	KRP3AH	SPST-NO-DM	120 VAC	2250	7.40	7.03	6.66	5.18
24F2633	KR3DH	SPST-NO-DM	12 VDC	120	4.40	4.18	3.96	3.08
24F2634	KR3DH	SPST-NO-DM	24 VDC	472	4.40	4.18	3.92	3.08
62F3041	KR3DH	SPST-NO-DM	110 VDC	10000	5.00	4.75	4.50	3.50
24F2641	KRP3DH	SPST-NO-DM	12 VDC	120	7.15	6.79	6.44	5.00
24F2642	KRP3DH	SPST-NO-DM	24 VDC	472	7.15	6.79	6.44	5.00
62F3042	KRP3DH	SPST-NO-DM	110 VDC	10000	7.85	7.46	7.07	5.50

10

PM SERIES POWER RELAYS



- **For polyphase and Heavy Duty Switching**
- **UL and CSA listed Except 480 V.**

Compact 4PDT power relay for polyphase and heavy duty switching applications. Screw terminals. Has silver-cadmium oxide contacts rated at 25 amps at 240 VAC 50/60 Hz resistive. 1 HP per movable arm at 120 V or 240 V. AC single phase. UL (File E22575) and CSA listed except 480V. Mounts by one front key hole and two rear channel slots for 8-32 screws on 2" x 2.5" triangular centers. Weight: 14 oz. For enclosures see Dust Covers listed on this page.

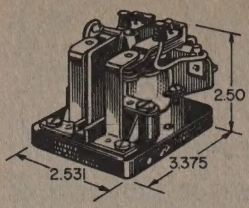
Stock No.	Type	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249
24F1430	PM17AY	6 VAC	.37	14.35	13.63	12.92	10.05
24F1431	PM17AY	12 VAC	1.4	14.35	13.63	12.92	10.05
24F1432	PM17AY	24 VAC	5	14.35	13.63	12.92	10.05
24F1433	PM17AY	120 VAC	120	14.35	13.63	12.92	10.05
24F1434	PM17AY	240 VAC	587	14.90	14.16	13.41	10.43
24F1449	PM17AY	480 VAC	1790	15.80	15.01	14.22	11.06
24F1426	PM17DY	6 VDC	8.2	13.70	13.02	12.33	9.59
24F1427	PM17DY	12 VDC	33	13.70	13.02	12.33	9.59
24F1428	PM17DY	24 VDC	132	13.70	13.02	12.33	9.59
24F1429	PM17DY	110 VDC	2760	14.30	13.59	12.87	10.01

DUST COVERS

Sheet metal base with knockouts for ½" dia. conduit. Alum. cover with two screws. Gray Hammertone Finish. Mounting: Three No. 10 holes on 1⅛x4⅛" ctrs. *Set of 4. Approx. wt. 1 lb.

Stock No.	Type	Material	Lgth.	Ht.	1-24	25-50	51-99	100-249
24F1289	35D227	PM Metal	5.313	3.812	3.45	3.28	3.11	2.42
24F1318	35D013	PR Metal	5.312	3.125	3.45	3.28	3.11	2.42
24F2491	9PM2*	PM Plast.	5.313	3.812	2.00	1.90	1.80	1.40

PR SERIES POWER RELAYS



- **25-30 Amps**
- **UL and CSA Listed**
- **For Industrial Control Applications**
- **Long Life and Fast Action**

Heavy duty relay for industrial control applications requiring long life and fast action. Industrial screw terminals. All AC and DC models carry UL (File E22575) and CSA listing. PR11AYA models have U/L component program recognition. Mtg.: two .188" dia. holes on 1.875" centers. Contacts: Silver, 25A. PR11AYA relay has auxiliary miniature snap action switch with SPDT silver contacts rated 5 amps @ 120 VAC; open only, relay with miniature switch will not fit inside cover. For enclosure see Dust Cover listed on this page. Weight: 11 oz. max.

AC VOLTS

Stock No.	Type	Action	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249
62F3011	PR1AYO	SPST-NO	24	12	4.75	4.51	4.28	3.33
67F1053	PR1AYO	SPST-NO	120	290	4.75	4.51	4.28	3.33
24F1132	PR3AYO	SPST-NO-DM	6	0.86	4.85	4.61	4.37	3.40
62F3012	PR3AYO	SPST-NO-DM	12	3.2	4.85	4.61	4.37	3.40
24F1133	PR3AYO	SPST-NO-DM	24	12	4.85	4.61	4.37	3.40
24F500	PR3AYO	SPST-NO-DM	120	290	4.85	4.61	4.37	3.40
62F3013	PR3AYO	SPST-NO-DM	208	850	5.35	5.08	4.82	3.75
24F530	PR3AYO	SPST-NO-DM	240	1200	5.35	5.08	4.82	3.75
45F008	PR5AYO	SPDT	6	0.86	5.10	4.85	4.59	3.57
24F1135	PR5AYO	SPDT	12	3.2	5.10	4.85	4.59	3.57
24F1136	PR5AYO	SPDT	24	12	5.10	4.85	4.59	3.57
24F503	PR5AYO	SPDT	120	290	5.10	4.85	4.59	3.57
24F3014	PR5AYO	SPDT	208	850	5.60	5.32	5.04	3.92
24F531	PR5AYO	SPDT	240	1200	5.60	5.32	5.04	3.92
67F1054	PR7AGO	DPST-NO*	120	290	6.00	5.70	5.40	4.20
24F1137	PR7AYO	DPST-NO	6	0.86	5.70	5.42	5.13	3.99
45F009	PR7AYO	DPST-NO	12	3.2	5.70	5.42	5.13	3.99
24F539	PR7AYO	DPST-NO	24	12	5.70	5.42	5.13	3.99
24F504	PR7AYO	DPST-NO	120	290	5.70	5.42	5.13	3.99
62F3015	PR7AYO	DPST-NO	208	850	6.20	5.89	5.58	4.34
24F1139	PR7AYO	DPST-NO	240	1200	6.20	5.89	5.58	4.34
67F1055	PR11AGO	DPDT*	120	290	7.80	7.41	7.02	5.46
24F1140	PR11AYO	DPDT	6	0.86	7.50	7.13	6.75	5.25
62F3016	PR11AYO	DPDT	12	3.2	7.50	7.13	6.75	5.25
24F538	PR11AYO	DPDT	24	12	7.50	7.13	6.75	5.25
24F505	PR11AYO	DPDT	120	290	7.50	7.13	6.75	5.25
62F3017	PR11AYO	DPDT	208	850	8.00	7.60	7.20	5.60
24F532	PR11AYO	DPDT	240	1200	8.00	7.60	7.20	5.60
24F1199	PR11AYO	DPDT	480	4500	9.00	8.55	8.10	6.30
62F3098	PR11AYA	DPDT & SPDT	12	3.2	9.15	8.69	8.24	6.41
45F010	PR11AYA	DPDT & SPDT	24	12	9.15	8.69	8.24	6.41
24F1144	PR11AYA	DPDT & SPDT	120	290	9.15	8.69	8.24	6.41
62F3099	PR11AYA	DPDT & SPDT	240	1200	9.65	9.17	8.69	6.76

***30 amp contacts.**

DC VOLTS

62F4000	PR3DYO	SPST-NO-DM	6 VDC	4.85	4.61	4.37	3.40
62F4001	PR3DYO	SPST-NO-DM	12 VDC	4.85	4.61	4.37	3.40
24F2492	PR3DYO	SPST-NO-DM	24 VDC	4.85	4.61	4.37	3.40
24F1147	PR3DYO	SPST-NO-DM	110 VDC	5.55	5.27	5.00	3.89
62F4002	PR5DYO	SPDT	6 VDC	5.10	4.85	4.59	3.57
24F579	PR5DYO	SPDT	12 VDC	5.10	4.85	4.59	3.57
45F011	PR5DYO	SPDT	24 VDC	5.10	4.85	4.59	3.57
24F1148	PR5DYO	SPDT	110 VDC	5.80	5.51	5.22	4.06
62F4003	PR7DYO	DPST	6 VDC	5.75	5.46	5.18	4.03
62F4004	PR7DYO	DPST	12 VDC	5.75	5.46	5.18	4.03
24F1150	PR7DYO	DPST	24 VDC	5.75	5.46	5.18	4.03
24F1151	PR7DYO	DPST	110 VDC	6.45	6.13	5.81	4.52
24F586	PR11DYO	DPDT	6 VDC	7.50	7.13	6.75	5.25
24F1152	PR11DYO	DPDT	12 VDC	7.50	7.13	6.75	5.25
24F578	PR11DYO	DPDT	24 VDC	7.50	7.13	6.75	5.25
24F577	PR11DYO	DPDT	110 VDC	8.20	7.79	7.38	5.74

†DPDT main contacts rated at 25 amps.

"P" CASE

A clear polycarbonate case for mounting rectifiers, capacitors, or combinations (with octal type plug with 8 or 11 pins). Comes complete with 4 screws. 2x1.4x1.4". Av. Shpg. wt. 3 oz.

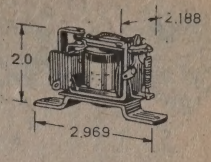
Stock No.	Type	Plugs	1-24	25-50	51-99	100-249	250-499
24F1322	35D070	8 pin	.70	.67	.63	.49	.46
24F1323	35D072	11 pin	.85	.81	.77	.60	.55

MR SERIES MEDIUM POWER RELAYS

COIL DATA FOR MR SERIES

DC COILS			AC COILS (50/60 HZ)		
Volts	Resistance	Average DC Current Milliamps	Volts	DC Resistance	Average AC Current Milliamps
6	24	250	6	2.7	550
12	96	125	12	13.2	268
24	360	67	24	50	134
110	8000	14.4	120	1250	28
....	.....	.....	240	4600	14

Open frame type. Can handle small motors, transmitters, and many other similar power equipment applications. Mtg: two .156" dia. holes on 2.250" centers for MR3 and 11; 2.625" centers for MR5 and 14. Silver contacts. MR3 has contacts rated 10 amps; all others, 8 amps, 120 VAC, 28 VDC resistive. Life expectancy is 5 million mechanical operation. Temperature range: AC—45 to —75°C @ nominal coil power, DC —45 to 80°C @ nominal coil power. Insulating material—phenolic. Weight; 4 ozs.



AC TYPE

Stk. No.	Type	Action	Input Volts	1-24	25-50	51-99	100-249
24F1157	MR3A	SPST-NO-DM	6	4.75	4.51	4.28	3.33
24F1158	MR3A	SPST-NO-DM	24				
24F506	MR3A	SPST-NO-DM	120				
24F541	MR5-A	SPST	6	4.25	4.04	3.83	2.98
45F002	MR5-A	SPDT	12				
24F1159	MR5-A	SPDT	24				
24F509	MR5-A	SPDT	120				
24F534	MR5-A	SPDT	240	4.75	4.51	4.28	3.33
24F543	MR11A	DPDT	6	6.00	5.70	5.40	4.20
45F003	MR11A	DPDT	12				
24F1160	MR11A	DPDT	24				
24F511	MR11A	DPDT	120				
24F535	MR11A	DPDT	240	6.45	6.13	5.81	4.52
62F3006	MR14A	3PDT	6	7.15	6.79	6.44	5.01
62F3007	MR14A	3PDT	12				
45F004	MR14A	3DPT	24				
24F536	MR14A	3PDT	120				
45F005	MR14A	3PDT	240	7.60	7.22	6.84	5.32

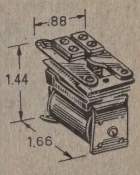
DC TYPE

Stk. No.	Type	Action	Input Volts	1-24	25-50	51-99	100-249
24F1164	MR3D	SPST-NO-DM	6	4.30	4.09	3.87	3.01
45F006	MR3D	SPST-NO-DM	12				
24F1166	MR3D	SPST-NO-DM	24				
24F550	MR5D	SPDT	6	3.95	3.75	3.56	2.77
24F1167	MR5D	SPDT	12				
24F1168	MR5D	SPDT	24				
62F3008	MR5D	SPDT	110	4.50	4.28	4.05	3.15
24F551	MR11D	DPDT	6	5.65	5.37	5.09	3.96
24F1169	MR11D	DPDT	12				
24F1170	MR11D	DPDT	24				
24F1315	MR11D	DPDT	110	6.25	5.94	5.63	4.38
62F3009	MR14D	3PDT	6	6.70	6.37	6.03	4.69
62F3010	MR14D	3PDT	12				
45F007	MR14D	3PDT	24				
24F1316	MR14D	3PDT	110	7.30	6.94	6.57	5.11

MB MINIATURE TELEPHONE RELAYS

Stock No.	Type	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249	250-499
62F3029	MB3D	6VDC	13.3	6.55	6.22	5.90	4.59	4.26
24F612	MB3D	12VDC	62.3	6.70	6.37	6.03	4.69	4.36
24F613	MB3D	24VDC	245					
24F614	MB3D	110VDC	5000	7.15	6.79	6.44	5.01	4.65

MB SERIES. Designed for very high current applications, 60 A @ 28 VDC res. Contact arms: stationary, heavy brass, silver contacts pierced solder terminals. Movable silver bar contacts. Mtg. four 3—48 holes on .375" x .375" centers. Wt. 2 oz.

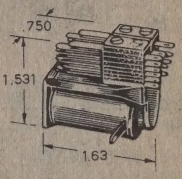


MB Series

MH SERIES MINIATURE TELEPHONE RELAYS

Stk. No.	Type	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249
24F115	MH11L†	10.0K	10000	7.25	6.89	6.53	5.08
24F118	MH11LM**†	10.0K	10000	12.30	11.69	11.07	6.81
24F113	MH17D	6 VDC	23	7.30	6.94	6.57	5.11
24F1296	MH17D	12 VDC	96	7.30	6.94	6.57	5.11
24F620	MH17D	24 VDC	365	7.30	6.94	6.57	5.11
24F1297	MH17DM**	12 VDC	96	14.65	13.92	13.19	10.26
24F622	MH17DM**	24 VDC	365	14.65	13.92	13.19	10.26
24F1117	MH17AMR**	120 VAC	6200	23.95	22.75	21.56	16.77
62F3033	MH23D	6 VDC	13.3	9.15	8.69	8.24	6.41
62F3034	MH23D	12 VDC	62.3	9.15	8.69	8.24	6.41
24F1298	MH23D	24 VDC	245	9.15	8.69	8.24	6.41
24F1299	MH23D	110 VDC	5000	9.70	9.22	8.73	6.79
62F3035	MH23DD**	12 VDC	62.3	19.50	18.53	17.55	13.65
62F3036	MH23DD**	24 VDC	245	19.50	18.53	17.55	13.65

Ideal for applications where space and weight are factors. Rating—5 amps. except (†) 3 amps. Gold flashed silver contacts. **OPEN—MH11L:** one 6—32 threaded stud. .344" long plus locating boss. All others four 3—48 holes on .375" x .375" centers. **SEALED** (**) —three 6—32 NC 2 threaded studs on 1.250" x .50" centers except **MH23DD** three 6—32 threaded studs on 1.188" x .938" centers. All sealed models have hook solder terminals. Weight: open models 2.25 oz. maximum. Sealed models 5 oz. maximum.

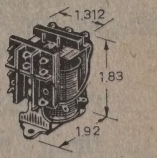


MH SERIES MINIATURE TYPE

KLT SERIES MINIATURE TRANSISTOR CIRCUIT RELAYS

Stk. No.	Type	Coil Input	Coil Ohms	1-24	25-50	51-99	100-249	250-499
24F3284	KLT5D	12 VDC	1,080	4.40	4.18	3.96	3.08	2.86
24F3285	KLT5D	24 VDC	4,320	4.40	4.18	3.96	3.08	2.86
24F3286	KLT11D	6 VDC	200	5.60	5.32	5.04	3.92	3.64
24F3287	KLT11D	12 VDC	810	5.60	5.32	5.04	3.92	3.64
45F218	KLT11D	24 VDC	3,240	5.60	5.32	5.04	3.92	3.64
45F219	KLT11D	48 VDC	13,000	6.05	5.75	5.45	4.24	3.93
24F3288	KLT14D	12 VDC	540	6.25	5.94	5.63	4.38	4.06
45F3289	KLT14D	24 VDC	2,160	6.25	5.94	5.63	4.38	4.06

Designed for DC applications that require sensitive coils. Contacts rated 3 amps @ 120 VAC 50/60 Hz. resistive. Coils continuous duty. Expected life is 10 million mechanical operations. Mounting: two 6—32 tapped holes on 1.438" centers. Wt. 4 oz.



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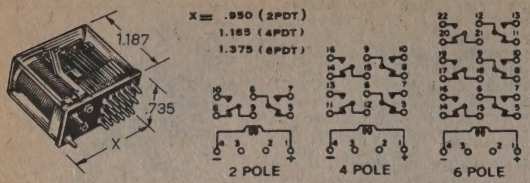
General Purpose Relays

R10-E1 SERIES INDUSTRIAL RELAYS WITH SOLDER TERMINALS



- **UL Recognized**
- **Oper. Temp. −55°C to +72°C.**
- **Six Contact Styles**

Industrial relays with solder terminals and 3-48 stud or sockets for plug-in mounting. UL recognized (File E42810). Provide sensitivity of 125 mW per pole. Mechanical life 100 million operations except W contacts: 1 million. R10-E1-Z Series has bifurcated contacts for low level loads. "J" sensitivity current adjustment: 85 mW (DPDT), 175 mW (4PDT). Sockets (listed on facing page) fit all R10 relays and provide grounded or ungrounded versions with solder or PC terminals. Grounding provisions are pre-installed and wire hold down spring is included.

2 AMP Typical/3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1071	R10-E1-Y1-SS1.0K	6 DC	1000	SPDT	4.05	3.65	3.04	2.84
67F1072	R10-E1-Y1-SS220	3 DC	220	SPDT	4.05	3.65	3.04	2.84
45F105	R10-E1-Y2-V52	6 DC	52	2PDT	3.30	2.97	2.48	2.31
45F106	R10-E1-Y2-V185	12 DC	185	2PDT	3.30	2.97	2.48	2.31
45F107	R10-E1-Y2-V700	24 DC	700	2PDT	3.30	2.97	2.48	2.31
62F3043	R10-E1-Y2-V2.5K	48 DC	2500	2PDT	3.30	2.97	2.48	2.31
62F3044	R10-E1-Y2-15K	115 DC	15000	2PDT	5.35	4.82	4.01	3.75
45F108	R10-E1-Y4-V52	6 DC	52	4PDT	3.65	3.29	2.74	2.56
45F109	R10-E1-Y4-V185	12 DC	185	4PDT	3.65	3.29	2.74	2.56
45F110	R10-E1-Y4-V700	24 DC	700	4PDT	3.65	3.29	2.74	2.56
45F111	R10-E1-Y4-V2.5K	48 DC	2500	4PDT	3.65	3.29	2.74	2.56
45F112	R10-E1-Y4-V15K	115 DC	15000	4PDT	5.70	5.13	4.28	3.99
60F3045	R10-E1-Y6-V25	6 DC	25	6PDT	4.70	4.23	3.53	3.29
45F113	R10-E1-Y6V90	12 DC	90	6PDT	4.70	4.23	3.53	3.29
45F114	R10-E1-Y6-V430	24 DC	430	6PDT	4.70	4.23	3.53	3.29
60F3046	R10-E1-Y6-V1.5K	48 DC	1500	6PDT	4.70	4.23	3.53	3.29
60F3047	R10-E1-Y6-V9.0K	115 DC	9000	6PDT	5.60	5.04	4.20	3.92

5 AMP Typical/7½ Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
62F3048	R10-E1-X2-V52	6 DC	52	2PDT	3.40	3.06	2.55	2.38
45F115	R10-E1-X2-V185	12 DC	185	2PDT	3.40	3.06	2.55	2.38
45F116	R10-E1-X2-V700	24 DC	700	2PDT	3.40	3.06	2.55	2.38
62F3049	R10-E1-X2-V2.5K	48 DC	2500	2PDT	3.40	3.06	2.55	2.38
62F3050	R10-E1-X2-V15K	115 DC	15000	2PDT	5.45	4.91	4.09	3.82
45F117	R10-E1-X2-115VAC	115 AC	9.0K	2PDT	5.15	4.64	3.86	3.61
62F3051	R10-E1-X4-V52	6 DC	52	2PDT	3.90	3.51	2.93	2.73
45F118	R10-E1-X4-V185	12 DC	185	4PDT	3.90	3.51	2.93	2.73
45F119	R10-E1-X4-V700	24 DC	700	4PDT	3.90	3.51	2.93	2.73
62F3052	R10-E1-X4-V2.5K	48 DC	2500	4PDT	3.90	3.51	2.93	2.73
62F3053	R10-E1-X4-V15K	115 DC	15000	4PDT	5.95	5.36	4.46	4.17
45F120	R10-E1-X4-115VAC	115 AC	9.0K	4PDT	6.30	5.67	4.73	4.41
62F3054	R10-E1-X6-V25	6 DC	25	6PDT	5.10	4.59	3.83	3.57
45F121	R10-E1-X6-V90	12 DC	90	6PDT	5.10	4.59	3.83	3.57
45F122	R10-E1-X6-V430	24 DC	430	6PDT	5.10	4.59	3.83	3.57
62F3055	R10-E1-X6-V1.5K	48 DC	1500	6PDT	5.10	4.59	3.83	3.57
62F3056	R10-E1-X6-V9.0K	115 DC	9000	6PDT	6.00	5.40	4.50	4.20

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1073	R10-E1-X6-115VAC	115 AC	2-7.5K	6PDT	8.75	7.88	6.56	6.13
67F1074	R10-E1-X8-115VAC	115 AC	2-7.5K	8PDT	10.55	9.50	7.91	7.39

7½ AMP Typical/10 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1075	R10-E1-W2-V185	12 DC	185	2PDT	3.95	3.56	2.96	2.77
67F1076	R10-E1-W2-V700	24 DC	700	2PDT	3.95	3.56	2.96	2.77
67F1077	R10-E1-W4-V700	24 DC	700	4PDT	4.90	4.41	3.68	3.43

BIFURCATED LOW LEVEL CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
62F3067	R10-E1-Z2-V52	6 DC	52	2PDT	3.70	3.33	2.78	2.59
45F125	R10-E1-Z2-V185	12 DC	185	2PDT	3.70	3.33	2.78	2.59
45F126	R10-E1-Z2-V700	24 DC	700	2PDR	3.70	3.33	2.78	2.59
62F3068	R10-E1-Z2-V2.5K	48 DC	2500	2PDT	3.70	3.33	2.78	2.59
62F3069	R10-E1-Z2-V15.0K	115 DC	15000	2PDT	5.75	5.18	4.31	4.03
62F3070	R10-E1-Z4-V52	6 DC	52	4PDT	4.15	3.74	3.11	2.91
45F127	R10-E1-Z4-V185	12 DC	185	4PDT	4.15	3.74	3.11	2.91
45F128	R10-E1-Z4-V700	24 DC	700	4PDT	4.15	3.74	3.11	2.91
62F3071	R10-E1-Z4-V2.5K	48 DC	2500	4PDT	4.15	3.74	3.11	2.91
62F3072	R10-E1-Z4-V15.0K	115 DC	15000	4PDT	6.20	5.58	4.65	4.34
62F3073	R10-E1-Z6-V25	6 DC	25	6PDT	5.35	4.82	4.01	3.75
45F129	R10-E1-Z6-V90	12 DC	90	6PDT	5.35	4.82	4.01	3.75
45F130	R10-E1-Z6-V430	24 DC	430	6PDT	5.35	4.82	4.01	3.75
62F3074	R10-E1-Z6-V1.5K	48 DC	1500	6PDT	5.35	4.82	4.01	3.75
62F3075	R10-E1-Z6-V9.0K	115 DC	9000	6PDT	6.25	5.63	4.69	4.38

SENSITIVE CURRENT 2 AMP Typ./3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
45F131	R10-E1-Y2-J2.5K	5.8 mA	2500	2PDT	3.60	3.24	2.70	2.52
45F132	R10-E1-Y2-J5.0K	4.1 mA	5000	2PDT	4.10	3.69	3.08	2.87
62F3065	R10-E1-Y2-J10.0K	3.1 mA	10000	2PDT	4.50	4.05	3.38	3.15
45F133	R10-E1-Y4-J2.5K	8.4 mA	2500	4PDT	4.00	3.60	3.00	2.80
45F134	R10-E1-Y4-J5.0K	6.2 mA	5000	4PDT	4.50	4.05	3.38	3.15
62F3066	R10-E1-Y4-J10.0K	4.5 mA	10000	4PDT	4.90	4.41	3.68	3.43

SENSITIVE CURRENT—BIFURCATED CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
45F135	R10-E1-Z4-J1.0K	12.0mA	1000	4PDT	4.50	4.05	3.38	3.15
45F136	R10-E1-Z4-J2.5K	8.4 mA	2500	4PDT	4.50	4.05	3.38	3.15
45F137	R10-E1-Z4-J5.0K	6.2 mA	5000	4PDT	5.00	4.50	3.75	3.50

R10-E2 PRINTED CIRCUIT TERMINALS

2 AMP Typical/3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
45F138	R10-E2-Y2-V185	12 DC	185	2PDT	3.30	2.97	2.48	2.31
45F139	R10-E2-Y2-V700	24 DC	700	2PDT	3.30	2.97	2.48	2.31
45F140	R10-E2-Y4-V185	12 DC	185	4PDT	3.65	3.29	2.74	2.56
45F141	R10-E2-Y4-V700	24 DC	700	4PDT	3.65	3.29	2.74	2.56
62F3057	R10-E2-Y6-V90	12 DC	90	6PDT	4.70	4.23	3.53	3.29
62F3058	R10-E2-Y6-V430	24 DC	430	6PDT	4.70	4.23	3.53	3.29
62F3059	R10-E2-Y6-V1.5K	48 DC	1500	6PDT	4.70	4.23	3.53	3.29

5 AMP Typical/7½ Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1078	R10-E2-X2-V700	24 DC	700	2PDT	3.40	3.06	2.55	2.38

7½ Amp Typical/3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1079	R10-E2-W2-V700	24 DC	700	DPDT	3.95	3.56	2.96	2.77

BIFURCATED CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
45F142	R10-E2-Z4-V185	12 DC	185	4PDT	4.15	3.74	3.11	2.91
45F143	R10-E2-Z4-V700	24 DC	700	4PDT	4.15	3.74	3.11	2.91
62F3060	R10-E2-Z6-V90	12 DC	90	6PDT	5.35	4.82	4.01	3.75
62F3061	R10-E2-Z6-V430	24 DC	430	6PDT	5.35	4.82	4.01	3.75
62F3062	R10-E2-Z6-V1.5K	48 DC	1500	6PDT	5.35	4.82	4.01	3.75

SENSITIVE CURRENT-BIFURCATED CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1080	R10-E2-Z4-J2.5K	8.4 mA	2500	4PDT	4.50	4.05	3.38	3.15
67F1081	R10-E2-Z4-J5.0K	6.2 mA	5000	4PDT	5.00	4.50	3.75	3.50

R10L SERIES HAS LIGHT EMITTING DIODE (LED)

SOLDER TERMINALS—2 AMP Typ./3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1082	R10L-E1-Y2-V52	6 DC	52	2PDT	6.80	6.12	5.10	4.76
67F1083	R10L-E1-Y2-V185	12 DC	185	2PDT	6.80	6.12	5.10	4.76
67F1084	R10L-E1-Y2-V700	24 DC	700	2PDT	6.80	6.12	5.10	4.76
67F1085	R10L-E1-Y2-V2.5K	48 DC	2500	2PDT	6.80	6.12	4.10	4.76
67F1086	R10L-E1-Y4-V52	6 DC	52	4PDT	7.15	6.44	5.36	5.01
67F1087	R10L-E1-Y4-V185	12 DC	185	4PDT	7.15	6.44	5.36	5.01
67F1088	R10L-E1-Y4-V700	24 DC	700	4PDT	7.15	6.44	5.36	5.01
67F1089	R10L-E1-Y6-V430	24 DC	430	6PDT	8.20	7.38	6.15	5.74

BIFURCATED CONTACTS 100 MA Typ./2 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1090	R10L-E1-Z4-V700	24 DC	700	4PDT	7.65	6.89	5.74	5.36

SOLDER TERMINALS—5 AMP Typ./7½ Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1091	R10L-E1-X2-V185	12 DC	185	2PDT	6.90	6.21	5.18	4.83
67F1092	R10L-E1-X2-V700	24 DC	700	2PDT	6.90	6.21	5.18	4.83
67F1093	R10L-E1-X4-V185	12 DC	185	4PDT	7.40	6.66	5.55	5.18
67F1094	R10L-E1-X4-V700	24 DC	700	4PDT	7.40	6.66	5.55	5.18
67F1095	R10L-E1-X4-V2.5K	48 DC	2500	4PDT	7.40	6.66	5.55	5.18
67F1096	R10L-E1-X6-V430	24 DC	430	6PDT	8.60	7.74	6.45	6.02

PC TERMINALS—2 AMP Typ./3 Amp Max.

Stock No.	Type	Coils Input	Coils Ohms	Action	1-9	10-49	50-99	100-499
67F1097	R10L-E2-Y2-V185	12 DC	185	2PDT	6.80	6.12	5.10	4.76
67F1098	R10L-E2-Y4-V700	24 DC	700	4PDT	7.15	6.44	5.36	5.01

General Purpose Relays

AMF | POTTER & BRUMFIELD

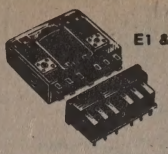
R40 SERIES—SLIMLINE® DC OPERATED RELAY

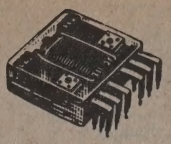
R40-E1 SOLDER TERMINALS OR PLUG IN SOCKET MFG.
2 AMP TYP., 3 AMP MAX.

Stock No.	Type	Volts	1-9	10-49	50-99	100-499	500-999
45F144	R40-E1-Y4-V50	6 DC	5.40	4.86	4.05	3.78	3.62
45F145	R40-E1-Y4-V200	12 DC	5.40	4.86	4.05	3.78	3.62
45F146	R40-E1-Y4-V800	24 DC	5.40	4.86	4.05	3.78	3.62
45F147	R40-E1-Y4-V3.2K	48 DC	5.40	4.86	4.05	3.78	3.62
	5 AMP TYP., 7.5 AMP MAX.						
45F148	R40-E1-X4-V200	12 DC	5.65	5.09	4.24	3.96	3.79
45F149	R40-E1-X4-V800	24 DC	5.65	5.09	4.24	3.96	3.79
	BIFURCATED CONTACTS—0.1A TYP., 2A MAX.						
45F150	R40-E1-Z4-V200	12 DC	5.90	5.31	4.43	4.13	3.95
45F151	R40-E1-Z4-V800	24 DC	5.90	5.31	4.43	4.13	3.95
	DRY CIRCUIT/CROSSBAR—500 uA TYP., 250 mA MAX.						
45F152	R40-E1-L4-V200	12 DC	6.85	6.17	5.14	4.80	4.59
45F153	R40-E1-L4-V800	24 DC	6.85	6.17	5.14	4.80	4.59
45F154	R40-E1-L4-V3.2K	48 DC	6.85	6.17	5.14	4.80	4.59

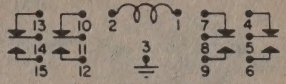
R40-E2 PC TERMINAL VERTICAL MTG.
2 AMP TYP., 3 AMP MAX.

Stock No.	Type	Volts	1-9	10-49	50-99	100-499	500-999
45F155	R40-E2-Y4-V200	12 DC	5.40	4.86	4.05	3.78	3.62
45F156	R40-E2-Y4-V800	24 DC	5.40	4.86	4.05	3.78	3.62
	5 AMP TYP., 7.5 AMP MAX.						
45F157	R40-E2-X4-V50	6 DC	5.65	5.09	4.24	3.96	3.79
45F158	R40-E2-X4-V200	12 DC	5.65	5.09	4.24	4.96	3.79
45F159	R40-E2-X4-V800	24 DC	5.65	5.09	4.24	3.96	3.79
	BIFURCATED CONTACTS—0.1A TYP., 2 A MAX.						
45F160	R40-E2-Z4-V200	12 DC	5.90	5.31	4.43	4.13	3.95
45F161	R40-E2-Z4-V800	24 DC	5.90	5.31	4.43	4.13	4.95
45F162	R40-E2-Z4-V3.2K	48 DC	5.90	5.31	4.43	4.13	3.95





- **For PC Boards**
- **UL Component Recog.**
- **Only 0.43" High**



4 PDT. Allows easy circuit board layout and 6" board mounting centers. Nominal power 720 mW. **R40-E1:** Bifurcated contacts for low level applications or cross bar contacts for dry circuit use. Wt. 0.8 to 1.05 oz.

R40-E3 MOUNTED FLAT ON PRINTED CIRCUIT BOARD
2 AMP TYP., 3 AMP MAX.

Stock No.	Type	Volts	1-9	10-49	50-99	100-499	500-999
45F163	R40-E3-Y4-V200	12 DC	5.40	4.86	4.05	3.78	3.62
45F164	R40-E3-Y4-V800	24 DC	5.40	4.86	4.05	3.78	3.62
45F165	R40-E3-Y4-V3.2K	48 DC	5.40	4.86	4.05	3.78	3.62
	5 AMP TYP., 7.5 AMP MAX.						
45F166	R40-E3-X4-V200	12 DC	5.65	5.09	4.24	3.96	3.79
45F167	R40-E3-X4-V800	24 DC	5.65	5.09	4.24	3.96	3.79
	BIFURCATED CONTACTS						
45F168	R40-E3-Z4-V200	12 DC	5.90	5.31	4.43	4.13	3.95
45F169	R40-E3-Z4-V800	24 DC	5.90	5.31	4.43	4.13	3.95
45F170	R40-E3-Z4-V3.2K	48 DC	5.90	5.31	4.43	4.13	3.95
	DRY CIRCUIT/CROSSBAR—500 uA TYP., 250 mA MAX.						
45F171	R40-E3-L4-V200	12 DC	6.85	6.17	5.14	4.80	4.59
45F172	R40-E3-L4-V800	24 DC	6.85	6.17	5.14	4.80	4.59
45F173	R40-E3-L4-V3.2K	48 DC	6.85	6.17	5.14	4.80	4.59

R10 AND R40 SERIES SOCKETS AND MOUNTING ACCESSORIES

R10 SERIES SOCKETS WITH GROUNDING STRIP

Not recommended for relays carrying 5 amps AC and above.

Stock No.	Type	Action	Terminals	1-9	10-49	50-99	100-499	500-999
45F070	9XR10-1	DPDT	Solder	.55	.495	.413	.385	.358
45F071	9XR10-2	4PDT	Solder	.70	.630	.525	.490	.455
67F1125	9XR10-14	4PDT	Solder	1.00	.900	.750	.700	.650
45F072	9XR10-3	6PDT	Solder	.90	.810	.675	.630	.585
67F1126	9XR10-16	8PDT	Solder	1.40	1.260	1.050	.980	.910
45F073	9XR10-4	DPDT	PC	.55	.495	.413	.385	.358
45F074	9XR10-5	4PDT	PC	.70	.630	.525	.490	.455
45F075	9XR10-6	6PDT	PC	.90	.810	.675	.630	.585
67F1127	9XR10-17	8PDT	PC	1.40	1.260	1.050	.980	.910

R10 SOCKETS WITHOUT GROUND

For 5 amps AC and above.

62F3076	9XR10-7	DPDT	Solder	.55	.495	.413	.385	.358
62F3077	9XR10-8	4PDT	Solder	.70	.630	.525	.490	.455
62F3078	9XR10-9	6PDT	Solder	.90	.810	.675	.630	.585
62F3079	9XR10-10	Strap hold-down spring		.05	.045	.038	.035	.033

R10 SOCKETS WITH GROUNDING TERMINAL

Not recommended for relays carrying 5 amps AC and above.

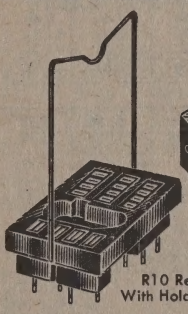
67F1128	9XR10-11	DPDT	PC	.55	.495	.413	.385	.358
67F1129	9XR10-12	4PDT	PC	.70	.630	.525	.490	.455
67F1130	9XR10-13	6PDT	PC	.90	.810	.675	.630	.585

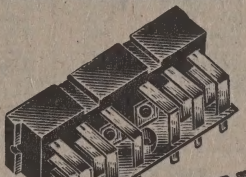
R10 SERIES HOLD-DOWN SPRINGS

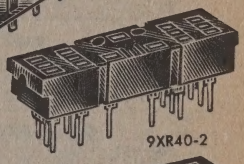
Stock No.	Type	For	1-9	10-49	50-99	100-499
67F1131	9XR10-19	R10-P28-1	.05	.045	.038	.035
67F1132	9XR10-20	R10-P28-2	.05	.045	.038	.035
67F1133	9XR10-21	R10-P28-3	.05	.045	.038	.035
67F1134	9XR10-22	R10-P28-4	.05	.045	.038	.035

R40 SERIES SOCKETS

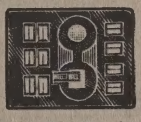
Stock No.	Type	Action	Terminals	1-9	10-49	50-99	100-499
45F078	9XR40-1	4PDT	Right Angle PC	1.40	1.26	1.05	.98
45F079	9XR40-2	4PDT	Vertical PC	1.00	.90	.75	.70
45F080	9XR40-3	4PDT	Chassis Mount Solder	1.10	.99	.83	.77





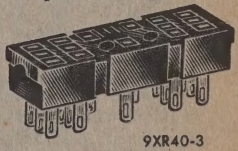


R10 Relay Socket With Hold Down-Spring

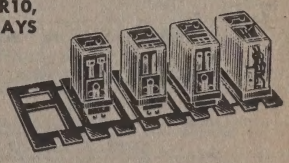


Grounding Strip

Grounding Terminal



MOUNTING STRIP FOR R10, R12, R13, R14, R15 RELAYS



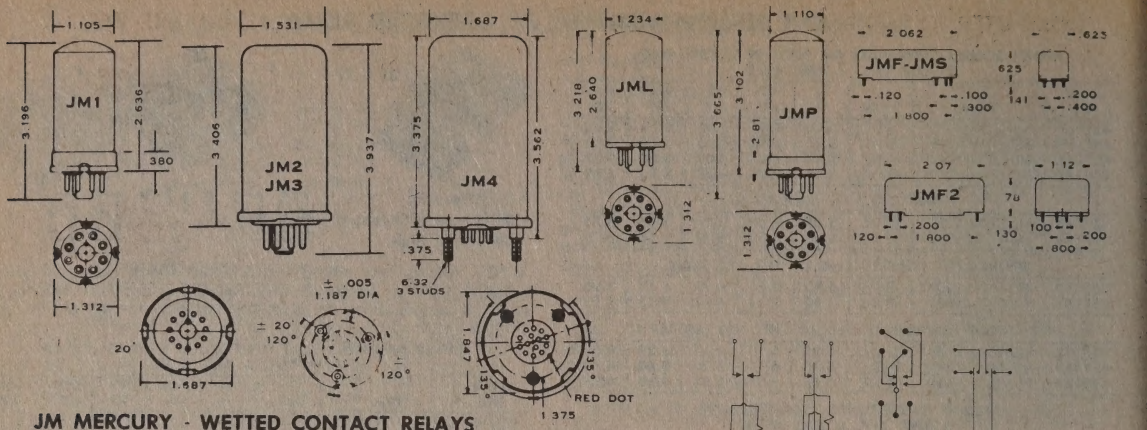
20 pre-punched break-away mounting plates stamped from .064" aluminum. Designed to simplify mounting one or more relays on chassis or racks. Each plate accepts 2, 4, 6 or 8 pole solder terminal relay or socket.
9XR10-15. Mounting strip, R10P126.
67F1135. NET Each.....2.35

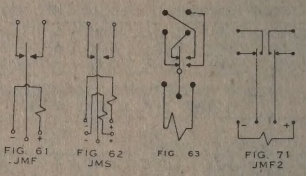
SERIES R50—SPDT SENSITIVE RELAYS

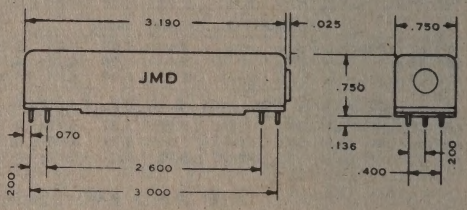
Seats 0.415" high for use on PC boards spaced as close as 0.6". Sensitive to .125W; initial contact res., .05 Ohms. Operate and release times, 6 ms. Life at rated load, 500,000 operations. Molded polycarbonate case; gold-plated PC terminals on 0.1" spacing. Contacts are fine silver-gold diffused rated 2A @ 26 VDC or 1A @ 120 VAC resistive. Shpg. wt. 0.4 oz.

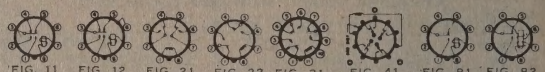
Stock No.	Type	Coils: Input	Coils: Res. Ohms	Coils: Nom. Power	1-9	10-49	50-99	100-499	500-999
67F1185	R50-E2-Y1-6VDC	6 V	47	.72W	2.65	2.39	1.99	1.86	1.72
67F1186	R50-E2-Y1-12VDC	12 V	200	.72W	2.65	2.39	1.99	1.86	1.72
67F1187	R50-E2-Y1-24VDC	24 V	950	.61	2.80	2.52	2.10	1.96	1.82

Mercury-Wetted Relays









JM MERCURY - WETTED CONTACT RELAYS

Rare long life, high speed and unvarying dependability are the results of this hermetically sealed glass capsule, which contain a small reservoir of mercury sealed in a high pressure hydrogen atmosphere. Will handle contact loads up to 5 Amps @ 500V with operating time as short as 3ms. Contacts utilize the standard bridging Form D make-before-break arrangement, allowing single capsule SPDT, 2 capsule DPDT, 3 capsule 3PDT and 4-capsule 4PDT construction.

SINGLE CAPSULE—SINGLE COIL—SPDT

Stk. No.	Type	Ohms	1-9	10-24	25-99
62F2950	JM1-106-12	40	17.00	12.68	10.80
24F1680	JM1-109-12	130	17.00	12.68	10.80
24F1681	JM1-112-11	500	17.00	12.68	10.80
24F1682	JM1-114-11	700	17.00	12.68	10.80
24F1683	JM1-114-12	700	17.00	12.68	10.80
24F1684	JM1-118-11	2500	17.30	12.91	10.99
24F1685	JM1-119-11	4000	8.60	8.60	8.60
24F1686	JM1-120-11	7000	17.90	13.35	11.37
24F1687	JM1-121-11	11000	17.90	13.35	11.37
24F1688	JM1-123-11	25000	17.90	13.35	11.37
	4PDT-SINGLE COIL				
62F2952	JM4-106-41	65	45.95	34.28	29.18
62F2953	JM4-110-41	390	45.95	34.28	29.18
	SPDT-SINGLE COIL				
62F2954	JMD-1060-63	150	11.50	8.58	7.30
62F2955	JMD-1090-63	450	11.50	8.58	7.30
62F2956	JMD-1100-63	750	11.50	8.58	7.30
	DOUBLE CAPSULE—SINGLE COIL—DPDT				
24F2157	JM2-104-22	50			
45F017	JM2-106-21	140			
24F2158	JM2-109-22	315			
24F2159	JM2-110-22	500			
24F1690	JM2-111-22	700	27.55	20.55	17.49
24F2160	JM2-112-22	1250			
24F2162	JM2-115-21	5000			
24F1691	JM2-115-22	5000			
	THREE CAPSULE—SINGLE COIL				
62F2951	JM3-110-31	500	35.65	26.59	22.64
45F018	JM3-109-31	315	35.65	26.59	22.64
24F2166	JM3-111-31	700	35.65	26.59	22.64
24F2168	JM3-115-31	5000	35.65	26.59	22.64

JML NON-BRIDGING MERCURY-WETTED CONTACT RELAYS

Employ a From C non-bridging contact arrangement. They provide greater sensitivity, faster operation than JMP relays. Speeds from 3 ms to 1.1 ms are possible, depending upon coil power. Contacts are rated 2 amps max., 500V max. with contact protection. All JML relays mount in Amphenol 77-MIP-8 sockets. Weight: 4-ozs.

SINGLE-SIDE-STABLE

Stk.No.	Type	Ohms	1-9	10-24	25-99
24F2189	JML1061-81	40			
24F2190	JML1110-81	350	14.05	10.48	8.92
24F2191	JML1160-81	1000			
24F2192	JML1190-81	2500			
24F2193	JML1200-81	4000	15.00	11.19	9.53
45F3019	JML1240-81	11000			
24F2194	JML1260-81	25,000			
	BI-STABLE				
24F2197	JML5200-81	4000	15.00	11.19	9.53
62F2957	JML5430-82	1100	16.45	12.27	10.45
	CHOPPER				
24F2199	JML8130-81	600	14.65	10.93	9.30

Last Two Digits in Type Number Indicates Termination Fig. No.

JM MERCURY WETTED CONTACT RELAYS

JMF JMF2 (dual capsule*) and JMS relays have SPDT break-before make (Form C) non-bridging contacts. JMP relays have SPDT make-before-break (Form D) bringing contacts. All contacts rated 500 volts at 2 amps except JMP which are rated 500 volts at 5 amps. Weight: JMF and JMS, 1¼ oz.; JMF2 and JMP, 3¼ oz.

JMF PRINTED CIRCUIT MODULE RELAYS

Single-side stable except (**)bi-stable

Stk.No.	Type	Ohms	1-9	10-24	25-99
24F2551	JMF1070-61	450			
24F2552	JMF1080-61	675	11.40	8.50	7.24
24F2553	JMF1120-61	1425			
24F2554	JMF1150-61	2400			
24F2555	JMF1160-61	4000	11.95	8.91	7.59
62F2975	JMF5080-61**	675	11.40	8.50	7.24

JMF2 PRINTED CIRCUIT MODULE RELAYS

62F2976	JMF21000-71*	130	21.80	16.26	13.84
62F2977	JMF21001-71*	520	21.80	16.26	13.84
62F2978	JMF21002-71*	2200	22.35	16.67	14.19

JMS SENSITIVE NON-BRIDGING RELAYS

Single-side-stable, single-wound coil except (+) bi-stable, dual-wound coil

62F2979	JMS5040-62+	325	11.40	8.50	7.24
62F2980	JMS5070-62+	1250	11.95	8.91	7.59
62F2981	JMS1070-61	34	11.40	8.50	7.24
62F2982	JMS1130-61	620	11.40	8.50	7.24
62F2983	JMS1160-61	2430	11.95	8.91	7.59
62F2984	JMS1190-61	8600	11.95	8.91	7.59

JMP POLARIZED FORM D BRIDGING RELAYS

single-side-stable except (**)bi-stable

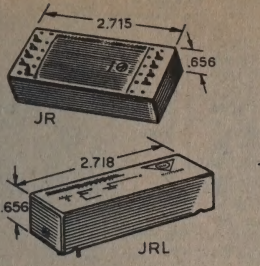
62F2985	JMP1160-11	1,000	18.45	13.76	11.72
62F2986	JMP1200-11	4,000	19.75	14.73	12.54
62F2987	JMP5200-11**	4,000	19.75	14.73	12.54

10

Dry Reed Relays

AMF | POTTER & BRUMFIELD

COMPUTER TYPE RELAYS, JR, JRM, JRL



JR and JRM. Glass supported nylon insulated. 500 volts rms 60 Hz, between insulated points. 275 volts rms 60 Hz, between open contacts. **JR** Operate time: 3ms. @ nom. coil volt @ 25°. Size 2.715 x 656H max. **JRM** is 1.125" long, .468" high; width varies with contact arrangement. Oper. time: 1ms. Release time: 1 ms. Pick-up: 75% or less nom. @ 25°C. Rating: 10 watts. **JRL.** Standard latching relay. 1 Form A and 2 Form A contacts rated 15 watts, resistive. Operate time at 25° is 2ms (including bounce). Wt. 2 ozs. **JRA.** Sensitive to magnetic fields. Will switch 2 amps, carry 5 amps. Only in form A arrangement. Size: 1.865 x .70.

JR STANDARD

Stock No.	Type	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-9	10-24	25-99	100-249	250-999
24F2860	1000	1	6	150	1A	15	3.25	2.42	2.06	1.87	1.76
24F2865	1020	1	6	150	1A	50	4.55	3.39	2.89	2.62	2.46
24F2861	1001	2	6	100	2A	15	4.35	3.25	2.76	2.50	2.35
62F2988	1060	2	6	100	1B	15	4.35	3.25	2.76	2.50	2.35
24F2864	1040	1	6	150	1C	10	8.10	6.04	5.14	4.66	4.37
24F3300	1041	2	6	100	2C	10	8.85	6.60	5.62	5.09	4.78
24F2867	1005	1	12	600	1A	15	3.25	2.42	2.06	1.87	1.76
24F2872	1025	1	12	600	1A	50	4.55	3.39	2.89	2.62	2.46
24F2868	1006	2	12	400	2A	15	4.35	3.25	2.76	2.50	2.35
62F2989	1008	4	12	150	4A	15	6.05	4.51	3.84	3.48	3.27
62F2990	1063	2	12	400	1B	15	4.35	3.25	2.76	2.50	2.35
24F2871	1045	1	12	600	1C	10	8.10	6.04	5.14	4.66	4.37
24F3301	1046	2	12	400	2C	10	8.85	6.60	5.62	5.09	4.78
24F2870	1086	3	12	200	1A+1B	15	5.35	3.99	3.40	3.08	2.89
24F2874	1010	1	24	2400	1A	15	3.80	2.83	2.41	2.19	2.05
24F2879	1030	1	24	2400	1A	50	4.90	3.66	3.11	2.82	2.65
24F2875	1011	2	24	1600	2A	15	4.60	3.43	2.92	2.65	2.48
24F3302	1031	2	24	1600	2A	50	7.30	5.45	4.64	4.20	3.94
24F2876	1013	4	24	600	4A	15	6.35	4.74	4.03	3.65	3.43
62F2992	1066	2	24	1600	1B	15	4.40	3.28	2.79	2.53	2.38
24F2878	1050	1	24	2400	1C	10	8.45	6.30	5.37	4.86	4.56
62F2991	1051	2	24	1600	2C	10	8.95	6.68	5.68	5.15	4.83
24F2877	1088	3	24	800	1A+1B	15	5.70	4.25	3.62	3.28	3.08
62F2993	1089	5	24	384	2A+2B	15	8.80	6.56	5.59	5.06	4.75

JRL LATCHING

Stock No.	Type	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-9	10-24	25-99	100-249	250-999
24F3309	1000	2	6	400	1A	15	4.80	3.58	3.05	2.76	2.59
24F3310	1001	2	12	1600	1A	15	4.80	3.58	3.05	2.76	2.59
24F3311	1002	2	24	6400	1A	15	5.30	3.95	3.37	3.05	2.86
24F3312	1012	3	6	300	2A	15	6.80	5.07	4.32	3.91	3.67
24F3313	1013	3	12	1200	2A	15	6.80	5.07	4.32	3.91	3.67
24F3314	1014	3	24	4800	2A	15	7.15	5.33	4.54	4.11	3.86

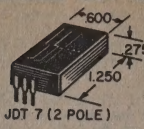
JRA SERIES

Stock No.	Type JRA	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-76	77-Up
24F3257	1006	1	6	74	1A	25	1.50	.77
24F3258	1012	1	12	290	1A	25		
24F3259	1024	1	24	1200	1A	25		

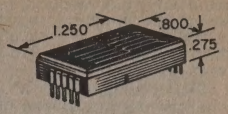
JRM MINIATURE

Stock No.	Type JRM	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	W In.	Wt. Oz.	1-9	10-24	25-99	100-249	250-999
24F3303	1000	1	6	200	1A	.432	.366	3.50	2.61	2.22	2.01	1.89
24F3304	1001	2	6	130	2A	.562	.395	5.10	3.80	3.24	2.93	2.75
62F2994	1003	4	6	67	4A	.813	.620	8.10	6.04	5.14	4.66	4.37
62F2995	1036	2	6	130	1B	.562	.395	4.45	3.32	2.83	2.56	2.40
62F2996	1037	3	6	86	2B	.703	.530	5.95	4.44	3.78	3.42	3.21
62F2997	1048	3	6	86	1A+1B	.968	.781	5.95	4.44	3.78	3.42	3.21
62F2998	1049	5	6	50	2A+2B	.968	.781	9.10	6.79	5.78	5.23	4.91
24F2909	1006	1	12	800	1A	.432	.366	3.50	2.61	2.22	2.01	1.89
24F2910	1007	2	12	520	2A	.557	.395	5.10	3.80	3.24	2.93	2.75
24F3305	1009	4	12	268	4A	.813	.620	8.10	6.04	5.14	4.66	4.37
24F2919	1040	2	12	520	1B	.557	.395	4.45	3.32	2.83	2.56	2.40
62F2999	1041	3	12	344	2B	.703	.530	5.95	4.44	3.78	3.42	3.21
24F2923	1050	3	12	344	1A+2B	.698	.530	5.95	4.44	3.78	3.42	3.21
24F3306	1051	5	12	200	2A+2B	.968	.781	9.10	6.79	5.78	5.23	4.91
24F2912	1012	1	24	3200	1A	.432	.366	3.85	2.87	2.44	2.21	2.08
24F2913	1013	2	24	2080	2A	.557	.395	5.25	3.92	3.33	3.02	2.84
24F2914	1015	4	24	1072	4A	.808	.620	8.20	6.12	5.21	4.72	4.43
24F2921	1044	2	24	2080	1B	.557	.395	4.55	3.39	2.89	2.62	2.46
24F3307	1045	3	24	1376	2B	.703	.530	6.10	4.55	3.87	3.51	3.29
24F2925	1052	3	24	1376	1A+1B	.698	.530	6.10	4.55	3.87	3.51	3.29
24F3308	1053	5	24	800	2A+2B	.968	.781	9.25	6.90	5.87	5.32	5.00

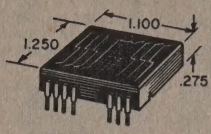
SERIES JDT DUAL THIN LINE RELAYS



JDT 7 (2 POLE)



JDT 15 (4 POLE)



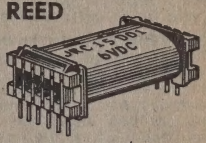
JDT 21 (6 POLE)

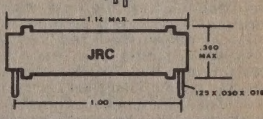
JDT 27 (8 POLE)

Ideal for high density packaging applications. Reed relays have low profile (only 0.275" max. height). Hermetically sealed glass capsules are completely encapsulated in epoxy. Terminals are on .100" grid centers for ease of printed circuit board mounting and layout. Operate time is 3.5 milliseconds including bounce. Release time is 3.5 milliseconds maximum. Weight: ½ to ¾ oz. max.

Stock No.	Type JDT	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-9	10-24	25-99	100-249	250-999
62F3000	7DA1	2	6	115	2A	10	5.80	4.33	3.68	3.34	3.13
62F3001	7DA1	2	12	460	2A	10	5.80	4.33	3.68	3.24	3.13
62F3002	7DA1	2	24	1840	2A	10	6.45	4.81	4.10	3.71	3.48
24F3315	15DB1	4	6	115	4A	10	7.70	5.74	4.89	4.43	4.16
24F3316	15DB1	4	12	460	4A	10	7.70	5.74	4.89	4.43	4.16
24F3317	15DB1	4	24	1840	4A	10	8.35	6.23	5.30	4.80	4.51
62F3003	21DC1	6	6	100	6A	10	11.00	8.21	6.99	6.33	5.94
62F3004	21DC1	6	12	400	6A	10	11.00	8.21	6.99	6.33	5.94
62F3005	21DC1	6	24	1600	6A	10	11.65	8.69	7.40	6.70	6.29
24F3318	27DD1	8	6	60	8A	10	13.00	9.70	8.26	7.48	7.02
24F3319	27DD1	8	12	240	8A	10	13.00	9.70	8.26	7.48	7.02
24F3366	27DD1	8	24	960	8A	10	13.75	10.26	8.73	7.91	7.43

JRC OPEN STYLE DRY REED





Have P/C terminals arranged to fit popular 100 x 1.00 grid layout. Rhodium is standard contact material rated 10 watts max. .5 amp max. and 125 volts max. for DC resistive loads. Typical operate speeds are 1 ms (including bounce) for pick-up and .05 ms for drop-out. Approx. weight: .3 to 1.0 oz.

Stock No.	Type JRC	No. Cav	Coil VDC	Coil Ohms	Con. Arr.	Reed Watts	1-24	25-49	50-74	75-99	100-499
67F1034	1DA1	1	6	240	1A	10	3.55	3.20	3.02	2.84	2.49
67F1035	1DA1	1	12	960	1A	10	3.55	3.20	3.02	2.84	2.49
67F1036	1DA1	1	24	3840	1A	10	4.20	3.78	3.57	3.36	2.94
67F1037	7DB1	2	6	155	2A	10	4.50	4.05	3.83	3.60	3.15
67F1038	7DB1	2	12	625	2A	10	4.50	4.05	3.83	3.60	3.15
67F1039	7DB1	2	24	2500	2A	10	5.20	4.68	4.42	4.16	3.64
67F1040	15DD1	4	6	80	4A	10	6.60	5.94	5.61	5.28	4.62
67F1041	15DD1	4	12	320	4A	10	6.60	5.94	5.61	5.28	4.62
67F1042	15DD1	4	24	1280	4A	10	7.10	6.39	6.04	5.68	4.97
67F1043	2DB1	2	6	155	1B	10	3.95	3.56	3.36	3.16	2.77
67F1044	2DB1	2	12	625	1B	10	3.95	3.56	3.36	3.16	2.77
67F1045	2DB1	2	24	2500	1B	10	4.25	3.83	3.61	3.40	2.98
67F1046	50DD1	4	6	80	1A+1B	10	5.20	4.68	4.42	4.16	3.64
67F1047	50DD1	4	12	320	1A+1B	10	5.20	4.68	4.42	4.16	3.64
67F1048	50DD1	4	24	1280	1A+1B	10	5.35	4.82	4.55	4.28	3.75
67F1049	60DF1	6	6	45	2A+2B	10	6.50	5.85	5.53	5.20	4.55
67F1050	60DF1	6	12	180	2A+2B	10	6.50	5.85	5.53	5.20	4.55
67F1051	60DF1	6	24	720	2A+2B	10	6.65	5.99	5.65	5.32	4.66

JDA SOLID STATE/REED HYBRID

Designed to operate from output of DTL and TTL logic circuits in current sourcing mode. Control signals between 2.4 and 30 volts DC will operate the JDA relay when specified supply voltage is applied. Release occurs when control signal is reduced to 0.5 VDC, or less. Control voltage change for these amplifier-driven reed relays must exceed 1 v/ms to meet intended operating conditions. Terminals are spaced on 0.1 grid centers for printed circuit board mounting. Approx. wt.: 0.4 oz. Contact Ampere Rating: 10W (0.5A MAX.).

Stock No.	Type	Input Con. DC Volt	Input Con. Nom. Power	Input Sup. DC Volt	Input Sup. Nom. Power	Con. Arr.	1-9	10-24	25-99	100-249	250-499
67F1052	7GB1	24	100μW	24	490mW	DPST-NO	15.30	11.41	9.72	8.80	8.26

AMF | POTTER & BRUMFIELD

Time Delay Relays

CD SERIES—Remarkably dependable, accurate and flexible, offers an unusually wide selection of operational configurations, all with accurate time delay values, fast reset time and excellent repeatability. It is available in two types: Knob-adjustable in two versions, one with the relay in the same enclosure as the solid state unit, the other with an auxiliary relay. A second type is adjustable with an external resistor. Available for time delay on operate or on release.

CH SERIES—Intended for a wide range of industrial applications where economy is of greater interest than non-false operation. It is available in two types: Knob-adjustable with the relay in the same enclosure as the solid state unit. The second type has a fixed time delay period that is set at the factory and cannot be modified; its case has no knob. Available for time delay on either operate or on release.

CJ SERIES—Time delay dry reed relays have high sensitivity and low power requirements. Two series are available, the CJC fixed time delay on operate and the CJH external resistor adjustable time delay on operate.

CK SERIES—Similar to the CH with the exception that they do not have timing cycle interrupt transfer and will time as low as 0.1 second. These time delays include an internally mounted DPDT KR relay rated 10 amperes to form a compact and convenient assembly. Enclosed in white nylon dust covers, CK relays are available in three types: fixed, resistor adjustable and knob adjustable for AC or DC operation. Mounting convenience is provided by plug-in octal type terminals.

CL SERIES—Designed for delay on operate the CL Series is similar to the CU with the exception that they don't have timing cycle interrupt transfer and will time to 0.1 second. These solid state time delays are ideal for AC or DC applications. A DPDT KU relay rated 10 amperes is mounted in the same enclosure, forming a compact assembly. CL relays are enclosed in yellow polycarbonate dust covers and are available in three types: fixed, resistor adjustable and knob adjustable. Plug-in/quick-connect terminals facilitate handling and hook-up.

CR SERIES—Recycle timer has two independent control knobs for adjusting ON and OFF delays in 5 models from 0.1 to 180 seconds. The recycling sequence is initiated by applying power to the terminals. When the first preset delay is complete, the contacts transfer from normally OFF to energized ON, at which time the ON delay begins. If power is removed during any part of the operate cycle, the CR will revert to its OFF state (contacts open).

10

CU SERIES—An outstanding value in solid state time delay relays. The low cost CU Series is designed for delay on operate application in machine tool controls, copiers, office equipment, coin-operated machines, process controls and many others. Relays are available in three types: Fixed time delay that is set at the factory and cannot be modified, adjustable with an external resistor, and knob-adjustable with a reference scale. For minimum time (on external resistor types), two terminals, 2 and 5 must be shorted; for maximum time, the listed external resistor must be added between terminals 2 and 5. For intermediate times select a lesser value resistor or use a potentiometer. Either fixed or resistor adjustable models can be furnished in two types of enclosures with the relay mounted in the same case as the solid state circuit. The CUB series knob-adjustable time delay is offered in a slightly taller enclosure. All CU series time delays have an internal DPDT 10 amp relay of the KUP series. The cases for the CU and KUP are dimensionally the same.

PT SERIES—Designed to bezel mount in front-panel applications, the PT Series is available for delay on operate or delay on release timing modes. Coils are available for AC or DC operation. This solid state time delay uses the same basic timing circuit employed in the CD Series. Timing range of .1 to 180 seconds is spanned by three models: .1 to 10, .6 to 60 and 1.8 to 180 seconds. Internally mounted relay with DPDT contacts rated 10 amperes. All models provide easy-to-read time selection dial with a large adjustment knob and molded polycarbonate bezel.

R12 SERIES—Time delay relays combine the field proved R10 Series basic relay with a high quality delay circuit. These small DC variable time delay relays do not have timing cycle interrupt transfer and will time as low as 0.1 second. Timing range of 0.1 to 120 seconds is spanned by three models: 0.1 to 3, 1.0 to 30 and 5.0 to 120 seconds. Each time range is varied with a high resolution 15-turn potentiometer. The internally mounted R10 Series relay is equipped with DPDT contacts rated 5 amperes. Solder terminals are provided and mounting may be accomplished by #3-48 stud or sockets offering solder or printed circuit board terminals. See page 272.

R13 SERIES—Fixed time delay relay is available in 9 timing ranges from 1 to 300 seconds and operates with less than 240 mw of DC power. Designed for delay on operate, fast recycle time is a feature of the R13. It is shock rated at 10g operating and 25g mechanical. Vibration is .06" (dual amplitude) from 5-55 Hz; 5g from 55-110 Hz. See page 272.

R14 SERIES—Fixed or externally adjustable time delay relay has seven timing ranges from .025 seconds to 600 seconds. It is shock rated at 15g operating, and 30g mechanical life. Vibration is .06" (dual amplitude) from 5-55 Hz; 8g from 55-110 Hz. R14A is an interval timer. See page 272.

R15SERIES—AC operated fixed or externally adjustable time delay relay has seven timing ranges from .025 second to 300 seconds. It is shock rated at 15g operating, and 30g mechanical life. Vibration is .06" (dual amplitude) from 5-55 Hz; 8 g from 55-110 Hz. R15A is an interval timer. See page 272.

COMPARISON OF GENERAL SPECIFICATIONS OF TIME DELAY RELAYS

TYPE	TEMP. RANGE	TOLERANCE AND DELTA TIME	TRANSIENT PROTECTION	FALSE OPR.	RECYCLE AND RELEASE TIME	REPEATABILITY
CD	—40° to +55°	±5% Delta Time: ±5%	1000V (on all 120V AC models)	None	CD-38 45 Milliseconds typical	CD-38 ±1% Others ±2%
CH	—10° to +55°C	±5% Delta Time: ±10%	1000V (on all 120V AC models)	Contacts may transfer momentarily if timing interval is interrupted	125 milliseconds typical	±2%
CJ	—10° to +55°C	Fixed ±5% Adjust ±10% Delta Time: ±10%	Twice rated input voltage	None	50 milliseconds typical	±2%
CK	—10° +55°C	±5% Delta Time: ±10%	1000V (on all 120V AC models)	None	50 milliseconds typical	±2%
CL	Norm. Room Temp.	Fixed ±5% Adjust ±10%	Twice rated input voltage	None	100 milliseconds typical	±3%
CR	—40°C to +55°C	Adjust ±20% Delta Time: +10%	Twice rated input voltage for 1 ms.	Contacts may transfer momentarily if timing interval is interrupted	60 milliseconds typical	±2%
CU	Norm. Room Temp.	Fixed ±5% Adjustable ±10%	Twice rated input voltage	Contacts may transfer momentarily if timing interval is interrupted	750 milliseconds typical	±3%
PT	—10° to +55°C	See Dial Scale specs. Delta Time ±5%	1000V (on all 120V AC models)	None	45 milliseconds typical	±1%
R12	—10°C to +55°C	±5% Delta Time: ±5%	100 volts for 100 micro seconds	None	100 milliseconds typical	±2%
R13	—10° to +55°C	±20% Total Over Temp, Range	None	Contacts may transfer momentarily if timing interval is interrupted	150 milliseconds typical	±3%
R14	—10°C to +55°C	Fixed ±5% Adjust ±10% Delta Time: ±5%	100V for 100 μS	None	100 milliseconds typical	±2%
R15	—10° to +55°C	Fixed ±5% Adjust ±10% Delta Time: ±5%	100V for 100 μS	Contacts may transfer momentarily if timing interval is interrupted	100 milliseconds typical	±2%

Time Delay Relays

AMF | POTTER & BRUMFIELD

FIXED DELAY ON OPERATE

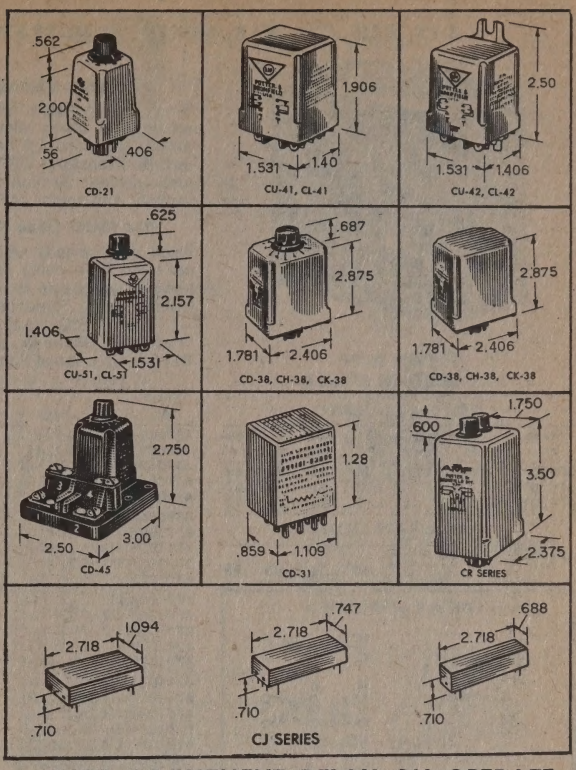
Stock No.	Type	Delay Sec.	Input Volts	Foot-notes	1-9	10-24	25-49
24F2931	CUA41-30010	10	24 VAC	1*	14.25	13.54	12.83
24F2936	CUA42-30010	10	24 VAC	1*	14.25	13.54	12.83
67F1136	CDA38-70012	1	120 VAC	1	40.05	38.05	36.05
67F1137	CUA41-70001	1	120 VAC	1*	14.25	13.54	12.83
67F1138	CHA38-70001	10	120 VAC	1	18.95	18.00	16.07
24F3359	CKA38-70010	10	120 VAC	1	21.95	20.85	19.76
24F3352	CLA41-70010	10	120 VAC	1	17.40	16.53	15.66
24F2927	CUA41-70010	10	120 VAC	1*	14.25	13.54	12.83
24F2932	CUA42-70010	10	120 VAC	1*	14.25	13.54	12.83
24F2928	CUA41-70120	120	120 VAC	1*	15.80	15.01	14.22
24F2933	CUA42-70120	120	120 VAC	1*	15.80	15.01	14.22
45F090	CJC01-20003	3	12 VDC	7	19.35	18.38	17.42
67F1139	CJC02-20003	3	12 VDC	7	20.00	19.00	18.00
45F092	CJC03-20003	3	12 VDC	7	21.25	20.19	19.13
45F091	CJC01-30003	3	24 VDC	7	19.35	18.38	17.42
67F1140	CJC02-30003	3	24 VDC	7	20.00	19.00	18.00
45F093	CJC03-30003	3	24 VDC	7	21.25	20.19	19.13
24F3360	CKC38-30010	10	24 VDC	1	20.95	19.90	18.86
24F3353	CLC41-30010	10	24 VDC	1	17.40	16.53	15.66
24F2929	CUC41-30010	10	24 VDC	1*	14.25	13.54	12.83
67F1141	CUC42-30010	10	24 VDC	1*	14.25	13.54	12.83
24F2930	CUC41-30120	120	24 VDC	1*	15.80	15.01	14.22
24F2935	CUC42-30120	120	24 VDC	1*	15.80	15.01	14.22

RESISTOR ADJUSTMENT DELAY ON OPERATE

24F2941	CUF41-30010	1.0-10	24 VAC	200K*†	15.05	14.30	13.55
24F2946	CUF42-30010	1.0-10	24 VAC	200K*†	15.05	14.30	13.55
24F3361	CKF38-70010	0.1-10	120 VAC	1, 8†	22.10	21.00	19.89
24F3357	CLF41-70010	0.1-10	120 VAC	200K†	18.90	17.96	17.01
67F1142	CLF42-70010	0.1-10	120 VAC	200K†	18.90	17.96	17.01
24F2937	CUF41-70010	1.0-10	120 VAC	200K*†	15.05	14.30	13.55
24F2942	CUF42-70010	1.0-10	120 VAC	200K*†	15.05	14.30	13.55
67F1143	CUF41-70030	1.0-30	120 VAC	600K*†	15.55	14.77	14.00
24F2938	CUF41-70120	1.0-120	120 VAC	2.4M*†	16.35	15.53	14.72
24F2943	CUF42-70120	1.0-120	120 VAC	2.4M*†	16.35	15.53	14.72
67F1144	CDF38-70001	1 max.	120 VAC	1, 9†	41.20	39.14	37.08
67F1145	CDF38-70002	5 max.	120 VAC	1, 10†	41.20	39.14	37.08
67F1146	CDF31-70003	10 max.	120 VAC	11, 12†	39.40	37.43	35.46
67F1147	CDF38-70003	10 max.	120 VAC	1, 12†	41.20	39.14	37.08
45F094	CJH01-20010	0.1-10	12 VDC	750K†	19.85	18.86	17.87
67F1148	CJH02-20010	0.1-10	12 VDC	750K†	20.50	19.48	18.45
45F098	CJH03-20010	0.1-10	12 VDC	750K†	21.75	20.66	19.58
45F095	CJH01-20120	1.0-120	12 VDC	1, 8Mt	22.60	21.47	20.34
67F1149	CJH02-20120	1.0-120	12 VDC	1.8 Mt	23.25	22.09	20.93
45F099	CJH03-20120	1.0-120	12 VDC	1.8Mt	24.50	23.28	22.05
24F3362	CKH38-30010	0.1-10	24 VDC	.....	21.10	20.05	18.99
45F096	CJH01-30010	0.1-10	24 VDC	750Kt	19.85	18.86	17.87
67F1150	CJH02-30010	0.1-10	24 VDC	750Kt	20.50	19.48	18.45
45F100	CJH03-30010	0.1-10	24 VDC	750Kt	21.75	20.66	19.58
24F3358	CLH41-30010	0.1-10	24 VDC	160Kt	18.90	17.96	17.01
24F2939	CUH41-30010	1.0-10	24 VDC	160K*†	15.05	14.30	13.55
24F2944	CUH42-30010	1.0-10	24 VDC	160K*†	15.05	14.30	13.55
45F097	CJH01-30120	1.0-120	24 VDC	1.8Mt	22.60	21.47	20.34
67F1151	CJH02-30120	1.0-120	24 VDC	1.8Mt	23.25	12.09	20.93
45F101	CJH03-30120	1.0-120	24 VDC	1.8Mt	24.50	23.28	22.05
24F2940	CUH41-30120	1.0-120	24 VDC	2M*†	16.35	15.53	14.72
24F2945	CUH42-30120	1.0-120	24 VDC	2M*†	16.35	15.53	14.72
67F1152	CDH31-30010	5 max.	24 VDC	4, 14	39.40	37.43	35.46
67F1153	CDH31-30005	180 max.	24 VDC	4	39.40	37.43	35.46

KNOB ADJUSTMENT DELAY ON OPERATE

67F1154	CDB38-30001	0.1-10	24 VAC	1	44.30	42.09	39.87
24F3363	CKB38-30010	0.1-10	24 VAC	1	23.00	21.85	20.70
24F3354	CLB51-30010	0.1-10	24 VAC	1	19.90	18.91	17.91
67F1155	CDB38-30002	0.6-6	24 VAC	1	44.30	42.09	39.87
24F2881	CHB38-30001	1.0-10	24 VAC	1	20.00	19.00	18.00
24F2882	CHB38-30003	1.0-180	24 VAC	1	20.00	19.00	18.00
67F1156	CDB38-70001	0.1-1	120 VAC	1	44.30	42.09	39.87
67F1157	CDB38-70002	0.1-5	120 VAC	1	44.30	42.09	39.87
24F1881	CDB21-70003	0.1-10	120 VAC	2	39.20	37.24	35.28
24F1875	CDB38-70003	0.1-10	120 VAC	1	44.30	42.09	39.87
24F3364	CKB38-70010	0.1-10	120 VAC	1	23.00	21.85	20.70
24F3355	CLB51-70010	0.1-10	120 VAC	1	19.90	18.91	17.91
24F1876	CDB38-70004	0.6-60	120 VAC	1	44.30	42.09	39.87
24F1886	CDB45-70002	0.6-60	120 VAC	6	37.55	35.67	33.80
67F1158	CKB38-70060	0.6-60	120 VAC	1	23.00	21.85	20.70
24F2883	CHB38-70001	1.0-10	120 VAC	1	20.00	19.00	18.00
24F3350	CUB51-70010	1.0-10	120 VAC	1	16.35	15.53	14.72
67F1159	CHB38-70002	1.0-60	120 VAC	1	20.00	19.00	18.00
24F3351	CUB51-70120	1.0-120	120 VAC	1	17.90	17.01	16.11
24F2884	CHB38-70003	1.0-180	120 VAC	1	20.00	19.00	18.00
24F3365	CKB38-70120	1.2-120	120 VAC	1	23.00	21.85	20.70
24F3356	CLB51-70120	1.2-120	120 VAC	1	21.20	20.14	19.08
24F1882	CDB21-70001	1.8-180	120 VAC	2	39.20	37.24	35.28
24F1877	CDB38-70005	1.8-180	120 VAC	1	44.30	42.09	39.87
67F1160	CHB38-80001	1.0-10	240 VAC	1	21.00	19.95	18.90
67F1161	CKD38-20010	0.1-10	12 VDC	1	22.00	20.90	19.80
24F1883	CDD21-30003	0.1-10	24 VDC	3	38.85	36.91	34.97
24F1878	CDD38-30003	0.1-10	24 VDC	1	42.05	39.95	37.85
24F1879	CDD38-30004	0.6-60	24 VDC	1	42.05	39.95	37.85



KNOB ADJUSTMENT DELAY ON OPERATE

Stock No.	Type	Delay Sec.	Input Volts	Foot-notes	1-9	10-24	25-49
24F2885	CHD38-30001	1.0-10	24 VDC	1	19.00	18.05	17.10
24F2886	CHD38-30003	1.0-180	24 VDC	1	19.00	18.05	17.10
24F1884	CDD21-30001	1.8-180	24 VDC	3	38.85	36.91	34.97
24F1800	CDD38-30005	1.8-180	24 VDC	1	42.05	39.95	37.85
67F1162	CDD38-40002	0.6-60	48 VDC	1	42.05	39.95	37.85

KNOB ADJUSTMENT DELAY ON RELEASE

67F1163	CHB38-30011	1.0-10	24 VAC	1, 13	24.00	22.80	21.60
24F1887	CDB38-70012	0.6-60	120 VAC	.....	52.95	50.30	47.66
67F1164	CDB38-70014	0.1-10	120 VAC	.....	52.95	50.30	47.66
67F1165	CDB38-70015	1.8-180	120 VAC	.....	52.95	50.30	47.66
24F2887	CHB38-70011	1.0-10	120 VAC	1, 13	24.00	22.80	21.60
67F1166	CHB38-70012	1.0-60	120 VAC	1, 13	24.00	22.80	21.60
24F2888	CHB38-70013	1.0-180	120 VAC	1, 13	24.00	22.80	21.60
24F1888	CDD38-30012	0.6-60	24 VDC	1	50.00	47.50	45.00
67F1167	CDD38-30014	0.1-10	24 VDC	1	50.00	47.50	45.00
67F1168	CDD38-30008	1.8-18	24 VDC	1	50.00	47.50	45.00
24F2889	CHD38-30011	1.0-10	24 VDC	1, 13	22.00	20.90	19.80
24F2890	CHD38-30013	1.0-180	24 VDC	1, 13	22.00	20.90	19.80

RECYCLE TIMER DELAY ON OP./RELEASE

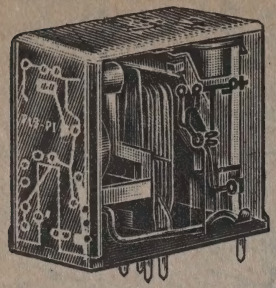
67F1169	CRB48-30180	1.8-180	24 VAC	1	43.30	41.14	38.97
67F1170	CRB48-70180	1.8-180	120 VAC	1	43.30	41.14	38.97
67F1171	CRD48-30180	1.8-180	24 VDC	1	37.85	35.96	34.07

INTERVAL ON

67F1172	CHB38-70021	1.0-10	120 VAC	1	24.00	22.80	21.60
67F1173	CHB38-70022	1.0-60	120 VAC	1	24.00	22.80	21.60
67F1174	CHB38-70023	1.0-180	120 VAC	1	24.00	22.80	21.60
67F1175	CHD38-30021	1.0-10	24 VDC	1	22.00	20.90	19.80

FOOTNOTES:—M = Meg. (*) UL. (†) Ext. resistor, not supplied, for max. time. Recommend ¼ watt min. resistor. **1)** Int. relay w DPDT contacts; 10 Amps, 120 VAC. **2)** Use with relay KRP5AG-120VAC, KRP11AG-120VAC, or KRP14AG-120VAC. **3)** Use with KRP5DG-24VDC, KRP11DG-24VDC, or KRP14DG-24VDC relay. **4)** Use with KHP17D11-24VDC relay. **6)** Use with PR11AY-120VAC relay. **7)** Int. relay contacts rated @ 10 VA. **8)** 750K resistor for max. time. **9)** 40K resistor for ½ max. time. **10)** 200K resistor for ½ max. time. **11)** Use with KHP17A11-120VAC relay. **12)** 400K resistor for ½ max. time. **13)** Ext. switch or relay required. **14)** 1.6 meg. resistor for ½ max. time.

R12, R13, R14, R15, SERIES SOLID-STATE TIME DELAY ON OPERATE RELAYS



SOCKET WITH HOLD-DOWN SPRING

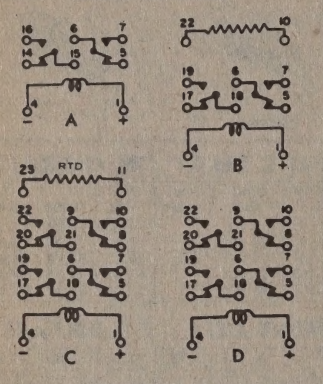
FOR R12-R13 SERIES

Stock No.	Type	Description	1-24	25-50	51-99	100-249
67F1017	9XR12-1	DPDT sol.	.90	.81	.68	.63
67F1018	9XR12-2	DPDT PC	.90	.81	.68	.63
67F1019	9XR13-1	4PDT sol.	1.40	1.26	1.05	.98

FOR R14-R15 SERIES

67F1020	9XR14-1	DPDT and 4PDT sol.	1.40	1.26	1.05	.98

WIRING DIAGRAMS



R12 SERIES VARIABLE TIME DELAY

Small DC variable relays combine field proved R10 basic relay with high quality delay circuit. Do not have timing cycle interrupt "transfer." DPDT contacts rated 5 amps. Solder terminals. Mtg: 3-48 stud or sockets with solder or PC terminals.

R14 SERIES FIXED OR ADJUSTABLE

Fixed or externally resistor adjustable DC operated time delay relay. Accuracy: Externally adjustable to within ±10%. Fixed Delays: ±5%. Repeatability: ±2%. Temp.: −10°C to +55°C. No timing cycle interrupt "transfer." Reverse polarity protection. **R14A is an interval timer.**

R13 SERIES FIXED TIME DELAY

Fixed time delay relay. Operates with less than 240 mW of DC power. Designed for delay on operate; features fast recycle time. Accuracy: ±20% standard. .5% change per degree C from nominal 25°C. Repeatability: ±3%. Temperature Range: −10°C to +55°C.

R15 SERIES FIXED OR ADJUSTABLE

AC operated fixed or externally resistor adjustable time delay relay. Accuracy: Externally adjustable to within ±10%. Fixed Delays: ±5%. Temp: −10°C to +55°C. Repeatability: ±2%. Momentary timing cycle interrupt "transfer." **R15A is an interval timer.**

Stock No.	Type	Delay Sec.	Input Volts	Action	Amp Rtg.	Dia. No.	1-9	10-49	50-99	100-499	500-999	1000-Up
45F081	R12-2-12-X2-E1	0.1-2	12 VDC	DPDT	5	A	18.15	16.34	13.61	12.71	11.80	10.89
45F082	R12-2-24-X2-E1	0.1-2	24 VDC	DPDT	5	A	18.15	16.34	13.61	12.71	11.80	10.89
45F083	R12-30-12-X2-E1	1.0-30	12 VDC	DPDT	5	A	18.65	16.79	13.99	13.06	12.12	11.19
45F084	R12-30-24-X2-E1	1.0-30	24 VDC	DPDT	5	A	18.65	16.79	13.99	13.06	12.12	11.19
45F085	R12-120-12-X2-E1	5.0-120	12 VDC	DPDT	5	A	20.15	18.14	15.11	14.11	13.10	12.09
45F086	R12-120-24-X2-E1	5.0-120	24 VDC	DPDT	5	A	20.15	18.14	15.11	14.11	13.10	12.09
67F1022	R13-1F-24-X2-E1	1.0	24 VDC	DPDT	5	A	10.85	9.77	8.14	7.60	7.05	6.51
67F1023	R13-1F-24-X4-E1	1.0	24 VDC	4PDT	5	C	12.25	11.03	9.19	8.58	7.96	7.35
67F1024	R13-5F-24-X2-E1	5.0	24 VDC	DPDT	5	A	10.85	9.77	8.14	7.60	7.05	6.51
67F1025	R13-5F-24-X4-E1	5.0	24 VDC	4PDT	5	C	12.25	11.03	9.19	8.58	7.96	7.35
67F1026	R13-10F-12-X4-E1	10	12 VDC	4PDT	5	C	12.25	11.03	9.19	8.58	7.96	7.35
67F1027	R13-10F-24-X2-E1	10	24 VDC	DPDT	5	A	10.85	9.77	8.14	7.60	7.05	6.51
67F1028	R13-10F-24-X4-E1	10	24 VDC	4PDT	5	C	12.25	11.03	9.19	8.58	7.96	7.35
67F1029	R13-60F-48-Y2-E1	60	48 VDC	DPDT	2	A	12.30	11.07	9.23	8.61	8.00	7.38
67F1030	R13-120F-12-X4E1	120	12 VDC	4PDT	5	C	14.25	12.83	10.69	9.98	9.26	8.55
67F1031	R13-300F-12-X4E1	300	12 VDC	4PDT	5	C	15.25	13.73	11.44	10.68	9.91	9.15
67F1032	R13-300F-24-X4E1	300	24 VDC	4PDT	5	C	15.25	13.73	11.44	10.68	9.91	9.15
67F1033	R14-2A-12-X2-E1	0.25-2	12 VDC	DPDT	5	B	14.60	13.14	10.95	10.22	9.49	8.76
67F1000	R14-2A-12-X4-E1	0.25-2	12 VDC	4PDT	5	D	15.75	14.18	11.81	11.03	10.24	9.45
67F1001	R14-30A-24-X2-E1	0.5-30	24 VDC	DPDT	5	B	15.35	13.82	11.51	10.75	9.98	9.21
67F1002	R14-30A-24-X4-E1	0.5-30	24 VDC	4PDT	5	D	16.50	14.85	12.38	11.55	10.73	9.90
67F1003	R14-120A-24-X2E1	5-120	24 VDC	DPDT	5	B	16.10	14.49	12.08	11.27	10.47	9.66
67F1004	R14-120A-24-X4E1	5-120	24 VDC	4PDT	5	D	17.25	15.53	12.94	12.08	11.21	10.35
67F1005	R14A-30A-24-X4E1	0.5-30	24 VDC	4PDT	5	D	17.50	15.75	13.13	12.25	11.38	10.50
67F1006	R14A-300A-12X4E1	10-300	12 VDC	4PDT	5	D	19.25	17.33	14.44	13.48	12.51	11.55
67F1007	R14A-300A-24X4E1	10-300	24 VDC	4PDT	5	D	19.25	17.33	14.44	13.48	12.51	11.55
67F1008	R14A-600A-24X4E1	30-600	24 VDC	4PDT	5	D	20.25	18.23	15.19	14.18	13.16	12.15
67F1009	R15-10A-24-W2-E1	0.5-10	24 VAC	DPDT	10	B	16.65	14.99	12.49	11.66	10.82	9.99
67F1010	R15-10A-24-W4-E1	0.5-10	24 VAC	4PDT	10	D	18.25	16.43	13.69	12.78	11.86	10.95
67F1011	R15-30A-115-X2E1	0.5-30	115 VAC	DPDT	5	B	16.60	14.94	12.45	11.62	10.79	9.96
67F1012	R15-30A-115-X4E1	0.5-30	115 VAC	4PDT	5	D	17.75	15.98	13.31	12.43	11.54	10.65
67F1013	R15-60A-115-Y2E1	1-60	115 VAC	DPDT	2	B	16.50	14.85	12.38	11.55	10.73	9.90
67F1014	R15-60A-115-Y4E1	1-60	115 VAC	4PDT	2	D	17.50	15.75	13.13	12.25	11.38	10.50
67F1015	R15A-30A-24-X4E1	0.5-30	24 VAC	4PDT	5	D	18.75	16.88	14.06	13.13	12.19	11.25
67F1016	R15A-300A-115X4E1	10-300	115 VAC	4PDT	5	D	21.25	19.13	15.94	14.88	13.81	12.75

CS SERIES SOLID STATE VOLTAGE SENSORS

Fixed Pick-Up And Adjustable Drop-Out One Knob For Setting Drop-Out Value

Adjustable Pick-Up And Drop-Out. Two Knobs For Setting Desired Values

• Close-Differential • Under Voltage • Optional Time Delay

Designed to energize and de-energize its internal relay at predetermined voltages. Desired levels are either fixed or knob adjust. Voltage sensors consist of sensing circuit that turns on or off solid state switch, energizing or de-energizing internal relay. Relay is DPDT. Enclosed in molded nylon dust cover. 2 Form C (DPDT) rated 10 amps @ 28 VDC resistive or 120 VAC resistive. Continuous duty. Mtg. Octal plug. Approx. wt. 8 oz.

ADJUSTABLE PICK-UP AND DROP-OUT

50-60 Hz AC except (*) DC

Stock No.	Type	Pick-Up Range Volts	Drop-Out Range Volts	1-9	10-24	25-49	50-99
24F2951	CSJ38-30010	20-30	18-28	30.25	28.74	27.23	24.20
24F2952	CSJ38-70010	92-140	90-138	33.00	31.25	29.70	26.40
24F2953	CSL38-30010*	20-30	18-28	26.25	24.94	23.63	21.00
67F1021	CSL38-60010*	92-140	90-138	30.25	28.74	27.23	24.20

FIXED PICK-UP AND ADJUSTABLE DROP-OUT

Stock No.	Type	Pick-Up Range Volts	Drop-Out Range Volts	1-9	10-24	25-49	50-99
24F2954	CSJ38-71010	105	90-103	29.25	27.79	26.33	23.40
24F2955	CSL38-31010*	22	16-21	23.20	22.04	20.88	18.56

SPECIFICATIONS

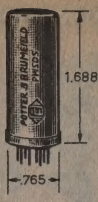
Load Switching Relay: Arrangement—2 Form C (DPDT) rated 10 amps @ 28VDC resistive or 120VAC resistive.
Temperature Range: −10°C to +55°C
Temperature Coefficient: 0.16%/°C (max.)
Repeatability: 1% (max.)
Duty Cycle: Continuous
Reverse Polarity Protection: Yes (on DC types)
Enclosure: Nylon dust cover
Mounting: Octal plug **Approximate Weight:** 8 ozs.

Sensitive Relays

AMF | POTTER & BRUMFIELD

A miniature tube sensitive relay available in voltage or current actuated models. Sensitivity: Voltage: 180 mw.; current: 40 mw. Precision, light weight relay with 10g vibration to 500 Hz. Silver SPDT contacts rated at 2 amps. Mounting Standard 7-pin miniature tube base. Weight: 1 oz. Size: $1^{11}/_{16}$" high above socket, .765" dia.

Stk. No.	Type	Input Volts	Ohms	1-24	25-50	51-99	100-249	250-499
24F556	PW5DS	6VDC	202	13.05	12.40	11.75	9.14	8.48
24F555	PW5DS	12VDC	810	13.05	12.40	11.75	9.14	8.48
24F557	PW5DS	24VDC	3240	13.05	12.40	11.75	9.14	8.48
24F558	PW5LS	2.8MA	5000	13.55	12.87	12.20	9.49	8.81
24F559	PW5LS	2.0MA	10,000	14.00	13.30	12.60	9.80	9.10



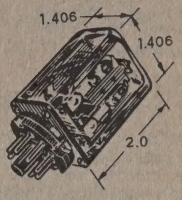
PW SERIES SENSITIVE RELAYS HERMETICALLY SEALED

- Both Voltage and Current Actuated
- Lightweight-1 oz.
- For Aircraft and Missile Applications
- Hermetically Sealed

KCP SERIES — SENSITIVE ENCLOSED RELAYS

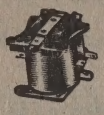
ow cost DC sensitive relay enclosed in clear polycarbonate cover. Sensitivity: 125 mw ngle pole; 250 mw double pole; 375 mw three pole. Mounting: standard octal plug-in type. ight pin for KCP5 and KCP11. Eleven pin for KCP14. Contacts: Gold flashed silver, 2A. Use RP hold down spring when vibration is a factor or when using inverted or horizontal ounting. Weight: Approximately 3 oz.

Stk. No.	Type	Action	Input	Ohms	1-24	25-50	51-99	100-249
24F489	KCP5	SPDT	7.2 mA	2500	6.90	6.56	6.21	4.83
24F490	KCP5	SPDT	5.0 mA	5000	7.00	6.65	6.30	4.90
24F491	KCP5	SPDT	3.6 mA	10,000	7.45	7.08	6.71	5.22
24F492	KCP11	DPDT	10.0 mA	2500	7.35	6.98	6.62	5.15
24F496	KCP11	DPDT	7.2 mA	5000	7.45	7.08	6.71	5.22
24F497	KCP11	DPDT	5.0 mA	10,000	7.90	7.51	7.11	5.53
24F493	KCP14	3PDT	12.3 mA	2500	9.05	8.60	8.15	6.34
24F494	KCP14	3PDT	8.7 mA	5000	9.15	8.69	8.24	6.41
24F495	KCP14	3PDT	6.1 mA	10,000	9.60	9.12	8.64	6.72



RS LIGHT WEIGHT SENSITIVE RELAY

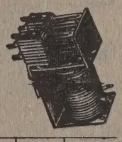
Low cost, sensitive relay for current or voltage applications. Mountings: Two No. 4-40 holes on $^3/_4$"x$^3/_8$" diagonal centers. SPDT bar palladium contacts rated at 2 amps. Size: 1x$1^{11}/_{16}$x$1^5/_{16}$" high. Av. Shpg. wt. 1½ oz.



Stk.No.	Type	INPUT	Ohms	1-24	25-50	51-99	100-249
24F1173	RS5D	6 VDC	335	3.10	2.95	2.79	2.17
24F1198	RS5D	12 VDC	1350	3.25	3.09	2.93	2.28
24F1174	RS5D	5.0mA	2500	3.35	3.18	3.02	2.35
24F1175	RS5D	3.5mA	5000	3.65	3.47	3.29	2.56
24F1176	RS5D	2.5mA	10,000	4.25	4.04	3.83	2.98

GB SENSITIVE RELAY

15 milliwatts for single pole, 275 milliwatts for 4 ole. (See GA Relay for similar voltage actuated nodels.) Silver contacts rated at 5 amps. Mounting: No. 8-32 tapped core and locating half-unch. $2^{13}/_{32}$x$1^{23}/_{32}$x$1^1/_{16}$". Weight: 5 ozs.



Stk. No.	Type	Action	INPUT	Ohms	1-24	25-50	51-99	100-249
24F1319	GB5D	SPDT	6.8 mA	2500	4.15	3.94	3.74	2.91
24F1320	GB5D	SPDT	4.8 mA	5000	4.35	4.13	3.92	3.05
24F1321	GB5D	SPDT	3.4 mA	10,000	4.90	4.66	4.41	3.43
24F1177	GB11D	DPDT	7.0 mA	2500	5.80	5.56	5.27	4.10
24F1178	GB11D	DPDT	5.0 mA	5000	6.05	5.75	5.45	4.24
24F1179	GB11D	DPDT	3.53mA	10,000	6.55	6.22	5.90	4.59
45F051	GB17D	4PDT	10.5 mA	2500	6.95	6.60	6.26	4.87
24F1181	GB17D	4PDT	7.4 mA	5000	7.15	6.79	6.44	5.01
24F1182	GB17D	4PDT	5.25mA	10,000	7.65	7.27	6.89	5.36

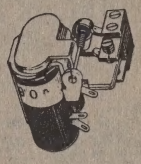
LB LOW COST SENSITIVE RELAY

Current sensitive relays designed to operate on a few milliwatts DC. Sensitivity 200 milliwatts. Silver contacts rated at 5 amps. Two $^3/_{16}$" holes on $2^7/_{32}$" centers. $2^{21}/_{32}$ x$1^1/_4$x$1^3/_8$". Weight 2 ozs.

Stk. No.	Type	Action	INPUT	Ohms	1-24	25-50	51-99	100-249
24F570	LB5	SPDT	9.0mA	2500	3.15	2.99	2.84	2.21
24F571	LB5	SPDT	6.3mA	5000	3.35	3.18	3.02	2.35
24F572	LB5	SPDT	4.5mA	10,000	3.55	3.37	3.20	2.49

SUPER SENSITIVE SPOT RELAY

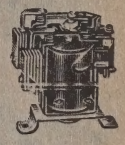
Model SS5D. 10 mw. sensitivity. Dual coils with balanced armature on needle-point bearings for precision instruments and bridge circuits. May be used as a differential relay. SPDT silver contacts rated at 2 amps. Coil 10,000 ohms 1 ma. Mounting: Two No. 6-32 holes on $^{23}/_{32}$" centers. Size: $1^3/_4$x$1^5/_{16}$x$1^1/_{16}$. Wt., 3½ oz.



Stk. No.	Type	1-24	25-50	51-99	100-249
24F609	SS5D	16.85	16.01	15.17	11.80

LM SENSITIVE RELAY

Operates on only 100 mw, per pole. Medium cost high quality relay with silver contacts rated at 5 amps. Pick-up adjustable by tail spring adjusting screw. Mounting: Two No. 6-32 holes on $1^{13}/_{16}$" centers. DC only. (See KL for voltage actuated models.) $2^3/_{16}$x$2^1/_4$x$2^1/_2$". Weight: 5 ozs.



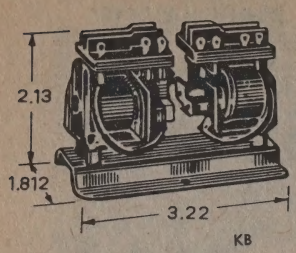
Stk. No.	Type	Action	INPUT	Ohms	1-24	25-50	51-99	100-249
24F562	LM5	SPDT	6.3 mA	2,500	4.80	4.56	4.32	3.36
24F563	LM5	SPDT	4.5 mA	5,000	5.05	4.80	4.55	3.54
24F564	LM5	SPDT	3.2 mA	10,000	5.40	5.13	4.86	3.78
24F567	LM11	DPDT	9.0 mA	2,500	6.90	6.56	6.21	4.83
24F568	LM11	DPDT	6.3 mA	5,000	7.10	6.75	6.39	4.97
24F569	LM11	DPDT	4.5 mA	10,000	7.75	7.36	6.98	5.43

ML SERIES

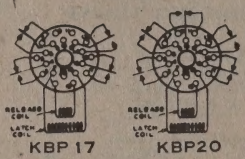
Small telephone type relay with excellent sensitivity and switching capabilities. Has $^1/_8$" dia. gold-flashed silver contacts rated at 3 amps for 100,000 operations. Pierced solder terminals. Mounting: 4 No. 3-48 holes on $^3/_8$" centers. Wt. 2.5 oz.

Stk. No.	Type	Action	INPUT	Ohms	1-24	25-50	51-99	100-249
45F052	ML11D	DPDT	4.0 MA	2500	7.70	7.32	6.93	5.39
45F053	ML11D	DPDT	2.83 MA	5000	7.90	7.51	7.11	5.53
45F054	ML11D	DPDT	2.0 MA	10000	8.25	7.84	7.43	5.78
45F055	ML17D	4PDT	5.65 MA	2500	9.15	8.69	8.24	6.41
45F056	ML17D	4PDT	4.0 MA	5000	9.35	8.88	8.42	6.55
45F057	ML17D	4PDT	2.83 MA	10000	9.70	9.22	8.73	6.79

KB and KBP SERIES DUAL COIL LATCHING RELAYS



- For Memory Work and Overload Applications
- Fast Acting
- Positive Latching



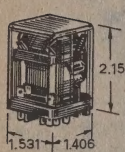
KB SERIES. Both release and trip coils must be for the same voltage. One coil operates relay to set latch and other releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. Mounting: two 0.156″ dia. holes on 1.375″ centers. Contacts: Silver, rated 5 amps. *G Suffix indicates silver cadmium oxide contacts on moveables rated 10 amps. AC relays with 5 amp contacts are recognized under component program of UL (File 29244) and are CSA listed. AC coil for intermittent duty only. Wt. 6 oz.

KBP SERIES. Similar to KB Series except enclosed in translucent polypropylene dust cover and furnished with 20 pin octal type plugs for socket mounting. UL component recognition does not apply. Wt. 8 oz.

Stock No.	Mfr's Type	Action	Coil Volts	1-24	25-50	51-99	100-249	250-499
24F629	KB17AY	4PDT	6 AC	12.25	11.64	11.03	8.58	7.96
24F617	KB17AY	4PDT	12 AC	12.25	11.64	11.03	8.58	7.96
45F209	KB17AY	4PDT	24 AC	12.25	11.64	11.03	8.58	7.96
24F631	KB17AY	4PDT	120 AC	12.25	11.64	11.03	8.58	7.96
62F3022	KB17AY	4PDT	240 AC	13.15	12.49	11.84	9.21	8.55
24F3290	KB17AG	4PDT	6 AC*	12.35	11.73	11.12	8.65	8.03
24F3291	KB17AG	4PDT	12 AC*	12.35	11.73	11.12	8.65	8.03
24F1249	KB17AG	4PDT	24 AC*	12.35	11.73	11.12	8.65	8.03
24F1250	KB17AG	4PDT	120 AC*	12.35	11.73	11.12	8.65	8.03
62F3023	KB17AG	4PDT	240 AC*	13.25	12.59	11.93	9.28	8.61
24F632	KB17D	4PDT	6 DC	11.00	10.45	9.90	7.70	7.15
24F618	KB17D	4PDT	12 DC	11.00	10.45	9.90	7.70	7.15
24F633	KB17D	4PDT	24 DC	11.00	10.45	9.90	7.70	7.15
24F619	KB17D	4PDT	110 DC	12.45	11.83	11.21	8.72	8.09
24F3292	KB17DG	4PDT	6 DC*	11.25	10.69	10.13	7.88	7.31
45F064	KB17DG	4PDT	12 DC*	11.25	10.69	10.13	7.88	7.31
24F1355	KB17DG	4PDT	24 DC*	11.25	10.69	10.13	7.88	7.31
62F3024	KB17DG	4PDT	110 DC*	12.70	12.07	11.43	8.89	8.26
24F3293	KB23AY	6PDT	24 AC	14.65	13.92	13.19	10.26	9.52
24F3294	KB23AY	6PDT	120 AC	14.65	13.92	13.19	10.26	9.52
24F3295	KB23AG	6PDT	24 AC*	14.85	14.11	13.37	10.40	9.65
24F3296	KB23AG	6PDT	120 AC*	14.85	14.11	13.37	10.40	9.65
24F3297	KB23D	6PDT	24 DC	13.30	12.64	11.97	9.31	8.65
24F3298	KB23DG	6PDT	24 DC*	13.65	12.97	12.29	9.56	8.87
24F3299	KB23DG	6PDT	110 DC*	15.10	14.35	13.59	10.57	9.82
67F1120	KBP11A	DPDT	120 AC	15.15	14.39	13.64	10.61	9.85
67F1121	KBP11AG	DPDT	120 AC*	15.25	14.49	13.73	10.68	9.91
24F2900	KBP17A	4PDT	120 AC	17.20	16.34	15.48	12.04	11.18
24F2901	KBP17AG	4PDT	120 AC*	17.40	16.53	15.66	12.18	11.31
24F2902	KBP17D	4PDT	24 DC	15.95	15.15	14.36	11.17	10.37
24F2903	KBP17DG	4PDT	12 DC*	16.25	15.44	14.63	11.38	10.56
24F2904	KBP17DG	4PDT	24 DC*	16.25	15.44	14.63	11.38	10.56
24F2905	KBP20A	5PDT	120 AC	17.70	16.77	15.89	12.36	11.47
24F2906	KBP20AG	5PDT	120 AC*	17.95	16.82	15.93	12.39	11.51
62F3025	KBP20DG	5PDT	12 DC*	17.10	16.25	15.39	11.97	11.12
24F2908	KBP20DG	5PDT	24 DC*	17.10	16.25	15.39	11.97	11.12

10

KUL SERIES MAGNETIC LATCHING RELAY

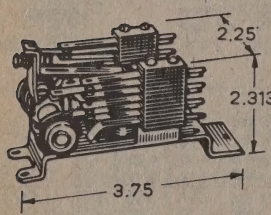


Requires approximately half the space needed for mechanical latching relays. Designed for continuous duty in applications demanding good memory stability. Ideal for machine tools, process controls and business machines. UL recognized under component program and CSA listed. Silver-cadmium oxide contacts rated 10 amps @ 28 VDC, resistive or 120 VAC, 80% PF. All AC DPDT relays include diodes inside clear polycarbonate dust cover. Wt. 3.4 oz.

Stock No.	Type	Action	Coil V.	1-24	25-50	51-99	100-249	250-499
24F3250	KUL5A15S	SPDT	120 AC	6.35	6.03	5.72	4.45	4.13
24F3251	KUL5D15S	SPDT	24 DC	5.50	5.23	4.95	3.85	3.58
24F3252	KUL11A15S	DPDT	12 AC	7.15	6.79	6.44	5.01	4.65
24F3253	KUL11A15S	DPDT	24 AC	7.15	6.79	6.44	5.01	4.65
24F3254	KUL11A15S	DPDT	120 AC	7.15	6.79	6.44	5.01	4.65
67F1122	KUL11D15D	DPDT	24 DC*	7.15	6.79	6.44	5.01	4.65
24F3255	KUL11D15S	DPDT	12 DC	6.10	5.80	5.49	4.27	3.97
24F3256	KUL11D15S	DPDT	24 DC	6.10	5.80	5.49	4.27	3.97

(*) 350 ohms

AP SERIES RATCHET IMPULSE RELAYS



- Intermittent Operation
- Reliable and Compact
- Operates on Impulses as Short as 60 ms.

Reliable compact unit for applications requiring on-off or reversing action on alternate operations. Positive ratchet operation at all speeds on impulses as short as 60 ms. Intermittent coil operation only. Mounting: Three 0.156″ dia. holes on 3.375″ x 0.875″ triangular centers. Contacts: Silver. Wt. 7 oz.

Stock No.	Mfr's Type	Action	Coil Volts	1-24	25-50	51-99	100-249	250-499
24F1231	AP11A	DPDT	6 VAC	10.20	9.69	9.18	7.14	6.63
62F3018	AP11A	DPDT	12 VAC	10.20	9.69	9.18	7.14	6.63
24F1233	AP11A	DPDT	24 VAC	10.20	9.69	9.18	7.14	6.63
24F1234	AP11A	DPDT	120 VAC	10.20	9.69	9.18	7.14	6.63
62F3019	AP11A	DPDT	240 VAC	10.75	10.21	9.68	7.53	6.99
24F1238	AP17A	4PDT	24 VAC	12.35	11.73	11.12	8.65	8.03
24F1239	AP17A	4PDT	120 VAC	12.35	11.73	11.12	8.65	8.03
24F1241	AP11D	DPDT	6 VDC	10.20	9.69	9.18	7.14	6.63
62F3021	AP11D	DPDT	12 VDC	10.20	9.69	9.18	7.14	6.63
24F1243	AP11D	DPDT	24 VDC	10.20	9.69	9.18	7.14	6.63
62F3020	AP11D	DPDT	110 VDC	10.95	10.40	9.86	7.67	7.12
67F1124	AP17D	4PDT	12 VDC	12.35	11.73	11.12	8.65	8.03
24F1247	AP17D	4PDT	24 VDC	12.35	11.73	11.12	8.65	8.03
24F1248	AP17D	4PDT	110 VDC	13.10	12.45	11.79	9.17	8.52

GM SERIES IMPULSE SEQUENCE RELAYS

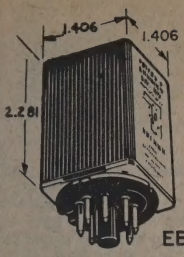
GM

GMIN

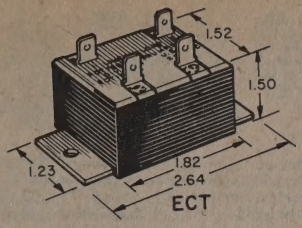
Unusually versatile switching makes this impulse/sequencing relay especially suitable for single coil latching. Adaptable to automatic vending equipment, coin counting devices, remote television set controls, self-interrupting and homing circuits and many other applications. 2 Form C contact arrangement is switched alternately by cam action during drop-out of armature. AC version operates on 50% coil duty cycle (5 min. max.) Mountings: 8-32 tapped core with location boss. Suffix L (*) indicates an additional 2 Form C auxiliary contact and weighs 4¾ oz. Wt. w/o aux. contacts 4 oz.

Stock No.	Type	Action	Coil Volts	1-24	25-50	51-99	100-249	250-499
24F2470	GM11A	DPDT	24 AC	8.45	8.03	7.61	5.92	5.49
24F2471	GM11A	DPDT	120 AC	8.45	8.03	7.61	5.92	5.49
24F2473	GM11AL11	DPDT*	120 AC	12.00	11.40	10.80	8.40	7.80
24F2474	GM11D	DPDT	12 DC	8.10	7.70	7.29	5.67	5.27
24F2475	GM11D	DPDT	24 DC	8.10	7.70	7.29	5.67	5.27
24F2476	GM11D	DPDT	110 DC	8.65	8.22	7.79	6.06	5.62
24F2477	GM11DL11	DPDT*	12 DC	11.75	11.16	10.58	8.23	7.64
24F2478	GM11DL11	DPDT*	24 DC	11.75	11.16	10.58	8.23	7.64
45F058	GM1N10A	SP-10 pos.	120 AC	10.40	9.88	9.36	7.28	6.76
45F059	GM1N12A	SP-12 pos.	120 AC	10.55	10.02	9.50	7.39	6.86
45F060	GM1N10D	SP-10 pos.	24 DC	10.15	9.64	9.14	7.11	6.60
45F061	GM1N12D	SP-12 pos.	24 DC	10.30	9.79	9.27	7.21	6.70

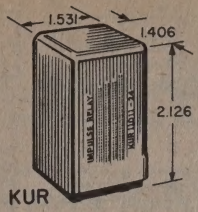
SOLID STATE HYBIRD RELAYS SOLVE SWITCHING PROBLEMS



EBT



ECT



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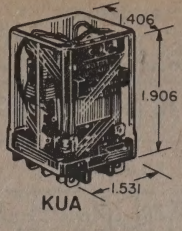

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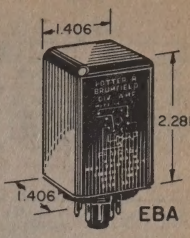


EBA

EBT SERIES REED/TRIAC

Combines input/output isolation of reed relay with inrush switching capabilities, long life of triac switch. Switches 7 amps, 60 Hz @ 25°C ambient with nominal load voltage of 120 VAC. Rated 5 amps rms 60 Hz @ 55°C ambient. Minimum operating current: 200 mA, 60 Hz. Expected life greater than 10 million operations. Bounce free. Operate time: 2 msec. maximum. Release time: 10 msec. maximum. Typical "Closed contact" voltage drop is 1.1 V. UL File E22575 Octal terminals fit standard 8 pin socket. Wt. approx. 5.5 oz.

Stock No.	Type	Coil		Action	1-9	10-24	25-49	50-99
		Input	Ohms					
67F1056	EBT1DA52	6V	125	SPST	16.65	15.82	14.99	13.32
67F1057	EBT1DA52	12V	500	SPST	16.65	15.82	14.99	13.32
67F1058	EBT1DA52	24V	2000	SPST	16.65	15.82	14.99	13.32
67F1059	EBT1DA52	48V	8000	SPST	17.05	16.20	15.35	13.64

ECT SERIES AC SWITCH

Medium power triac controlled and isolated by a reed relay. Input power is 290 mW for 120 V, 50-60 Hz line. Expected life is in excess of 10 million operations. Operate time is 2 ms, maximum @ 25°C. Steady-state rms UL current rating (at 25°C) is 20 amps with factory-recommended heat sink, 7 amps without. .250" quick connect termination. Approximate wt. 4.5 oz.

Stock No.	Type	Coil		Action	1-9	10-24	25-49	50-99
		Input	Ohms					
67F1060	ECT1DC72	5 V	87	SPST-NO	14.60	13.87	13.14	11.68
67F1061	ECT1DB44	24 V	2000	SPST-NO	14.35	13.63	12.92	11.48

KUR DIRECT-ACTION DPDT IMPULSE RELAY

Designed for applications requiring on-off operation or alternate energizing of two loads. Operation is based on permanent memory function of electromagnetic latching relay. Remains latched during complete loss of power. 5A at 28 volts DC, resistive, or 120 volts AC, 80% P.F. Weight: 3½" oz.

Stk. No.	Type	Coil V.	1-24	25-50	51-99	100-249	250-499
24F3261	KUR11D11	24DC	15.05	14.30	13.55	10.54	9.78

KUA SOLID STATE AMPLIFIER-DRIVEN RELAY

Operates from low power signals associated with integrated circuits. Nominal voltage of 24V DC. Polarity protection is built-in feature. Power requirement is approx. 1.14 watts. Sensitivity is 60 microwatts. Contacts are DPDT 5 Amps., gold-flashed fine silver rated 1/10 HP 120 V 60 Hz, ¼ HP 240V 60 Hz, 5A at 28V DC. Fit standard KU Series sockets. Wt. 3½ oz.

Stk No.	Type	Coil V.	1-24	25-50	51-99	100-249	250-499
24F3262	KUA5G11	24DC	13.75	13.06	12.38	9.63	8.94
24F3263	KUA11G11	24DC	14.20	13.49	12.78	9.94	9.23

EBA SERIES SENSITIVE AMPLIFIER DRIVEN RELAY

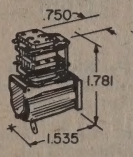
Has output switching characteristics, package, mounting of EBT plus control signal amplifier. Operates from current sourcing output mode of DTL, TTL logic circuits, 60 microwatt. Contacts are rated 7A @ 120 V, 60 Hz. Must operate voltage: 2.4 VDC @ 25 microamp @ 24 VDC supply. Max. input is 30 VDC or 1 mA. Release at 0.5 VDC or less at 10 ms max. Approx. wt: 5.5 oz.

Stock No.	Type	Coil		1-9	10-24	25-49	50-99
		DCV	Pwr				
67F1067	EBA1GA52	24	290 mW	23.45	22.28	21.11	18.76

MC SERIES TELEPHONE TYPE RELAYS

- With ceramic Contact Spacer
- Low Loss At Hi-Frequences

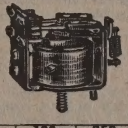
Built with ceramic contact spacer for RF switching to minimize losses at high frequencies. Intercontact capacitance 1.5 mmfd. maximum. Mounting: four No. 3-48 tapped holes on 0.375" x 0.375" centers. Contacts: palladium. 1 amp. Weight: 2 oz.



Stock No.	Type	Coil		Action	1-24	25-50	51-99	100-249
		Input	Ohms					
67F1062	MC5A	6 VAC	2.5	SPDT	6.40	6.08	5.76	4.48
67F1063	MC5D	12 VDC	96	SPDT	5.60	5.32	5.04	3.92
67F1064	MC5D	24 VDC	365	SPDT	5.60	5.32	5.04	3.92
67F1065	MC11A	120 VAC	680	DPDT	8.80	8.36	7.92	6.16
67F1066	MC11D	24 VDC	365	DPDT	8.10	7.70	7.29	5.67

KT ANTENNA SWITCHING RELAY

Glass base insulation to minimize RF losses. Used to switch common transmitter-receiver antenna using 300-ohm line. DPDT silver contacts rated at 5 amps. Mounting: 6-32 stud. Weight: 1.5 oz. Size: 1⅝" Lx1 5/16"Wx1 1/16"H.



Stk. No.	Type	Coil V.	1-24	25-50	51-99	100-249	250-499
45F068	KT11A	6 AC	4.50	4.28	4.05	3.15	2.93
24F1275	KT11A	120 AC					
45F069	KT11D	6 DC					
24F1277	KT11D	12 DC					

SA SERIES 12 POSITION STEPPING SWITCH

Type SA-IN-12A. Complete with printed circuit strips to switch currents up to 250 mA. Two 6-32 Mt. holes. 120 VAC coil, 140 Ohms. For intermittent duty only.

Stock No.	1-24	25-50	51-99	100-249	250-499
24F2948	7.75	7.36	6.98	5.43	5.04

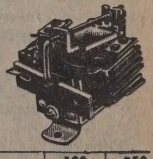
SPECIAL PURPOSE KM SUBMINIATURE RELAYS

Subminiature relay for use where size and weight are critical factors. Simple to install and wire into circuit. Silver contacts rated at 2 amps. Terminals are solder lug type. Mounting: No. 2-56 tapped core with locating boss. Size: 1⅛"Lx1 1/16"Wx53/64"H. Wt., 1 oz.

Stk. No.	Type	VDC	Contacts	1-24	25-50	51-99	100-249	250-499
45F065	KM5D	6	SPDT	4.20	3.99	3.78	2.94	2.73
45F066	KM5D	12	SPDT					
45F067	KM5D	24	SPDT					
24F1268	KM11D	6	DPDT	4.60	4.37	4.14	3.22	2.99
24F1269	KM11D	12	DPDT					
24F1270	KM11D	24	DPDT					
24F1271	KM14D	6	3PDT	5.30	5.04	4.77	3.71	3.45
24F1272	KM14D	12	3PDT					
24F1273	KM14D	24	3PDT					

PC ALTERNATE PULSE RELAY

Conventional armature relay operated by 60-ms pulses. Armature actuates phenolic rocker to transfer contacts between alternate positions. For on-off or alternate mode switching. Gold-flashed silver cadmium oxide 5-amp. contacts. Coils for intermittent duty only. Mtg: Two 5/32" diam. holes on 2⅜" centers. Wt., 5 oz. 2 31/32"Lx2 1/16Wx2 5/64"H.



Stk. No.	Type	Coil V.	Contacts	1-24	25-50	51-99	100-249	250-400
45F012	PC11A	6AC	DPDT	6.60	6.27	5.94	4.62	4.29
45F013	PC11A	12AC	DPDT	6.60	6.27	5.94	4.62	4.29
45F014	PC11A	24AC	DPDT	6.60	6.27	5.94	4.62	4.29
24F636	PC11A	120AC	DPDT	6.60	6.27	5.94	4.62	4.29
67F1068	PC11A	240AC	DPDT	7.10	6.75	6.39	4.97	4.62
45F015	PC11D	6DC	DPDT	6.35	6.03	5.72	4.45	4.13
45F016	PC11D	12DC	DPDT	6.35	6.03	5.72	4.45	4.13
24F641	PC11D	24DC	DPDT	6.35	6.03	5.72	4.45	4.13
24F638	PC17A	24AC	4PDT	9.05	8.60	8.15	6.34	5.88
24F639	PC17A	120AC	4PDT	9.05	8.60	8.15	6.34	5.88
24F643	PC17D	24DC	DPDT	8.85	8.41	7.97	6.20	5.75

Relays

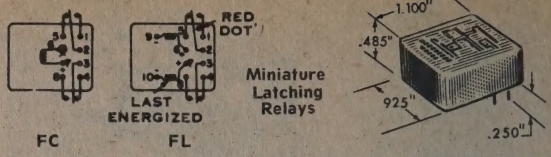
FC AND FL SERIES MINIATURE LATCHING RELAYS

FC SERIES

Stock No.	Type	Coils Volt.	Coils Ohms	1-24	25-50	51-99	100-249	250-499
24F2487	FC11D	6 VDC	60	20.35	19.33	18.32	14.25	13.23
24F2488	FC11D	12 VDC	210					
24F2489	FC11D	24 VDC	900					

FL SERIES

Stk. No.	Type	Volts	Ohms	1-24	25-50	51-99	100-249	250-499
24F1286	FL11D	6 VDC	67.5	22.85	21.71	20.57	16.00	14.85
24F1287	FL11D	12 VDC	230					
24F1288	FL11D	24 VDC	1000					



FC Series. Lies flat on PC board. DPDT. Meets MIL-R-5757 and MSFC-SPEC-339. Rated 3 amps, 65W. ¾ oz.
FL Series. Hermetically sealed. For PC applications. Terminals are plug-in pins to afford fast interchangeability. Transfer time is approx. 0.5 millisecond. Terminals are arranged in a grid layout of multiples of 0.1" DPDT, silver contacts rated at 3 amps @ 28 VDC. Size 1.1x.925x.485". Wt. 75 oz.

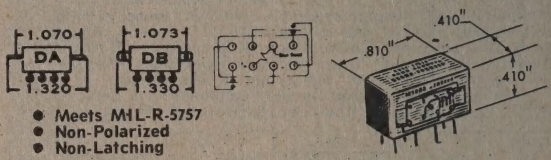
HC AND HCM SERIES NON-LATCHING, NON-POLARIZED RELAYS

HC SERIES

Stock No.	Type	Description	1-24	25-50	51-99	100-249
24F2596	HC11D-24V	plug-in case hook-	20.25	19.24	18.23	14.18
24F2597	HC11DA-24V	end sold. term.				
24F2598	HC11DB-24V	flat mtg. plate				

HCM SERIES

Stk. No.	Type	1-24	25-50	51-99	100-249	250-499
45F203	HCM11D-24V	13.55	12.87	12.20	9.49	8.81
45F204	HCM11DA-24V	14.20	13.49	12.28	9.94	9.23
45F205	HCM11DB-24V	14.20	13.49	12.78	9.94	9.23



- Meets MIL-R-5757
- Non-Polarized
- Non-Latching

HC Series. Gold plated silver DPDT contacts rated dry circuit to 2 amps @ 28 VDC resistive. Range: -65° to 125°C. Meets or exceeds all applicable sections of MIL-R-5757 and complies with MSFC-SPEC-339. HC11DA has hook-end solder terminals and shoulder bracket. HC11D has plug-in plain case. HC11DB has hook-end solder terminals with 2 holes. Size. Plain case .8x.4x.4". (seated). Wt. ½ oz.

HC11D has plug-in plain case. HC11DB has hook-end solder terminals with 2 holes. Size. Plain case .8x.4x.4". (seated). Wt. ½ oz.
HCM SERIES. Military version of HC Series. Meets MIL-R-5757.

SC AND SL SERIES MAGNETIC LATCHING RELAYS

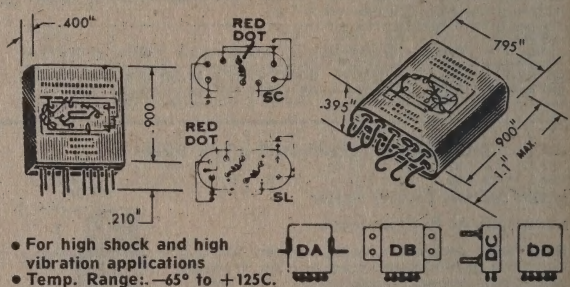
SC SERIES

Stk. No.	Type	Ohms	VDC	1-24	25-50	51-99	100-249	250-499
62F3026	SC11D	35	6					
24F1361	SC11D	135	12					
24F1280	SC11D	550	24					
24F1364	SC11DA	135	12					
24F1281	SC11DA	550	24					
62F3027	SC11DB	35	6	20.60	19.57	18.54	14.42	13.39
45F210	SC11DB	135	12					
24F1282	SC11DB	550	24					
24F1386	SC11DC	550	24					
24F1387	SC11DD	550	24					
45F211	SCG11D	550	24					
62F3028	SC7141	...	26.5	20.75	19.71	18.68	14.53	13.49

SL SERIES

Stk.No.	Type	Ohms	VDC	Stk. No.	Type	Ohms	VDC
62F2958	SL11D	35	6	62F2960	SL11DB	40	6
45F212	SL11D	160	12	24F1380	SL11DB	160	12
24F1283	SL11D	630	24	24F1285	SL11DB	630	24
62F2959	SL11DA	40	6	24F1388	SL11DC	630	24
24F1377	SL11DA	160	12	24F1389	SL11DD	630	24
24F1284	SL11DA	630	24	45F213	SLG11D	630	24

Prices	Type	1-24	25-50	51-99	100-249	250-499
	SL	22.50	21.38	20.25	15.75	14.63



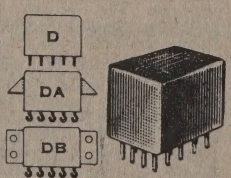
- For high shock and high vibration applications
- Temp. Range: —65° to +125C.

SC SERIES. Miniature permanent magnet relay. 200g shock, 30g virbrations to 2000 Hz with no contact opening. Pickup: Approximately 260 mW @ 25°C. Operate time: 3 ms. max:@ nominal voltage @ +25°C. Drop out: 2.5 ms. max. @ nominal voltage @ +25°C. Terminals: Hook end solder, 3" flexible or plug-in pins. Contacts: DPDT triclad plated. Rated load: 2 amps. @ 30 VDC; 1 amp. @ 120V 60 Hz resistive, 100,000 operations minimum. SCG11D rectangular header with terminals on 0.2" grid. SC7141 meets MIL-R-5757 10C-141 or RY4NA3B3L01. All DPDT. Wt. 3/4 oz.

SL Series. Dual coil miniature magnetic latching relay with same specs and mountings as SC Series above except coils may be connected in series for polar operation. Wt. 5 oz.

TL SERIES MINIATURE MAGNETIC LATCHING RELAYS

4PDT. For severe environments. Hermetically welded. Approx. 0.5 ms transfer time. Temp. range: —65°C to +125°C. Meets or exceeds applicable sections of MIL-R-5757 and MSFC-SPEC-339. Contacts: Rated dry circuit to 3 amps @ 28 VDC resistive. Material: Gold plated silver alloy. Electrical life 100,000 operations at maximum rated load. Wt. approx. 1-1/4 oz.



Stk. No.	Type	Coil Ohms	Coil Volts	1-24	25-50	51-99	100-249
24F2480	TL17D	150	12 DC	33.35	31.68	30.02	23.35
24F2481	TL17DA	600	24 DC				
24F2482	TL17DB	600	24 DC				

BU BUZZERS

AC operated coil with a spring steel armature which buzzes when coil is energized. Mounting: 6-32 tapped core. Weight 1⅝ oz.

Stk. No.	Type	Volts	1-24	25-50	51-99	100-249
24F2483	Bu6-6V	6 VAC	2.10	2.00	1.89	1.47
24F2484	Bu12-12V	12 VAC				
24F2485	Bu24-24V	24 VAC				
24F2486	Bu120V	120 VAC				

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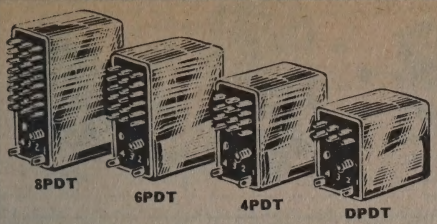
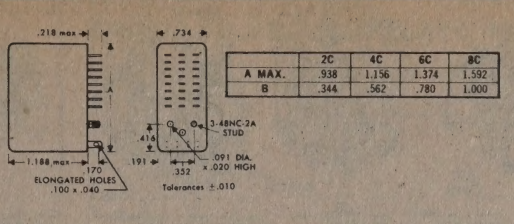
Magnecraft miniature industrial relays





	2C	4C	6C	8C
A MAX.	.938	1.156	1.374	1.592
B	.344	.562	.780	1.000

CLASS 67 ENCLOSED PLUG-IN OR PANEL MOUNT RELAYS 3 OR 5 AMP 2 TO 8 FORM C REGULAR OR BIFURCATED CONTACTS

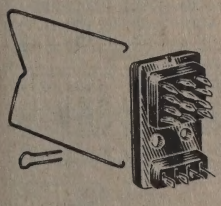
VersaPac Class 67 miniature industrial relays are designed for applications requiring 2 to 8 Form C contacts where space, weight and low cost are of prime importance. Single and bifurcated crossbar contacts of silver alloy gold flashed rated 3 to 5 amps at 28VDC or 115VAC resistive load. All relays feature plastic dust covers and combination solder plug-in terminals with 3-48 NC stud. Voltage specified relays pull-in at 75% of nominal or less for DC relays and 85% of nominal or less for AC relays at 25°C. Resistance values +10% measured at 25°C. Size: 2 Form C, 0.734" X 0.938" X 1.188"; 4 Form C, 0.734" X 1.156" X 1.188"; 6 Form C, 0.734" X 1.375" X 1.188"; 8 Form C, 0.734" X 1.592" X 1.188".

Stk. No.	Type No.	Contact Rating	Coil Volts	Coil Ohms	1-24	25 -49	50 -99
2 FORM C							
56F1033	W67CSX-1	3 Amps	6	52	3.30	3.14	2.97
56F1034	W67CSX-2		12	185	3.30	3.14	2.97
56F1035	W67CSX-3		24	700	3.30	3.14	2.97
56F1036	W67CSX-4		48	2,500	3.30	3.14	2.97
56F1037	W67CSX-5		115	15,000	5.00	4.75	4.50
56F1053	W67RCSX-1	5 Amps	6	52	3.40	3.23	3.06
56F1054	W67RCSX-2		12	185	3.40	3.23	3.06
56F1055	W67RCSX-3		24	700	3.40	3.23	3.06
56F1056	W67RCSX-4		48	2,500	3.40	3.23	3.06
56F1057	W67RCSX-5		115	15,000	5.10	4.85	4.59
56F1073	W67TCSX-1	3* Amps	6	52	3.50	3.33	3.15
56F1074	W67TCSX-2		12	185	3.50	3.33	3.15
56F1075	W67TCSX-3		24	700	3.50	3.33	3.15
56F1076	W67TCSX-4		48	2,500	3.50	3.33	3.15
56F1077	W67TCSX-5		115	15,000	5.20	4.94	4.68
56F1100	W67TRCSX-1	5* Amps	6	52	3.50	3.33	3.15
56F1101	W67TRCSX-2		12	185	3.50	3.33	3.15
56F1102	W67TRCSX-3		24	700	3.50	3.33	3.15
56F1103	W67TRCSX-4		48	2,500	3.50	3.33	3.15
56F1104	W67TRCSX-5		115	15,000	5.20	4.94	4.68
6 FORM C							
56F1043	W67CSX-11	3 Amps	6	25	4.70	4.47	4.23
56F1044	W67CSX-12		12	90	4.70	4.47	4.23
56F1045	W67CSX-13		24	430	4.70	4.47	4.23
56F1046	W67CSX-14		48	1,550	4.70	4.47	4.23
56F1047	W67CSX-15*		115	9,000	5.60	5.32	5.04
56F1063	W67RCSX-11	5 Amps	6	25	5.10	4.85	4.59
56F1064	W67RCSX-12		12	90	5.10	4.85	4.59
56F1065	W67RCSX-13		24	430	5.10	4.85	4.59
56F1066	W67RCSX-14		48	1,550	5.10	4.85	4.59
56F1067	W67RCSX-15		115	9,000	6.00	5.70	5.40
56F1083	W67TCSX-11	3* Amps	6	25	5.35	5.08	4.82
56F1084	W67TCSX-12		12	90	5.35	5.08	4.82
56F1085	W67TCSX-13		24	430	5.35	5.08	4.82
56F1086	W67TCSX-14		48	1,550	5.35	5.08	4.82
56F1087	W67TCSX-15		115	9,000	6.25	5.94	5.63
56F1110	W67TRCSX-11	5* Amps	6	25	5.50	5.23	4.95
56F1111	W67TRCSX-12		12	90	5.50	5.23	4.95
56F1112	W67TRCSX-13		24	430	5.50	5.23	4.95
56F1113	W67TRCSX-14		48	1,550	5.50	5.23	4.95
56F1114	W67TRCSX-15		115	9,000	6.40	6.08	5.76

Stk. No.	Type No.	Contact Rating	Coil Volts	Coil Ohms	1-24	25 -49	50 -99
4 FORM C							
56F1038	W67CSX-6	3 Amps	6	52	3.65	3.47	3.29
56F1039	W67CSX-7		12	185	3.65	3.47	3.29
56F1040	W67CSX-8		24	700	3.65	3.47	3.29
56F1041	W67CSX-9		48	2,500	3.65	3.47	3.29
56F1042	W67CSX-10		115	15,000	5.35	5.08	4.82
56F1058	W67RCSX-6	5 Amps	6	52	3.90	3.71	3.51
56F1059	W67RCSX-7		12	185	3.90	3.71	3.51
56F1060	W67RCSX-8		24	700	3.90	3.71	3.51
56F1061	W67RCSX-9		48	2,500	3.90	3.71	3.51
56F1062	W67RCSX-10		115	15,000	5.60	5.32	5.04
56F1078	W67TCSX-6	3* Amps	6	52	4.05	3.85	3.65
56F1079	W67TCSX-7		12	185	4.05	3.85	3.65
56F1080	W67TCSX-8		24	700	4.05	3.85	3.65
56F1081	W67TCSX-9		48	2,500	4.05	3.85	3.65
56F1082	W67TCSX-10		115	15,000	5.75	5.46	5.18
56F1105	W67TRCSX-6	5* Amps	6	52	4.05	3.85	3.65
56F1106	W67TRCSX-7		12	185	4.05	3.85	3.65
56F1107	W67TRCSX-8		24	700	4.05	3.85	3.65
56F1108	W67TRCSX-9		48	2,500	4.05	3.85	3.65
56F1109	W67TRCSX-10		115	15,000	5.75	5.46	5.18
8 FORM C							
56F1048	W67CSX-16	3 Amps	6*	20	7.30	6.94	6.57
56F1049	W67CSX-17		12	72	7.30	6.94	6.57
56F1050	W67CSX-18		24	350	7.30	6.94	6.57
56F1051	W67CSX-19		48	1,250	7.30	6.94	6.57
56F1052	W67CSX-20		115	8,000	8.20	7.79	7.38
56F1068	W67RCSX-16	5 Amps	6	20	7.70	7.32	6.93
56F1069	W67RCSX-17		12	72	7.70	7.32	6.93
56F1070	W67RCSX-18		24	350	7.70	7.32	6.93
56F1071	W67RCSX-19		48	1,250	7.70	7.32	6.93
56F1072	W67RCSX-20		115	8,000	8.60	8.17	7.74
56F1088	W67TCSX-16	3* Amps	6	20	8.05	7.65	7.25
56F1089	W67TCSX-17		12	72	8.05	7.65	7.25
56F1090	W67TCSX-18		24	350	8.05	7.65	7.25
56F1091	W67TCSX-19		48	1,250	8.05	7.65	7.25
56F1092	W67TCSX-20		115	8,000	8.95	8.50	8.06
56F1115	W67TRCSX-16	5* Amps	6	20	8.25	7.84	7.43
56F1116	W67TRCSX-17		12	72	8.25	7.84	7.43
56F1117	W67TRCSX-18		24	350	8.25	7.84	7.43
56F1118	W67TRCSX-19		48	1,250	8.25	7.84	7.43
56F1119	W67TRCSX-20		115	8,000	9.15	8.69	8.24

*Bifurcated Contacts

CLASS 67 SOCKETS



Fit all Class 67 relays from 2 to 8 Form C contacts. Available in both PC and Solder Terminal versions. Retaining and grounding clips included.

Stk. No.	Type No.	Description	Dim. "L"	1-24	25 -49	50 -99
56F1120	70-303	2 Pole Solder Terminal	.970	.55	.52	.50
56F1121	70-304	2 Pole PC Terminal	.970	.55	.52	.50
56F1122	70-305	4 Pole Solder Terminal	1.188	.70	.67	.64
56F1123	70-306	4 Pole PC Terminal	1.188	.70	.67	.64
56F1124	70-307	6 Pole Solder Terminal	1.406	.95	.90	.86
56F1125	70-308	6 Pole PC Terminal	1.406	.95	.90	.86
56F1126	70-309	8 Pole Solder Terminal	1.625	1.72	1.63	1.57
56F1127	70-310	8 Pole PC Terminal	1.625	1.72	1.63	1.57

CLASS 77CS PLUG-IN

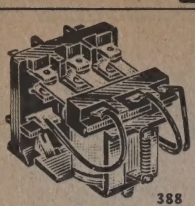
Miniature 5 amp 4PDT relay has greater contact pressure without increasing coil operating power. No internal wiring, solder connections or pigtails. Hinge-pin armature bearings with oversize bearing surfaces guarantee longer life. Molded insulation of contact terminals provides high dielectric strength. Comes in a molded insulated dust cover. Size 1-7/64" x 55/64" x 1-19/32".

Stk. No.	Type No.	Coil Volts	Coil Ohms	1-9	10 -24	25 -49	50 -99
56F336	W77CSX-2	12VDC	160	5.30	5.04	4.77	4.51
56F337	W77CSX-3	24VDC	600	5.40	5.13	4.86	4.59
56F339	W77CSX-5	110VDC	10000	5.97	5.67	5.37	5.07
56F340	W77ACSX-1	115VAC	———	5.96	5.66	5.36	5.07
SOCKETS							
56F341	70-161-1	Solder Terminal		.58	.52	.49	.46
56F342	70-161-3	PC Terminal		.58	.52	.49	.46

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

10

Magnecraft® general purpose relays


388 Open

388CP

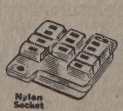
388CQ

CLASS 388 SQUARE BASE UL RECOGNIZED

Low cost, UL recognized, general purpose relay. AC and DC operation, 10 amp SPDT, DPDT, or 3PDT silver alloy, gold flashed contacts. Terminals are 3-way for plug-in, solder, or quick connect. Plug-in version size: 1-17/32 X 1-13/32 X 2-3/16 high, overall.

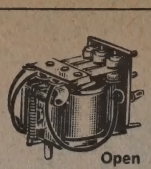
Stock Number	Type Number	Cont 10 Amps	Coil Volts	Coil Ohms	Prices 1-9	Prices 10-24	Prices 25-49
AC Open Relays							
56F620	W388AX-2	SPDT	12	----	3.82	3.63	3.44
56F621	W388AX-3		24	----	3.82	3.63	3.44
47F1222	W388AX-4		120	----	3.82	3.63	3.44
56F622	W388AX-7	DPDT	12	----	4.73	4.49	4.26
56F623	W388AX-8		24	----	4.73	4.49	4.26
47F1228	W388AX-9		120	----	4.73	4.49	4.26
56F625	W388AX-12	3PDT	12	----	5.36	5.09	4.82
47F1224	W388AX-13		24	----	5.36	5.09	4.82
47F1225	W388AX-14		120	----	5.36	5.09	4.82
DC Open Relays							
47F1229	W388X-2	SPDT	12	120	3.66	3.48	3.29
47F1230	W388X-3		24	470	3.66	3.48	3.29
47F1231	W388X-6	DPDT	12	120	4.20	3.99	3.78
47F1232	W388X-7		24	470	4.20	3.99	3.78
47F1233	W388X-10	3PDT	12	120	4.88	4.64	4.39
47F1234	W388X-11		24	470	4.88	4.64	4.39
AC Plug-In Relays							
47F1186	W388ACPX-2	SPDT	12	----	4.08	3.88	3.67
47F1187	W388ACPX-3		24	----	4.08	3.88	3.67
47F1188	W388ACPX-4		120	----	4.08	3.88	3.67
47F1191	W388ACPX-7	DPDT	12	----	4.98	4.73	4.48
47F1192	W388ACPX-8		24	----	4.98	4.73	4.48
47F1193	W388ACPX-9		120	----	4.98	4.73	4.48
47F1196	W388ACPX-12	3PDT	12	----	5.61	5.33	5.05
47F1197	W388ACPX-13		24	----	5.61	5.33	5.05
47F1198	W388ACPX-14		120	----	5.61	5.33	5.05
DC Plug-In Relays							
47F1201	W388CPX-2	SPDT	12	120	3.92	3.72	3.53
47F1202	W388CPX-3		24	470	3.92	3.72	3.53
47F1205	W388CPX-6	DPDT	12	120	4.46	4.24	4.01
47F1206	W388CPX-7		24	470	4.46	4.24	4.01
47F1209	W388CPX-10	3PDT	12	120	5.15	4.89	4.64
47F1210	W388CPX-11		24	470	5.15	4.89	4.64
AC Flange Mount Relays							
56F600	W388ACQX-2	SPDT	12	----	4.08	3.88	3.67
56F601	W388ACQX-3		24	----	4.08	3.88	3.67
56F602	W388ACQX-4		120	----	4.08	3.88	3.67
56F603	W388ACQX-7	DPDT	12	----	4.98	4.73	4.48
56F604	W388ACQX-8		24	----	4.98	4.73	4.48
56F605	W388ACQX-9		120	----	4.98	4.73	4.48
47F1213	W388ACQX-12	3PDT	12	----	5.61	5.33	5.05
47F1214	W388ACQX-13		24	----	5.61	5.33	5.05
56F606	W388ACQX-14		120	----	5.61	5.33	5.05
DC Flange Mount Relays							
56F615	W388CQX-2	SPDT	12	120	3.92	3.72	3.53
56F616	W388CQX-3		24	470	3.92	3.72	3.53
47F1215	W388CQX-6	DPDT	12	120	4.46	4.24	4.01
47F1216	W388CQX-7		24	470	4.46	4.24	4.01
47F1218	W388CQX-10	3PDT	12	120	5.15	4.89	4.64
47F1219	W388CQX-11		24	470	5.15	4.89	4.64

CLASS 388 SOCKETS



Heavy duty molded thermoplastic screw terminal socket has closed back construction that requires no insulation. Nylon sockets offer choice of solder, quick connect, or printed circuit.

Stock Number	Type Number	Description	Prices 1-9	Prices 10-24	Prices 25-49
47F1244	70-124-1	Nylon Solder Terminal	.80	.76	.72
47F1245	70-124-2	Nylon Quick-Connect	.90	.86	.81
47F1246	70-178-1	Nylon Printed Circuit	.90	.86	.81
47F1249	70-233	Screw Terminal 11 Pin accepts all Class 388 relays	3.50	3.15	2.98


Open 88

88CP

88HP

CLASS 88 OPEN & OCTAL BASE

High reliability general purpose relay has glass melamine insulation for high dielectric strength and resistance to humidity or temperature change. Molded nylon bobbin. Hinge-pin armature. Contacts SPDT, DPDT, or 3PDT rated 10 amps. Open styles have tinned solder terminals. Plug-in versions have 8-pin octal or 3PDT 11-pin octal base. Plug-in version size: 1-3/8 X 1-3/8 X 2-1/8 high.

Stock Number	Type Number	Cont 10 Amps	Coil Volts	Coil Ohms	Prices 1-9	Prices 10-24	Prices 25-49
AC Open Relays							
47F1051	W88AX-2	SPDT	12	----	4.02	3.82	3.62
47F1052	W88AX-3		24	----	4.02	3.82	3.62
47F1053	W88AX-4		115	----	4.02	3.82	3.62
56F626	W88AX-6	DPDT	12	----	4.70	4.47	4.23
47F1056	W88AX-7		24	----	4.70	4.47	4.23
56F511	W88AX-8		115	----	4.70	4.47	4.23
47F1059	W88AX-10	3PDT	12	----	5.24	4.98	4.72
47F1060	W88AX-11		24	----	5.24	4.98	4.72
56F519	W88AX-12		115	----	5.24	4.98	4.72
DC Open Relays							
56F627	W88X-2	SPDT	6	25	3.60	3.42	3.24
56F525	W88X-3		12	100	3.60	3.42	3.24
56F526	W88X-4		24	400	3.60	3.42	3.24
56F628	W88X-5	SPDT	110	8000	4.24	4.03	3.82
56F533	W88X-7	DPDT	12	100	4.16	3.95	3.74
56F534	W88X-8		24	400	4.16	3.95	3.74
56F541	W88X-11	3PDT	12	100	4.64	4.41	4.18
56F542	W88X-12		24	400	4.64	4.41	4.18
DC Open Relays							
56F629	W88X-14	SPDT	7.2	2500	4.12	3.91	3.71
56F630	W88X-16		3.6	10000	4.68	4.45	4.21
56F554	W88X-17	DPDT	10	2500	4.42	4.20	3.98
56F556	W88X-19		5.0	10000	4.96	4.71	4.46
56F631	W88X-20	3PDT	12.3	2500	4.88	4.64	4.39
56F632	W88X-22		6.1	10000	5.44	5.17	4.90
AC Plug-In Relays							
47F1075	W88ACPX-3	SPDT	24	----	6.48	6.16	5.83
47F1076	W88ACPX-4		115	----	6.48	6.16	5.83
47F1078	W88ACPX-6	DPDT	12	----	7.26	6.90	6.53
47F1079	W88ACPX-7		24	----	7.26	6.90	6.53
56F515	W88ACPX-8		115	----	7.26	6.90	6.53
47F1081	W88ACPX-10	3PDT	12	----	9.02	8.57	8.12
47F1082	W88ACPX-11		24	----	9.02	8.57	8.12
56F523	W88ACPX-12		115	----	9.02	8.57	8.12
DC Plug-In Relays							
47F1063	W88CPX-2	SPDT	12	100	6.24	5.93	5.62
56F530	W88CPX-3		24	400	6.24	5.93	5.62
56F536	W88CPX-5	DPDT	6	25	6.88	6.54	6.19
56F537	W88CPX-6		12	100	6.88	6.54	6.19
56F538	W88CPX-7		24	400	6.88	6.54	6.19
56F633	W88CPX-8		110	8000	7.52	7.14	6.77
56F545	W88CPX-10	3PDT	12	100	8.53	8.10	7.68
56F546	W88CPX-11		24	400	8.53	8.10	7.68
DC Plug-In Relays							
47F1068	W88CPX-14	SPDT	5.0	5000	6.93	6.58	6.24
47F1070	W88CPX-16	DPDT	10	2500	7.28	6.92	6.55
47F1071	W88CPX-17		7.2	5000	7.39	7.02	6.65
47F1072	W88CPX-18		5.0	10000	7.85	7.46	7.07
47F1073	W88CPX-19	3PDT	12.3	2500	8.89	8.45	8.00
Plug-In With Neon "On" Light							
56F344	W88ANCPX-2	DPDT	115	3	8.42	8.00	7.58
47F1086	W88ANCPX-3	3PDT	115		10.19	9.68	9.17
Hermetically Sealed AC Voltage							
56F402	W88AHPX-23		24	----	11.87	11.28	10.68
56F403	W88AHPX-24		115	----	11.87	11.28	10.68
56F354	W88AHPX-36		115	----	14.10	13.40	12.69
Hermetically Sealed DC Voltage							
56F404	W88HPX-32		6	25	11.31	10.74	10.18
56F405	W88HPX-33		12	100	11.31	10.74	10.18
56F406	W88HPX-34		24	400	11.31	10.74	10.18
56F355	W88HPX-51		24	400	13.52	12.84	12.17

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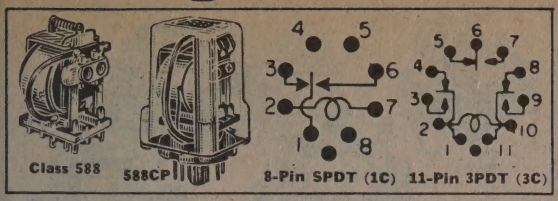
CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft general purpose relays

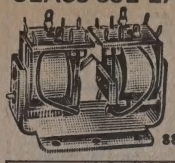


CLASS 588 OPEN OR PLUG-IN UL RECOGNIZED

Class 588 low cost UL recognized continuous duty general purpose relays. Engineered for maximum efficiency and reliable performance at lowest cost. These relays are ideal for use in test equipment, business machines, automation and communication equipment and all applications requiring a multi-pole general purpose relay. Contacts are silver alloy, gold flashed rated 5 or 10 amps. Plug-in version size: 1-3/8 x 1-3/8 x 2-1/8 high.

Stock Number	Type Number	Cont. Amps	Coil Volts	Coil Ohms	Prices 1-24	Prices 25-49	Prices 50-99
OPEN RELAYS – DC VOLTAGE							
56F1128	W588X-2	5 A	12	120	3.40	3.23	3.06
56F1129	W588X-3	SPDT	24	480	3.40	3.23	3.06
56F1130	W588X-6	5 A	12	120	3.85	3.66	3.47
56F1131	W588X-7	DPDT	24	480	3.85	3.66	3.47
56F1132	W588X-10	5 A	12	120	4.40	4.18	3.96
56F1133	W588X-11	3PDT	24	480	4.40	4.18	3.96
56F1134	W588X-14	10 A	12	120	3.45	3.28	3.11
56F1135	W588X-15	SPDT	24	480	3.45	3.28	3.11
56F1136	W588X-18	10 A	12	120	3.90	3.71	3.51
56F1137	W588X-19	DPDT	24	480	3.90	3.71	3.51
56F1138	W588X-22	10 A	12	120	4.50	4.28	4.05
56F1139	W588X-23	3PDT	24	480	4.50	4.28	4.05
OPEN RELAYS – AC VOLTAGE							
56F1150	W588AX-2	5 A	12	24	3.50	3.33	3.15
56F1151	W588AX-3	SPDT	24	96	3.50	3.33	3.15
56F1152	W588AX-4		115	2,200	3.50	3.33	3.15
56F1153	W588AX-6	5 A	12	24	4.35	4.13	3.92
56F1154	W588AX-7	DPDT	24	96	4.35	4.13	3.92
56F1155	W588AX-8		115	2,200	4.35	4.13	3.92
56F1156	W588AX-10	5 A	12	24	4.85	4.61	4.37
56F1157	W588AX-11	3PDT	24	96	4.85	4.61	4.37
56F1158	W588AX-12		115	2,200	4.85	4.61	4.37
56F1159	W588AX-14	10 A	12	24	3.55	3.37	3.20
56F1160	W588AX-15	SPDT	24	96	3.55	3.37	3.20
56F1161	W588AX-16		115	2,200	3.55	3.37	3.20
56F1162	W588AX-18	10 A	12	24	4.40	4.18	3.96
56F1163	W588AX-19	DPDT	24	96	4.40	4.18	3.96
56F1164	W588AX-20		115	2,200	4.40	4.18	3.96
56F1165	W588AX-22	10 A	12	24	5.00	4.75	4.50
56F1166	W588AX-23	3PDT	24	96	5.00	4.75	4.50
56F1167	W588AX-24		115	2,200	5.00	4.75	4.50
PLUG-IN RELAYS – DC VOLTAGE							
56F1168	W588CPX-2	5 A	12	120	6.00	5.70	5.40
56F1169	W588CPX-3	SPDT	24	480	6.00	5.70	5.40
56F1170	W588CPX-6	5 A	12	120	6.60	6.27	5.94
56F1171	W588CPX-7	DPDT	24	480	6.60	6.27	5.94
56F1172	W588CPX-10	5 A	12	120	8.30	7.89	7.47
56F1173	W588CPX-11	3PDT	24	480	8.30	7.89	7.47
56F1174	W588CPX-14	10 A	12	120	6.10	5.80	5.49
56F1175	W588CPX-15	SPDT	24	480	6.10	5.80	5.49
56F1176	W588CPX-18	10 A	12	120	6.70	6.37	6.03
56F1177	W588CPX-19	DPDT	24	480	6.70	6.37	6.03
56F1178	W588CPX-22	10 A	12	120	8.40	7.98	7.56
56F1179	W588CPX-23	3PDT	24	480	8.40	7.98	7.56
PLUG-IN RELAYS – AC VOLTAGE							
56F1180	W588ACPX-2	5 A	12	24	6.20	5.89	5.58
56F1181	W588ACPX-3	SPDT	24	96	6.20	5.89	5.58
56F1182	W588ACPX-4		115	2,200	6.20	5.89	5.58
56F1183	W588ACPX-6	5 A	12	24	6.95	6.60	6.26
56F1184	W588ACPX-7	DPDT	24	96	6.95	6.60	6.26
56F1185	W588ACPX-8		115	2,200	6.95	6.60	6.26
56F1186	W588ACPX-10	5 A	12	24	8.55	8.12	7.70
56F1187	W588ACPX-11	3PDT	24	96	8.55	8.12	7.70
56F1188	W588ACPX-12		115	2,200	8.55	8.12	7.70
56F1189	W588ACPX-14	10 A	12	24	6.30	5.99	5.67
56F1190	W588ACPX-15	SPDT	24	96	6.30	5.99	5.67
56F1191	W588ACPX-16		115	2,200	6.30	5.99	5.67
56F1192	W588ACPX-18	10 A	12	24	7.05	6.70	6.35
56F1193	W588ACPX-19	DPDT	24	96	7.05	6.70	6.35
56F1194	W588ACPX-20		115	2,200	7.05	6.70	6.35
56F1195	W588ACPX-22	10 A	12	24	8.65	8.22	7.79
56F1196	W588ACPX-23	3PDT	24	96	8.65	8.22	7.79
56F1197	W588ACPX-24		115	2,200	8.65	8.22	7.79

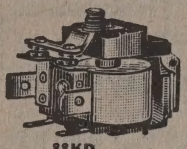
CLASS 88L LATCHING RELAYS –10 AMPS



Class 88L: 4PDT and 6PDT, AC or DC operation. Contacts rated 10 amps at 115VAC or 28VDC. Size: 3" x 1¾" x 1-15/16". Approximate Weight: 6½ oz.

Stock Number	Type Number	Cont 10 Amps	Coil Volts	Coil Ohms	Prices 1-9	Prices 10-24	Prices 25-49
Latching Relays AC Voltage							
57F1218	W88ALX-4	4PDT	115	---	12.22	11.61	11.00
57F1220	W88ALX-7	6PDT	115	---	14.75	14.01	13.28
Latching Relays DC Voltage							
57F1221	W88LX-2	4PDT	12	50	11.13	10.57	10.02
57F1222	W88LX-3		24	200	11.13	10.57	10.02
56F640	W88LX-6	6PDT	12	50	13.55	12.87	12.20
57F1223	W88LX-7		24	200	13.55	12.87	12.20

CLASS 88KD LOW COST SPST-NO-DM-50 AMP



Silver alloy, gold flashed contacts for power switching. Terminal boards designed to accept AMP Faston "250" series receptacles on contacts, or "110" series receptacle on coil. Tapped with one 6-32 mounting hole and locating boss. Size 1-15/16 x 1-1/16 x 1½". Wt., 3 oz. Contacts 50 amps SPST-NO-DM.

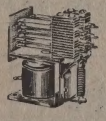
DC Voltage							
56F945	W88KDX-2	SPST	12	100	4.94	4.69	4.45
56F946	W88KDX-3		24	400	4.94	4.69	4.45
AC Voltage							
56F947	W88KADX-1	SPST	24	---	5.57	5.29	5.01
56F948	W88KADX-2		115	---	5.57	5.29	5.01

CLASS 89CQ FLANGE MOUNT-20 AMP

The Class 89CQ low cost relay is equipped with quick connect terminals (0.250), clear polycarbonate crackproof dust cover. 20 amp contacts. Size: 2-1/8" x 1-15/16" x 2-27/64". Weight 4.5 oz. approx.

Flange Mount AC Voltage							
47F1087	W89ACQX-2	DPDT	12	---	7.95	7.55	7.16
47F1088	W89ACQX-3		24	---	7.25	6.89	6.53
47F1089	W89ACQX-4		120	---	7.25	6.89	6.53
Flange Mount DC Voltage							
47F1091	W89CQX-2	DPDT	12	53	7.85	7.46	7.07
47F1092	W89CQX-3		24	210	7.85	7.46	7.07

CLASS 12 LOW COST MULTI-POLE –10 AMPS



Class 12 low cost general purpose relay with multiple contacts. Mounting: 4 6-32 tapped holes on ¾" x 7/8" centers. Size: DPDT, 1-9/16" x 1" x 1-23/32"; 3PDT and 4PDT, 1-7/8" x 1" x 1-23/32"; 6PDT, 2-3/16" x 1" x 1-23/32".

DC Voltage Specified							
56F672	W12X-2	DPDT	12	64	4.05	3.85	3.65
56F673	W12X-3	DPDT	24	215	4.05	3.85	3.65
56F674	W12X-6	3PDT	12	64	4.95	4.70	4.46
56F675	W12X-7	3PDT	24	215	4.95	4.70	4.46
56F676	W12X-10	4PDT	12	64	5.85	5.56	5.27
56F677	W12X-11	4PDT	24	215	5.85	5.56	5.27
56F678	W12X-14	6PDT	12	64	7.65	7.27	6.89
56F679	W12X-15	6PDT	24	215	7.65	7.27	6.89
AC Voltage Specified							
56F680	W12AX-2	DPDT	12	9	4.05	3.85	3.65
56F681	W12AX-3	DPDT	24	19	4.05	3.85	3.65
56F682	W12AX-4	DPDT	115	645	4.05	3.85	3.65
56F663	W12AX-6	3PDT	12	9	4.95	4.70	4.46
56F664	W12AX-7	3PDT	24	19	4.95	4.70	4.46
56F665	W12AX-8	3PDT	115	645	4.95	4.70	4.46
56F666	W12AX-10	4PDT	12	9	5.85	5.56	5.27
56F667	W12AX-11	4PDT	24	19	5.85	5.56	5.27
56F668	W12AX-12	4PDT	115	645	5.85	5.56	5.27
56F669	W12AX-14	6PDT	12	9	7.65	7.27	6.89
56F670	W12AX-15	6PDT	24	19	7.65	7.27	6.89
56F671	W12AX-16	6PDT	115	645	7.65	7.27	6.89

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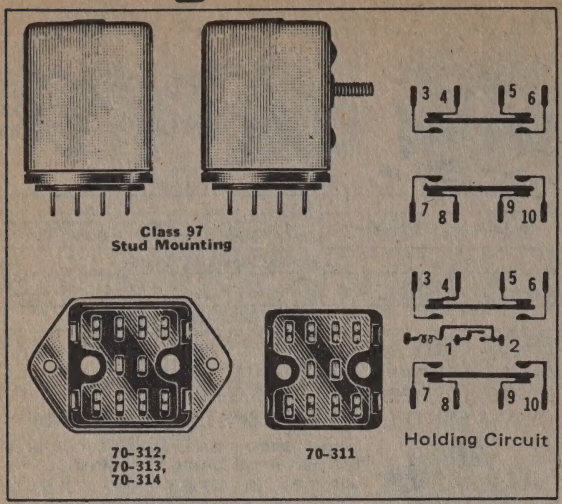
CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft® heavy duty power relays



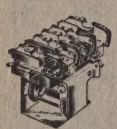
CLASS 97 ENCLOSED 25 AMP RELAYS UL RECOGNIZED

The Class 97 is a low cost 25 amp relay for 1 and 2 pole, 120/240 VAC applications. It is available with socket for plug-in applications or for use with standard quick-connect terminals for simplicity and ease in wiring. The Class 97 relay offers high quality, dependable performance and long life.

These relays are ideal for use in appliances, automation equipment, motor starting and heater circuits, clock controlled systems, laundry equipment, vending machines, machine tools, furnace controls, panel boards and air conditioners. Size: 1- 29/32" x 1-9/16" square.

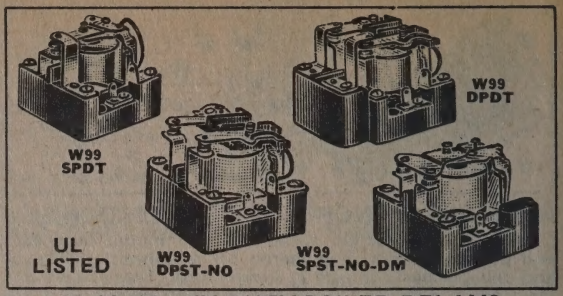
Stock Number	Type Number	Coil		Prices		
		Volts	Ohms	1-9	10-24	25-49
Stud Mounting Relays						
56F776	W97ACSX-1	12VAC	3.5	9.98	9.48	8.98
56F777	W97ACSX-2	24VAC	13.2	9.98	9.48	8.98
56F778	W97ACSX-3	115VAC	265	9.98	9.48	8.98
56F779	W97ACSX-4	220VAC	920	10.30	9.78	9.27
56F780	W97CSX-1	12VDC	58	9.98	9.48	8.98
56F781	W97CSX-2	24VDC	220	9.98	9.48	8.98
Plug-In Relays						
56F782	W97ACPX-1	12VAC	3.5	9.98	9.48	8.98
56F783	W97ACPX-2	24VAC	13.2	9.98	9.48	8.98
56F784	W97ACPX-3	115VAC	265	9.98	9.48	8.98
56F785	W97ACPX-4	220VAC	9.20	10.30	9.78	9.27
56F786	W97CPX-1	12VDC	58	9.98	9.48	8.98
56F787	W97CPX-2	24VDC	220	9.98	9.48	8.98
Holding Circuit (Plug-In)						
67F250	W97ALCPX-1	115VAC	265	11.51	10.92	10.35
67F251	W97ALCPX-2	220VAC	920	11.81	11.20	10.62
Sockets						
67F252	70-311			2.06	1.96	1.85
67F253	70-312			2.35	2.23	2.12
67F254	70-313 (Use with Holding Circuit)			3.13	2.97	2.82
67F255	70-314 (UL Recognized)			3.18	3.02	2.86

CLASS 93 3PDT OR 5PDT 20 AMP



Mounting Data: 4 tapped holes 6-32 NC-2, ½" x 1-5/16" centers, Contacts: ¼" dia. silver – 20 amps resistive at 115VAC or 28VDC. Size: 3PDT, 2" x 1-13/16" x 2-5/16"; 5PDT, 2" x 2-9/16" x 2-5/16".

Stock Number	Type Number	Cont	Coil		Prices		
			Volts	Ohms	1-24	25-49	50-99
DC Voltage Specified							
56F634	W93X-3	3PDT	24	218	8.16	7.75	7.34
56F635	W93X-4	5PDT	24	164	11.91	11.31	10.72
AC Voltage Specified							
56F636	W93AX-3	3PDT	24	12.5	8.16	7.75	7.34
56F637	W93AX-4	5PDT	24	9.6	11.91	11.31	10.72
56F638	W93AX-5	3PDT	115	253	8.16	7.75	7.34
56F639	W93AX-6	5PDT	115	194	11.91	11.31	10.72



CLASS 99 HEAVY DUTY POWER RELAYS

Dimensionally interchangeable with relays made by others. Superior quality hinge-pin design, molded nylon bobbin and adjustment stability features give it longer life. Standard dielectric strength: 1500 VAC, RMS. Screw type terminals and molded phenolic base. Contacts: Silver alloy, 5/16" dia. gold flashed. Choice of SPDT, DPDT, DPST-NO and SPST-NO double break. Size: 2½" d. X 2-3/8" h.; DPST-NO 25 amp, 2½" sq. X 2-3/8" h.; SPST-NO DM 50 amp, 2½" sq. X 2-3/16" h.

Stock Number	Type Number	Con-tacts	Coil		Prices		
			Volts	Ohms	1-9	10-24	25-49
25 AMP-AC Voltage Specified							
56F955	W99AX-2	SPDT	115	---	5.68	5.11	4.83
56F956	W99AX-3		230	---	5.86	5.27	4.98
25 AMP DC Voltage Specified							
56F957	W99X-2	SPDT	12	70	5.42	4.88	4.61
25 AMP-AC Voltage Specified							
56F949	W99AX-8	DPST-NO	24	---	6.65	5.99	5.65
56F950	W99AX-9		115	---	6.67	6.00	5.67
56F951	W99AX-10		230	---	6.85	6.17	5.82
25 AMP DC Voltage Specified							
56F642	W99X-10	DPST-NO	12	70	6.36	5.72	5.41
56F952	W99X-11		24	290	6.38	5.74	5.42
25 AMP-AC Voltage Specified							
56F971	W99AX-5	DPDT	115	---	8.43	7.59	7.17
56F972	W99AX-6		230	---	8.63	7.77	7.34
47F1094	W99AX-7		440	---	8.68	7.81	7.38
25 AMP DC Voltage Specified							
56F641	W99X-6	DPDT	12	70	8.12	7.31	6.90
56F973	W99X-7		24	290	8.14	7.33	6.92
56F974	W99X-8		110	6000	8.53	7.68	7.25
50 AMP-AC Voltage Specified							
47F1103	W99ADX-2	SPST-NO-DM	115	---	5.64	5.08	4.79
56F644	W99ADX-3		230	---	5.85	5.27	4.97
50 AMP DC Voltage Specified							
47F1104	W99DX-2	SPST-NO-DM	12	70	5.35	4.82	4.55
47F1105	W99DX-3		24	290	5.37	4.83	4.56
56F643	W99DX-4		110	6000	5.74	5.17	4.88

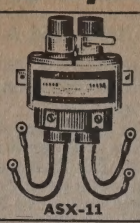
CLASS 94 DPDT TO 4PDT 15 AMP

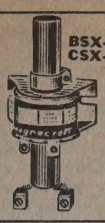
Used in air conditioning and lighting systems, small motor starting, transformers, garage door openers. Mounting Data: 2 tapped holes 6-32 NC-2; 2" centers. Weight: 8 oz. Size: DPDT, 1¾" x 2-23/32" x 1-29/32"; 4PDT, 3-1/16" x 2-19/32" x 1-29/32".

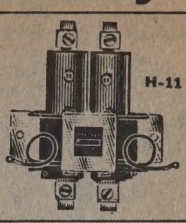
		DC Voltage Specified			1-24	25-49	50-99
56F683	W94X-6	DPDT	12	72	8.66	8.23	7.79
56F684	W94X-7	DPDT	24	288	8.66	8.23	7.79
56F685	W94X-8	DPDT	110	6050	9.98	9.48	8.98
56F686	W94X-12	3PDT	12	72	12.81	12.17	11.53
56F687	W94X-13	3PDT	24	288	12.81	12.17	11.53
56F688	W94X-14	3PDT	110	6050	13.07	12.42	11.76
56F689	W94X-16	4PDT	12	72	16.85	16.01	15.17
56F690	W94X-17	4PDT	24	288	16.85	16.01	15.17
56F691	W94X-18	4PDT	110	6050	18.17	17.26	16.35
AC Voltage Specified							
56F645	W94AX-7	DPDT	12	5.3	8.66	8.23	7.79
56F646	W94AX-8	DPDT	24	21	8.66	8.23	7.79
56F647	W94AX-9	DPDT	115	480	8.66	8.23	7.79
56F648	W94AX-12	3PDT	12	5.3	12.81	12.17	11.53
56F649	W94AX-13	3PDT	24	21	12.81	12.17	11.53
56F650	W94AX-14	3PDT	115	480	12.81	12.17	11.53
56F651	W94AX-17	4PDT	12	5.3	16.85	16.01	15.17
56F652	W94AX-18	4PDT	24	21	16.85	16.01	15.17
56F653	W94AX-19	4PDT	115	480	16.85	16.01	15.17

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft mercury displacement relays







Compact units capable of handling loads nearly twice that of equal size ordinary armature type units. Hermetically sealed, mercury-to-mercury contacts. No contacts to pit, stick or corrode. Full ampere rating (per pole) at 120VAC with inductive or resistive loads. Size: WMR-1, 1-7/8" x 1¾" x 3½" h.; WMR-11, 3" x 1-7/8" x 4½" h. WEM-1, 2-5/8" x 2-3/8" x 4½" h.; WEM-11, 3-3/8" x 2½" x 5-3/8" h.; WEM-111, 4" x 3-3/8" x 6¼" h.; WHD-1 4" x 2-3/8" x 5¼" h.; WHD-2, 4" x 2-3/8" x 5¼" h.; WHD-11, 4" x 2½" x 5¾" h.; WHD-111, 4" x 3-3/8" x 6¼" h. All models available with screw-type terminals on both the coil and contacts for fast, efficient hook-up.

OPEN CONSTRUCTION TYPES – AC VOLTAGE

Stock Number	Type Number	Contacts	Coil Volts 50/60 Hz	Prices 1-9	10-49	50-Up
CLASS MR MINIATURE 20 AMP						
59F1612	WMR-1	SPST-NO	120VAC	15.42	13.49	12.14
59F1614	WMR-11	DPST-NO	120VAC	28.59	25.02	22.51
CLASS EM 35 AMP UL & CSA LISTED						
69F1615	WEM-1	SPST-NO	120VAC	17.45	15.27	13.74
59F1616	WEM-11	DPST-NO	120VAC	33.73	29.51	26.56
57F1264	WEM-111	3PST-NO	120VAC	48.97	42.85	38.56
CLASS HD 60 AMP UL & CSA LISTED						
59F1617	WHD-1	SPST-NO	120VAC	25.81	22.58	20.33
57F1265	WHD-2	SPST-NO	120VAC	25.99	22.74	20.47
59F1618	WHD-11	DPST-NO	120VAC	46.78	40.93	36.84
57F1266	WHD-111	3PST-NO	120VAC	66.42	58.12	52.31

Size: W100-1, 3½" x 3-3/8" x 7" h.; ASX, 3" w x 2-1/8" d x 3½"h max.; BSX, 2-5/8" w NO type, 4-11/16" h; NC, 5-1/16" h.; CSX, 2-5/8" w NO type, 5½" h; NC, 6-1/8" h; H, 4-1/16" w x 7½" h. Relays pull-in @ 85% of nominal or less @ 25°C.

ENCAPSULATED AND ARMORED TYPES

Stock Number	Type Number	Contacts	Coil Volts 50/60 Hz	Prices 1-9	10-24	50-Up
CLASS 100 100 AMP CSA LISTED						
59F1619	W-100-1	SPST-NO	120VAC	49.79	43.57	39.21
CLASS ASX MINIATURE 20 AMP						
57F1267	WASX-1	SPST-NO	120VAC	11.92	10.43	9.39
57F1268	WASX-1	SPST-NO	240VAC	12.08	10.57	9.51
57F1269	WASX-11	DPST-NO	120VAC	24.23	21.20	19.08
CLASS BSX 35 AMP UL LISTED						
57F1270	WBSX-1	SPST-NO	120VAC	14.49	12.69	11.41
57F1271	WBSX-1	SPST-NO	240VAC	15.48	13.55	12.19
57F1272	WBSX-11	DPST-NO	120VAC	26.73	23.39	21.05
57F1273	WBSX-111	3PST-NO	120VAC	40.37	35.32	31.79
CLASS CSX 60 AMP						
57F1274	WCSX-1	SPST-NO	120VAC	21.34	18.67	16.81
57F1275	WCSX-1	SPST-NO	240VAC	22.44	19.64	17.67
57F1276	WCSX-11	DPST-NO	120VAC	34.76	30.42	27.37
57F1277	WCSX-111	3PST-NO	120VAC	49.72	43.51	39.15
CLASS H HI-POWER 100 AMP						
59F1606	WH-1	SPST-NO	120VAC	84.39	73.84	66.46
59F1607	WH-11	DPST-NO	120VAC	168.79	147.69	132.92
57F1278	WH-111	3PST-NO	120VAC	240.06	210.05	189.05

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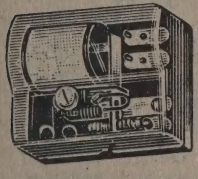
Magnecraft special purpose relays

CLASS 120 MINIATURE COAXIAL RELAYS

The Class 120 is ideally suited for applications where space and weight must be kept to a minimum. SPDT contacts for switching RF circuits are silver alloy, gold flashed, conservatively rated 100 watts of RF power; impedance matched to 50 ohm cable. VSWR 1.25: 1 maximum from 0 to 500 megacycles. Size: 1-47/64" x 43/64" d x 1-13/16" h. Cables are RG58A/U 12" long, unterminated.

Stock Number	Type Number	Contacts	Coil Volts	Coil Ohms	Prices 1-9	10-24	25-49
57F1279	W120X-14	SPDT	12VDC	100	10.18	9.16	8.65

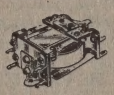
CLASS 62 ULTRA-SENSITIVE 5MW



The Class 62 is an ultra-sensitive, durable, dustite and fully adjustable relay incomparable for use in any DC circuit restricted to a few thousandths of a watt power consumption. Mounting Data: 2 holes 9/64" dia. Contacts: 1 amp resistive at 115 VAC or 28VDC. Size 2-1/16" x 1-9/16" x 2-5/8".

Stock Number	Type Number	Coil Current	Coil Ohms	Prices 1-24	25-49	50-99
57F1288	W62SCX-1	1000MA	.005	11.33	10.76	10.20
57F1289	W62SCX-2	2.25MA	1,000	11.79	11.20	10.61
57F1290	W62SCX-3	1.80MA	1,600	11.79	11.20	10.61
57F1291	W62SCX-4	1.50MA	2,200	11.79	11.20	10.61
57F1292	W62SCX-5	1.20MA	3,500	11.99	11.39	10.79
57F1293	W62SCX-6	0.95MA	5,500	12.48	11.86	11.23
57F1294	W62SCX-7	0.75MA	8,700	13.42	12.75	12.08
57F1295	W62SCX-8	0.70MA	10,000	13.42	12.75	12.08
57F1296	W62SCX-9	0.60MA	14,000	14.41	13.69	12.97
57F1297	W62SCX-10	0.50MA	20,000	15.84	15.05	14.26
57F1298	W62SCX-11	0.40MA	30,000	15.84	15.05	14.26
57F1299	W62SCX-12	0.35MA	40,000	16.94	16.09	15.25

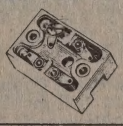
CLASS 151 R.F. RELAY 10 AMP ½ KW.



½ Kilowatt R.F. Switching. Mounting Data: 2 tapped holes; 6-32 NC-2; 2" centers. Size: 1-15/32" x 1-21/32" x 2-13/16".

Stock Number	Type Number	Contacts	Coil Volts	Coil Ohms	Prices 1-24	25-49	50-99
Voltage Specified							
57F1280	W151X-2	DPDT	12	72	23.40	22.23	21.06
57F1281	W151X-3	DPDT	24	288	23.40	22.23	21.06
AC Voltage Specified							
57F1282	W151AX-1	DPDT	115	480	25.80	24.51	23.22
57F1283	W151AX-2	DPDT	115	480	28.32	26.90	25.49

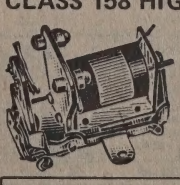
CLASS 150 THERMAL TIME DELAY MODULE



Units are adjustable with a range of 8 to 20 cycles per minute. Mounting Data: 2 holes .154 dia. for 6-32 NC-2 screws; 1-3/8" centers. Contacts: 2 amps resistive at 115VAC or 28VDC Size: 13/16" x 1-9/32" x 1-29/32".

Stock Number	Type Number	Contacts	Coil Volts	Coil Ohms	Prices 1-24	25-49	50-99
AC Voltage Specified							
57F1284	W150ASOX-1	SPST-NO	115	7,500	3.96	3.76	3.56
57F1285	W150ASOX-2		115	7,500	3.96	3.76	3.56

CLASS 158 HIGH VOLTAGE RELAY – 5000V



The Class 158 relay was developed especially for making and breaking high voltage circuits of low current capacities. The ¼" diameter silver cadoxide contacts will break up to 5000 volts RMS at 200 milliamps current. Size: 1-29/32" x 3-1/16" x 2-7/32".

Stock Number	Type Number	Contacts	Coil Volts	Coil Ohms	Prices 1-24	25-49	50-99
DC Voltage Specified							
57F1286	W158HVX-1	SPDT	24	120	25.02	23.77	22.52
57F1287	W158HVX-2	DB-DM	110	3,000	25.92	24.62	23.33

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft solid state and time delay

CLASS 211CP PLUG-IN HYBRID TIME DELAY

Combines solid state circuitry for timing functions with Class 88 electromechanical relay for output switching.

Four knob adjustable timing ranges. Reset time: 100 ms average. Temperature Range: Operate: -10° to +55°C; storage, -55° to +85°C. Timing Repeatability: ±5% of setting at nominal voltage at 25° C. Size: 1¾" x 2-3/8" x 2-7/8" h. (not including knob). Plug: Operate types, 8 pin; release types, 11 pin.

Stock Number	Type Number	Coil Volts	Time Delay	Prices 1-9	10-24	25-49
Operate Delay DPDT Contacts 10 Amps						
56F958	W211ACPSOX-5	120VAC	1-10	19.94	18.94	17.95
56F969	W211ACPSOX-7	120VAC	1-180	19.94	18.94	17.95
56F960	W211ACPSOX-8	120VAC	2-300	19.94	18.94	17.95
56F961	W211CPSOX-1	24VDC	1-10	19.94	18.94	17.95
56F962	W211CPSOX-3	24VDC	1-180	19.94	18.94	17.95
56F963	W211CPSOX-4	24VDC	2-300	19.94	18.94	17.95
Release Delay DPDT Contacts 10 Amps						
56F964	W211ACPSRX-5	120VAC	1-10	23.94	22.74	21.55
56F965	W211ACPSRX-7	120VAC	1-180	23.94	22.74	21.55
56F966	W211ACPSRX-8	120VAC	2-300	23.94	22.74	21.55
56F967	W211CPSRX-1	24VDC	1-10	23.94	22.74	21.55
56F968	W211CPSRX-3	24VDC	1-180	23.94	22.74	21.55
56F969	W211CPSRX-4	24VDC	2-300	23.94	22.74	21.55

CLASS 502 & 503 PC TIME DELAY

Class 502PCSO (1 Form A) Class 503PCSO (1 Form C)

Available: — 502PCSOX, SPST-NO, 1 amp., 15 VA or 250VAC maximum, resistive. 503PCSOX, SPDT, .5 amp., 10 VA or 250VAC maximum, resistive. Time Delay on operate. Timing Repeatability: ±5% at nominal voltage at 25°C after the first cycle and ±10% over voltage range or temperature range indicated. Polarity protection is a standard feature. Steady State Current: 25 ma typical. Temperature Range: Operate -10° C to 55° C; Storage -55° C to 85° C. Size: 2.25 X 1.25 X .75 inches.

Stock Number	Type Number	VDC	Time Range	Ext. Adj. Ohm/Sec.	Prices 1-9	10-24
Slow Operate SPST-NO (Form A)						
57F1200	W502PCSOX-2	12	100 MS to	60K	19.91	18.91
57F1201	W502PCSOX-3	24	100 SEC	60K	19.91	18.91
Slow Operate SPDT (Form C)						
57F1204	W503PCSOX-2	12	100 MS to	60K	21.86	20.77
57F1205	W503PCSOX-3	24	100 SEC	60K	21.86	20.77
57F1206	W503PCSOX-5	12	3 SEC to	10K	23.43	22.26
57F1207	W503PCSOX-6	24	M MIN	10K	23.43	22.26
Slow Release SPST-NO (Form A)						
57F1208	W502PCSRX-2	12	200 MS to	25K	28.07	26.67
57F1209	W502PCSRX-3	24	100 SEC	25K	28.07	26.67
Slow Release SPDT (Form C)						
57F1212	W503PCSRX-2	12	200 MS to	25K	30.02	28.52
57F1213	W503PCSRX-3	24	100 SEC	25K	30.02	28.52

CLASS 67TD MIN. PLUG-IN TIME DELAY

DPDT 5 amp contacts. Reset Time and Recycle Time: Typically 100 ms. Twice nominal input for 1 millisecond. Polarity Protection: Standard. Temperature Range: Operate -10° to 55°C, Storage, -50° to 85°C. Time Delay on operate. Size: 1.374 x 1.358 x .734.

Stock Number	Type Number	VDC	Timing Range	External Resistance	Prices 1-9	10-24
Adjustable — DC Voltage						
56F1000	W67CPSOX-1	12	.1 - 30 sec.	Internal Potentiometer Adjusted	18.60	17.67
56F1001	W67CPSOX-2	24	.1 - 30 sec.		18.60	17.67
56F1002	W67CPSOX-3	12	1 - 240 sec.		20.05	19.05
56F1003	W67CPSOX-4	24	1 - 240 sec.		20.05	19.05
Fixed Resistance — DC Voltage						
56F1004	W67CPSOX-5	12	.1 - 30 sec.	65K/per sec.	15.30	14.54
56F1005	W67CPSOX-6	24	.1 - 30 sec.	65K/per sec.	15.30	14.54
56F1006	W67CPSOX-7	12	1 - 240 sec.	85K/per sec.	17.20	16.34
56F1007	W67CPSOX-8	24	1 - 240 sec.	85K/per sec.	17.20	16.34

CLASS 214CP PLUG-IN HYBRID TIME DELAY

Solid state timing with ±2% repeat accuracy. Contacts: DPDT, 5 amps @ 28 VDC or 115VAC resistive. Time Delay on operate. Size: 2-5/32" x 1-3/8" square. Weight: 3 oz. approximately.

Stock Number	Type Number	Input Volts	Timing Range	Prices 1-9	10-24	25-49
47F1179	W214ACPSOX-1	120VAC	.3 to 30 sec.	23.45	22.28	21.11
47F1180	W214ACPSOX-2	120VAC	3 to 240 sec.	23.45	22.28	21.11
47F1181	W214CPSOX-3	24VDC	.3 to 30 sec.	23.45	22.28	21.11
47F1182	W214CPSOX-4	24VDC	3 to 240 sec.	23.45	22.28	21.11

CLASS 218 PANEL MOUNT TIME DELAY

Ideal for industrial timing applications. Three fully adjustable timing ranges. Reset and recycle time 100 ms. Time Delay on operate. 10 amp SPDT contacts. Size: 4" x 3-5/16" x 2½".

Stock Number	Type Number	Input Volts	Timing Range	Prices 1-9	10-24	25-49
56F1008	W218ACSOSX-2	120VAC	1 to 10 sec.	20.50	19.48	18.45
56F1009	W218ACSOSX-4	120VAC	1 to 180 sec.	20.50	19.48	18.45
56F1010	W218ACSOSX-5	120VAC	2 to 300 sec.	20.50	19.48	18.45

CLASS 388 LOW COST TIME DELAY

Contacts: DPDT 10 amps @ 28VDC or 115VAC, res. Steady State Current: 20 ma @ 120VAC 75 ma @ 24 VDC. Delay on operate. Temp. Range: -10°C to 55°C operating -55°C to 85°C storage. Reset and Recycle Time: Less than 100 ms. Size: Flange-Mount — 1-17/32" w. x 1-13/32" d. x 2-29/32" h.; Plug-In — 1-17/32" w. x 1-13/32" d. x 1-29/32" h. overall. Weight: 3 oz. approx.

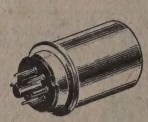
Stock Number	Type Number	Input Voltage	Timing Range Seconds	External Resistor	Prices 1-9	10-24
Plug-In						
47F1236	W388ACPSOX-1	120VAC	1-20	200K	14.80	14.06
47F1237	W388ACPSOX-2	120VAC	1-120	2.4 MEG	16.10	15.30
47F1238	W388CPSOX-1	24VDC	1-10	160K	17.05	16.20
47F1239	W388CPSOX-2	24VDC	1-120	2 MEG	18.50	17.58
Flange Mount						
47F1240	W388ACQSOX-1	120VAC	1-10	200K	14.80	14.06
47F1241	W388ACQSOX-2	120VAC	1-120	2.4MEG	16.10	15.30
47F1242	W388CQSOX-1	24VDC	1-10	160K	17.05	16.20
47F1243	W388CQSOX-2	24VDC	1-120	2 MEG	18.50	17.58

CLASS 501QPC SOLID STATE POWER RELAY

The expected life of the Class 501QPC is approximately 25 million operations. Load rating 3 amps @ 120VAC RMS or 200VDC peak at 25°C. Surge rating: 100 amps for .016 seconds. SPST-NO (1 form A) solid state output. Operate time .003 seconds. Size: Series 501QPC, 2¼" w. x ¾" d. x 1¼" h. (pins, .04" dia. x 1/8" h) Weight: 2 ozs. approx.

Stock Number	Type Number	VDC	Input Ohms	Watts	VAC Switching Capability	Prices 1-9
56F1015	W501QPCX-1	5	1000	40 MW	3 amps @ 120	12.47
56F1016	W501QPCX-7	24	1500	400 MW	3 amps @ 120	12.47
56F1017	W501QPCX-11	5	1000	40 MW	3 amps @ 240	13.03
56F1018	W501QPCX-17	24	1500	400 MW	3 amps @ 240	13.03

CLASS 501QCP SOLID STATE POWER RELAY



The expected life of the Class 501QCP is approximately 25 million operations. SPST-NO (1 form A) solid state output. Load rating: 6 amps at 120VAC RMS or 200VDC peak at 25°C. Surge rating: 100 amps for .016 seconds. Operate time .003 seconds. Size: Series 501QCP, 1-21/32" overall dia. x 2-11/32" height less pins. Wt. 3 ozs. approx.

Stock Number	Type Number	VDC	Input Ohms	Watts	VAC Switching Capability	Prices 1-9
56F1019	W501QCPX-2	5	1000	40 MW	6 amps @ 120	15.92
56F1020	W501QCPX-5	24	1500	400 MW	6 amps @ 120	15.92
56F1021	W501QCPX-7	5	1000	40 MW	6 amps @ 240	16.63
56F1022	W501QCPX-10	24	1500	400 MW	6 amps @ 240	16.63

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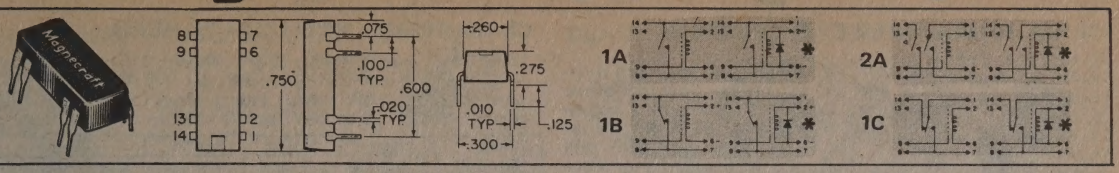
CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft® DIP reed relays



Magnecraft is proud to announce its new DIP (dual-inline-package) line of 8 and 14 pin reed relays. These DIP relays are designed not only to be compatible with the standard packaging developed for integrated circuits, but to offer Magnecraft quality at a low cost. This unique design gives further savings by offering the user the optimum in automated insertion and other economical installation techniques associated with printed circuit applications.

Ideal for use in circuits where high density packaging is essential. The 5VDC IC compatible versions of these relays will operate directly from TTL or DTL circuits.

Other standard coil voltages are available from stock in 6, 12, and 24VDC as well as contact configurations in 1 form A, 2 form A, 1 form B, 1 form C.
Most versions are listed with a choice of an internal clamping diode.

CLASS 171 DIP, SPST-NO, 1 FORM A

Contacts rated at 10VA at .250 amp max. or 100 VDC resistive, max. Operate Time, 500 ms. typical. Contact bounce, less than 200 ms. average. Dielectric strength, 250VDC minimum, across open contacts; 750VAC, coil to contact. Contact resistance, 150 milliohms, average. Insulation resistance, 10^{11} ohms, minimum. Life, 25 million operations, typical; longer at reduced loads. Mechanical characteristics, shock, 100 g's at ½ sine wave, 11 ms vibration, 100 g's, 10 to 2000 Hz. Temperature range, -55°C to 85°C. Size: .750" x .275" x .260".

Stock Number	Type Number	Coil		Prices		
		Volts	Ohms	1-24	25-49	50-74
47F1136	W171DIP-1	5	200	2.80	2.52	2.38
47F1137	W171DIP-2	5	500	3.18	2.86	2.70
47F1138	W171DIP-3	6	500	2.80	2.52	2.38
47F1139	W171DIP-4	12	500	2.80	2.52	2.38
47F1140	W171DIP-5	24	2200	3.15	2.84	2.68
47F1141	W171DIP-6*	5	200	3.39	3.05	2.88
47F1142	W171DIP-7*	5	500	3.73	3.36	3.17
47F1143	W171DIP-8*	6	500	3.39	3.05	2.88
47F1144	W171DIP-9*	12	500	3.39	3.05	2.88
47F1145	W171DIP-10*	24	2200	3.73	3.36	3.17

CLASS 171 DIP, SPST-NC, 1 FORM B

Contacts rated 10VA or .250 amp max. or 100VDC max. resistive. Operate time, 400 ms. average. Contact bounce, less than 10 ms. average. Dielectric strength, 250VDC min. across open contacts; 750VAC coil to contact. Contact resistance, 150 milliohms, average. Insulation resistance, 10^{11} ohms min. Life, 10 million operations, typical, longer at reduced loads. Mechanical characteristics, shock 100 g's, ½ sine wave, 11 ms.; vibration 100 g's, 10 to 2000 Hz. Temperature range, -55°C to 85°C. Size: .750" x .275" x .260".

47F1146	W171DIP-11	5	200	3.58	3.22	3.04
47F1147	W171DIP-12	5	500	3.78	3.40	3.21
56F1023	W171DIP-13	6	500	3.58	3.22	3.04
56F1024	W171DIP-14	12	500	3.58	3.22	3.04
56F1025	W171DIP-15	24	2200	3.75	3.38	3.19
56F1026	W171DIP-16*	5	200	3.85	3.47	3.27
56F1027	W171DIP-17*	5	500	4.05	3.65	3.44
56F1028	W171DIP-18*	6	500	3.85	3.47	3.27
56F1029	W171DIP-19*	12	500	3.85	3.47	3.27
56F1030	W171DIP-20*	24	2200	4.04	3.64	3.43

CLASS 171 DIP, DPST-NO, 2 FORM A

Contacts rated 2 VA or 110 amp max. or 28VDC resistive, max. Operate time, 700 ms average. Contact bounce, less than 300 ms average. Dielectric strength, 200VDC min. across open contacts; coil to contact, 750VDC; between contact, 750VDC. Contact resistance, 200 milliohms, average. Insulation resistance 10^{10} ohms, min. Life, 10 million operations, longer at reduced loads. Mechanical characteristics, shock 100 g's, ½ sine wave, 11 ms. Vibration 100 g's, 10 to 200 Hz. Temp. range, -55°C to 85°C. Size: .750" x .275" x .260".

Stock Number	Type Number	Coil		Prices		
		Volts	Ohms	1-24	25-49	50-74
47F1148	W171DIP-21	5	200	5.18	4.66	4.40
47F1149	W171DIP-22	6	200	4.98	4.48	4.23
47F1150	W171DIP-23	12	500	4.98	4.48	4.23
47F1151	W171DIP-24	24	2200	5.90	5.31	5.02
47F1152	W171DIP-25*	5	200	6.05	5.45	5.14
47F1153	W171DIP-26*	6	200	5.95	5.36	5.06
47F1154	W171DIP-27*	12	500	5.95	5.36	5.06
47F1155	W171DIP-28*	24	2200	6.18	5.56	5.25

CLASS 172 DIP, SPDT, 1 FORM C

Contacts rated 8VA at .250 amp max. or 100VDC resistive, max. Operate time, 500 ms. average. Contact bounce, less than 200 ms. average. Dielectric strength, 250VDC, min. across open contacts. Contact resistance, 150 milliohms average. Insulation resistance, 10^{10} ohms, min. Life, 10 million operations, typical, longer at reduced loads. Mechanical characteristics, shock 100 g's, ½ sine wave, 11 ms; vibration 100 g's, 10 to 200 Hz. Temperature range, -55°C to 85°C. Size: .750" x .275" x .260".

47F1156	W172DIP-1	5	200	5.25	4.73	4.46
47F1157	W172DIP-2	6	200	4.97	4.47	4.22
47F1158	W172DIP-3	12	500	4.97	4.47	4.22
47F1159	W172DIP-4	24	2200	5.29	4.76	4.50
47F1160	W172DIP-5*	5	200	5.60	5.04	4.76
47F1161	W172DIP-6*	6	200	5.38	4.84	4.57
47F1162	W172DIP-7*	12	500	5.38	4.84	4.57
47F1163	W172DIP-8*	24	2200	5.70	5.13	4.85

*** Internal Clamping Diode**

Magnecraft ic compatible reed relays

CLASS 101M AXIAL LEAD FORM A

Contact load rated 10VA @ .5 amp max. or 100VDC resistive max. Typical life at rated load of 5 million cycles. Capacitance across contacts .5 pf average. Weight: 1 oz. approximately. Size: 1" x 7/16" x ½".

Stock Number	Type Number	Con-tacts	Coil DC		Price		
			Volts	Ohms	1-24	25-49	50-74
56F976	W101MX-41	SPST -NO	3	250	2.81	2.53	2.39
56F975	W101MX-35		5	500	2.81	2.53	2.39

CLASS 101MPC PC MTG FORM A

Contact load rated 10VA @ .5 amp max. or 100VDC resistive max. Typical life at rated load of 5 million cycles. Capacitance across contacts, .5 pf average. Weight: 1 oz. approximately. Size: 1-1/8" x 3/8" x 13/32".

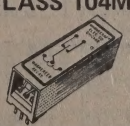
56F977	W101MPCX-104	SPST -NO	5	450	4.33	3.90	3.68

CLASS 104M AXIAL LEAD FORM C

Contact load rated 3VA @ .25 amp max. or 28VDC resistive max. Typical life at rated load of 5 million cycles. Capacitance across contacts, 1.5 pf average. Weight 1 oz. approximately. Size: 1" x 7/16" x ½".

Stock Number	Type Number	Con-tacts	Coil DC		Prices		
			Volts	Ohms	1-24	25-49	50-74
56F979	W104MX-10	SPDT	3	250	6.51	5.86	5.53
56F978	W104MX-9	SPDT	5	500	6.51	5.86	5.53

CLASS 104MPC PC MTG FORM C



Contact load rated 3VA @ .25 amp max. or 28VDC. Typical life at rated load of 5 million cycles. Capacitance across contacts, 1.5 pf average. Weight 1 oz. approximately. Size: 1-1/8" x 3/8" x 13/32".

56F980	W104MPCX-46	SPDT	5	300	7.91	7.12	6.72

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft® reed relays

CLASS 101M AXIAL LEAD 1 FORM A

Low cost reed relays give optimum reliability and fast operation. Specifications: Miniature: SPST-NO (1 Form A) contacts rated 10 VA max. at .5 A max. or 200VDC max. resistive. Coil 600 mW nominal. Cap., 0.3 pf avg. between contacts. Life: 5 million operations typical. Size: 2¼" lg. x ½" w. x 7/16" h. including leads.

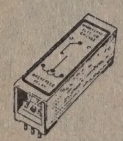
Stock Number	Type Number	Contacts	MA	Coil – DC Volts	Coil – DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F909	W101MX-1	SPST -NO	—	6	100	2.20	1.98	1.87
56F910	W101MX-2		—	12	250	2.25	2.03	1.91
56F911	W101MX-3		—	24	500	2.25	2.03	1.91
56F912	W101MX-4		9MA	—	2500	2.43	2.19	2.07

CLASS 104M AXIAL LEAD 1 FORM C

Low cost reed relays give optimum reliability and fast operation. Specifications: Miniature: SPDT (1 Form C) contacts rated 3 VA max. at 0.25 A max. or 28 VAC max. resistive. Coil: 600 mW nominal. Cap., 1.3 pf avg. across contacts. Life: 10 million operations typ. Size: 2¼" l x 7/16" h x ½" w incl. leads.

56F913	W104MX-1	SPDT	—	6	100	5.63	5.07	4.79
56F914	W104MX-2		—	12	250	5.68	5.11	4.83
56F915	W104MX-3		—	24	500	5.68	5.11	4.83
56F916	W104MX-4		9MA	—	2500	5.87	5.28	4.99

MINIATURE MODULAR PC REEDS



W104MPC

Contact Resistance: 150 milliohms avg. Life: W101, 5 million cycles at rated load; W104, 10 million cycles. Rating: W101, 10 VA, 500 ma max. or 200VDC max., non-inductive; W104, 3 VA, 250 mA max. or 28 V max., non-inductive. Size 1: Single Form A or C, 3/8" h. x 13/32" w. x 1-1/8" lg.; requires 500 mWDC power. Weight: 1 oz. Size 2: Three Form A or two Form C, 3/8" h. x 39/64" w x 1-1/8" lg.; requires 700 mWDC power. Weight: 1 oz.

56F316	W101MPCX-1	SPST -NO	—	6	70	3.60	3.24	3.06
56F317	W101MPCX-2		—	12	300	3.60	3.24	3.06
56F318	W101MPCX-3		—	24	1100	3.63	3.27	3.09
56F320	W101MPCX-5	3PST -NO	—	6	50	6.75	6.08	5.74
56F321	W101MPCX-6		—	12	220	6.75	6.08	5.74
56F322	W101MPCX-7		—	24	850	6.77	6.09	5.75

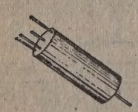
FORM C

56F324	W104MPCX-1	SPDT	—	6	70	6.82	6.14	5.80
56F325	W104MPCX-2		—	12	300	6.83	6.15	5.81
56F326	W104MPCX-3		—	24	1100	6.85	6.17	5.82
56F328	W104MPCX-5	DPDT	—	6	50	11.62	10.46	9.88
56F329	W104MPCX-6		—	12	220	11.63	10.47	9.89
56F330	W104MPCX-7		—	24	850	11.65	10.49	9.90

ENCAPSULATED AXIAL LEAD RELAYS

W101EP SPST-NO

W101EP: SPST-NO rated at 10 VA at .5 amperes maximum or 200VDC maximum. Life expectancy 5 million cycles at rated load. Operate time 1 millisecond average release time ½ millisecond average. Axial lead wires for coil and contacts. Encapsulated molded case. Overall length 3" body length 1" .7/16" diameter. Weight, 1 oz.



W104EP SPDT

W104EP: SPDT rated at 3 VA at .250 amps or 28VAC maximum. Life expectancy 10 million cycles at rated load. Operate time and release time 1 millisecond average. Axial lead wires for coil and contacts. Encapsulated molded case. Overall length 3", body length 1", diameter 7/16". Weight, 1 ounce.

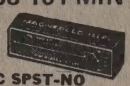
56F382	W101EPX-5	SPST -NO	—	6V	65	3.80	3.42	3.23
56F383	W101EPX-6		—	12V	225	3.80	3.42	3.23
56F384	W101EPX-7		—	24V	1000	4.45	4.01	3.78
56F385	W101EPX-8		8MA	—	5000	4.91	4.42	4.17
56F386	W104EPX-2	SPDT	—	6V	65	7.74	6.97	6.58
56F387	W104EPX-3		—	12V	225	7.74	6.97	6.58
56F388	W104EPX-4		—	24V	1000	8.45	7.61	7.18

CLASS 101MPC LOW COST PC REED

Molded nylon bobbin with electrical insulation. Con. 10 VA @ .5 amp max. SPST-NO Nom, Pow. 500 MW Min. Size 1-1/8" x 1/8" x 3/8".

Stock Number	Type Number	Contacts	Coil DC Volts	Coil DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F981	W101MPCX-122	SPST -NO	6	70	2.78	2.50	2.36
56F982	W101MPCX-123		12	300	2.78	2.50	2.36
56F983	W101MPCX-124		24	1100	2.78	2.50	2.36

CLASS 101 MIN ENCAPSULATED FORM A



W102PC SPST-NO

SPST. 1½" L, ½" W, 9/18" H. DPST. 1½" L, 11/16" W, 9/16" H, Gold contacts rated at 10 VA @ .5 amps max. or 200VAC max. resistance.

Stock Number	Type Number	Contacts	MA	Coil – DC Volts	Coil – DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F459	W101PCX-5	SPST -NO	—	6V	65	5.37	4.83	4.56
56F460	W101PCX-6		—	12V	250	5.42	4.88	4.61
56F461	W101PCX-7		—	24V	1000	5.52	4.97	4.69
56F462	W101PCX-8		8MA	—	5000	5.96	5.36	5.07
56F464	W101PCX-10	DPST -NO	—	12V	150	7.54	6.79	6.41
56F465	W101PCX-11		—	24V	650	7.60	6.84	6.46

CLASS 102 STD ENCAPSULATED FORM A

SPST 2¼" L, 21/32" W, 5/8" H. DPST 2¼" L, 1¼" W, 5/8" H. Operate 3 ms. average. Release ½ ms. average. Contact Load Rating 15VA at 1 amp. max. or 250VAC max., non-inductive.

56F468	W102PCX-2	SPST -NO	—	12V	400	5.07	4.56	4.31
56F469	W102PCX-3		—	24V	1500	5.11	4.60	4.34
56F472	W102PCX-6	DPST -NO	—	12V	200	6.59	5.93	5.60
56F473	W102PCX-7		—	24V	800	6.65	5.99	5.65

CLASS 103 STD ENCAPSULATED FORM C

SPDT 2¼" L, 21/32" W, 5/8" H. Double pole double throw 2½" L, 1¼" W, ¾" H. SPDT or DPDT. Contacts rated 10 watts resistive load, .5 amp or 250VAC max.

56F475	W103PCX-1	SPDT	—	6	100	7.58	6.82	6.44
56F476	W103PCX-2		—	12	400	7.63	6.87	6.49
56F477	W103PCX-3		—	24	1500	7.69	6.92	6.54
56F480	W103PCX-6	DPDT	—	12	200	11.33	10.20	9.63
56F481	W103PCX-7		—	24	800	11.38	10.24	9.67

CLASS 131 MERCURY WETTED MINIATURE ENCAPSULATED FORM A

Contacts rated 28VA @ 1 amp or 100 V max. resistive period oper. and release time 1 ms aver. 100 million cycles life. Weight 2 ounces.

56F375	W131PCX-9	SPST -NO	—	12	250	8.86	7.97	7.53
56F376	W131PCX-10		—	24	1000	8.98	8.08	7.63
56F379	W131PCX-13	DPST -NO	—	12	150	11.19	10.07	9.51
56F380	W131PCX-14		—	24	650	11.25	10.13	9.56

CLASS 131 MERCURY WETTED MIN FORM A

W131MPC

SPST-NO

DPST-NO

Contact Combinations: Size 1: SPST-NO (1 Form A), Size 2: DPST-NO (2 Form A). Available through special order. Contact Load Rating: 28 Volt-Amperes max. or 1.0 amp max. or 100VDC max., resistive. Nominal Coil Power: Size 1: 500 mw. Size 2: 700 mw. Dielectric Strength Between Contacts: 500VAC, RMS. Dielectric Strength Between Contacts and Coil: 500VAC, RMS. Contact Resistance: 50 milliohms average. Capacitance Across Contacts: 1.2 pf average.

56F921	W131MPCX-3	SPST -NO	—	12	300	6.80	6.12	5.78
56F922	W131MPCX-4		—	24	1100	6.86	6.17	5.83
56F924	W131MPCX-7	DPST -NO	—	12	220	12.16	10.94	10.34
56F925	W131MPCX-8		—	24	850	12.23	11.01	10.40

CLASS 132 MERCURY WETTED STD FORM A

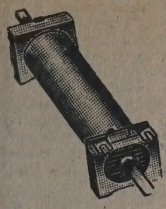
Power Required: ½ watt nom.; Operating Time: 2 msec. average; Release Time: 2msec. average; Contact Bounce: None; Contact Load Rating: 50 VA at 3.0 amps, max. or 400VAC max.; non-inductive; Contact Resistance: 50 milliohms av.; Life Expectancy 25 million Hz.; Diel. str.; cont. to coil: 500VAC RMS; Ambient Temp. Range: – 37°F. to +185°F. Single Pole: – 2-5/8 X ¾ X 41/64".

56F484	W132MPCX-2	SPST -NO	—	6	70	6.12	5.51	5.20
56F485	W132MPCX-3		—	12	250	6.12	5.51	5.20
56F486	W132MPCX-4		—	24	1000	6.12	5.51	5.20

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

Magnecraft® reed relays

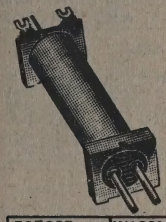
CLASS 102M STD AXIAL LEAD FORM A



Operate, 3 ms. aver. Release, ½ ms. aver. Contact bounce, less than 1 ms. aver. Contact load rated 15 VA at 1 amp max. or 250V resistive max. Contact resistance, 100 milliohms aver. Life expectancy, 20 million cycles at full load; 100 million at ½ load. Capacitance across contacts, 0.9 pf aver. Operating position, any. Size: 3¼" lg. (incl. leads) x 19/32" w. x ½" h.

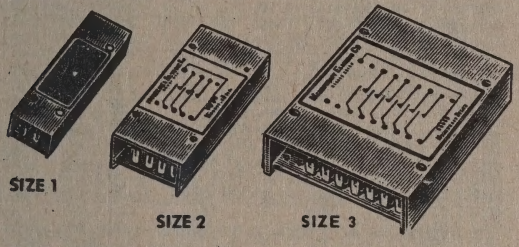
Stock Number	Type Number	Contacts	MA	Coil — DC Volts	Coil — DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F900	W102MX-1	SPST -NO	40	—	100	2.29	2.06	1.95
56F901	W102MX-2		—	6	200	2.36	2.12	2.01
56F902	W102MX-3		—	12	500	2.36	2.12	2.01
56F903	W102MX-4		—	24	2000	2.59	2.33	2.20
56F904	W102MX-5		5.5	—	5000	2.76	2.48	2.35

CLASS 103M STD AXIAL LEAD FORM C



Operate, 2 ms. aver. Release, ½ ms. aver. Contact bounce 4 ms. aver. or release, normally closed contacts. Contact load rated 10VA at ½ amp max. or 250V resistive max. Contact resistance 100 milliohms aver. Long life 25 million cycles at full load; 50 million at ½ load. Capacitance across contacts 3.0 pf aver. Operating position, any. Size: 3-7/16" x 19/32" w x ½" h.

56F905	W103MX-1	SPDT	—	6	200	4.44	4.00	3.77
56F906	W103MX-2		—	12	500	4.44	4.00	3.77
56F907	W103MX-3		—	24	2000	4.67	4.20	3.97
56F908	W103MX-4		5.5	—	5000	4.85	4.37	4.12



CLASS 102MPC STD MTG FORM A

Modular-packaged dry reed relays ideal for printed circuit applications. Operate, 3 ms aver. Release, ½ ms aver. Contact load rated 15 VA at 1 amp max. or 250V resistive max. Contact resistance, 100 milliohms aver. Long life, 20 million cycles at full load; 100 million at ½ load. Capacitance across contacts 1.0 pf aver. Operating position any. Size 1: 41/64" h x ¾" w x 2-5/8" lg. Size 2: 41/64" h x 1-3/16" w x 2-5/8" lg. Size 3: 41/64" h x 1-31/64" w x 2-5/8" lg.

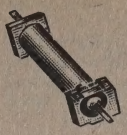
56F416	W102MPCX-6	SPST -NO	—	6	70	3.45	3.11	2.93
56F417	W102MPCX-7		—	12	250	3.45	3.11	2.93
56F418	W102MPCX-8		—	24	1000	3.45	3.11	2.93
56F300	W102MPCX-48	3PST -NO	—	6	50	5.90	5.31	5.02
56F301	W102MPCX-49		—	12	175	5.90	5.31	5.02
56F302	W102MPCX-50		—	24	750	6.06	5.45	5.15
56F987	W102MPCX-53	6PST -NO	—	12	100	9.77	8.79	8.30
56F306	W102MPCX-54		—	24	375	9.82	8.84	8.35

CLASS 103MPC STD PC MTG FORM C

Operate, 2 ms. aver. Release, ½ ms. aver. Contact bounce 4 ms. aver. or release, normally closed contacts. Contact load rated 10VA at ½ amp max. or 250V resistive max. Contact resistance 100 milliohms aver. Long life 25 million cycles at full load; 50 million at ½ load. Capacitance across contacts 2.0 pf aver. Operating position, any.

56F422	W103MPCX-2	SPDT	—	6	70	6.12	5.51	5.20
56F423	W103MPCX-3		—	12	250	6.12	5.51	5.20
56F424	W103MPCX-4		—	24	1000	6.12	5.51	5.20
56F308	W103MPCX-30	DPDT	—	6	50	8.75	7.88	7.44
56F309	W103MPCX-31		—	12	175	8.75	7.88	7.44
56F310	W103MPCX-32		—	24	750	8.89	8.00	7.56
56F312	W103MPCX-34	4PDT	—	6	25	15.33	13.80	13.03
56F314	W103MPCX-36		—	24	375	15.51	13.96	13.18

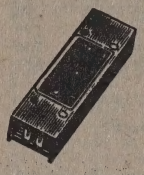
CLASS 102RM 3 AMP POWER REED



Low profile, printed circuit mounted relay with contact rating formerly available only in general purpose or telephone type relays. Contact Load Rating, 100VA @ 3 amps max. or 250VAC max. Operate Time, 1.5 ms. average. Release Time, 1 ms. average. Contact Bounce, 1 ms. average. Operating Position, any. Size: 2-5/8" x 41/64" x ¼". Wt., 3 oz

Stock Number	Type Number	Contacts	MA	Coil — DC Volts	Coil — DC Ohms	Prices 1-24	Prices 25-49	Prices 50-74
56F296	W102RMX-5	SPST -NO	—	6	200	4.39	3.95	3.73
56F297	W102RMX-6		—	12	500	4.43	3.99	3.77
56F298	W102RMX-7		—	24	2000	4.55	4.10	3.87
56F299	W102RMX-8		—	48	5000	4.76	4.28	4.05

CLASS 102RMPC PC MTG POWER REED



Operate, 1 ms. aver. Release, 1 ms. aver. Contact Bounce, 0.5 ms. average. Contact Resistance, 500 milliohms, aver. Contact Load Rating, 100VA, 3 amperes max., or 250 volts, max. Operating Position, any. Dielectric strength, across switch 750 VRMS, switch to coil 500 VRMS. Size: 2-5/8" l. x 3/4" w. x 41/64" h.

56F356	W102RMPCX-1	SPST -NO	—	6	70	8.26	7.43	7.02
56F357	W102RMPCX-2		—	12	250	8.26	7.43	7.02
56F358	W102RMPCX-3		—	24	1000	8.33	7.50	7.08
56F359	W102RMPCX-4		—	48	4000	8.59	7.73	7.30

CLASS 102V 5,000 VOLT REED

Operates in any position. Size: 4½" x 15/16" x 7/8". Wt., 3 oz. Contact Load Rating: 50VA @ 3 amps max. or 5000 volts peak, max. resis. Nominal Coil Power: SPST-NO, 500 MW; SPST-NC, 200 MW. Operation Time: 3 ms average; Release Time: .5 ms average. Contact Bounce: .5 ms average. Contact Resistance: 100 milliohms average. Capacitance Across Contacts: 1.0 pf average. Life at Rated Load: 10 million operations, longer at reduced loads.

56F1031	W102VX-50	SPST -NO	—	12	250	15.39	13.85	13.08
56F1032	W102VX-51		—	24	1000	15.44	13.90	13.12

CLASS 102HV 10,000 V — 102UHV 20,000 V

Contact Load Rating, 10,000 volts peak at .001 amperes; 20,000 volts peak at 1 ma. Nominal Coil Power, 1.5 W average. Operate Time, typically 25 ms including bounce. Contact Resistance 100 milliohms average. Typical Life at Rated Load, 1 million — longer at reduced loads.

10,000V								
56F291	W102HVX-2	— — —	—	12	100	23.32	20.99	19.82
56F292	W102HVX-3	— — —	—	24	400	23.32	20.99	19.82
20,000V								
56F294	W102UHVX-2	— — —	—	12	100	37.62	33.86	31.98
56F295	W102UHVX-3	— — —	—	24	400	37.62	33.86	31.98

CLASS 103LMPC LATCHING FORM C REED

Operate, 2 ms. aver. Bounce, 3 ms. max. Contact Resistance, 150 milliohms aver. Contact Load Rating, 10VA 0.2 amp max. or 200V max., non-inductive. Life Expectancy, 25 million cycles at rated load.; longer at reduced loads. Operating Position, any. Nom. power, single coil 150MW, double coil 300 mw. Size: 2-5/8" x 41/64" x ¾". Weight: 1 oz.

Single Wound Coils								
56F391	W103LMPCX-4	SPDT	—	6	250	7.42	6.68	6.31
56F392	W103LMPCX-5		—	12	1000	7.42	6.68	6.31
56F393	W103LMPCX-6		—	24	4000	7.62	6.86	6.48
Double Wound Coils								
56F396	W103LMPCX-9	SPDT	—	6	120	8.75	7.88	7.44
56F397	W103LMPCX-10		—	12	460	8.75	7.88	7.44
56F398	W103LMPCX-11		—	24	1800	9.45	8.51	8.03

CONTACT NEAREST NEWARK FACILITY FOR LARGER QUANTITY PRICES

General Purpose Relays

SERIES 11 SPDT RELAYS

Small, low cost relays for 1 ampere switching at 28 VDC/115 VAC resistive. DC types are designed for sliding current or on-off 50 mw signals. AC is used for .3VA on-off signals. Good environmental capability. UL and CSA listed. **11F** with solder lug terminals. 17/32" x 13/16" x 111/16". **11 FP** shoulder lug mounting with printed circuit terminals, 17/32" sq. x 15/12". Temp. range: —40 to +122°F. Shpg. wt. 1.2 oz.

DC RELAYS

Stock No.	Type and Coil ohms	Ma DC	Nominal Voltage	1-99	100-249	250-499
24F1987	11F-250-G-SIL	14.0	6VDC	3.20	3.04	2.88
24F1988	11F-550-G-SIL	9.5	·····	3.20	3.04	2.88
24F360	11F-1000-G-SIL	7.0	12VDC	3.20	3.04	2.88
24F361	11F-2300-G-SIL	4.6	·····	3.20	3.04	2.88
24F362	11F-6000-G-SIL	2.9	24VDC	3.50	3.33	3.15
24F363	11F-9000-G-SIL	2.4	·····	4.20	3.99	3.78
24F1990	11FP-1000-G-SIL	7.0	12VDC	3.25	3.09	2.93
24F1991	11FP-2300-G-SIL	4.6	·····	3.25	3.09	2.93
24F3161	11FP-6000-G-SIL	2.9	24VDC	3.80	3.61	3.42

SERIES 50 DPDT, 3PDT RELAYS

Enclosed, plug-in, compact, multipole relay for switching of industrial loads of 5 or 10 amps. 10 million oper. mech. life. Temp. range: +14°F to +141°F. Contact rating: 10 amps at 28 VDC/115 VAC. H.23/32" x 13/8" sz. **50R02. 50R0L2:** 8-pin plug. **50R03,** 11-pin plug. UL/CSA listed. Shpg. wt. 4 oz.

Stock No.	Type SCO & Coil V.	Coil Ohms	Action	1-49	50-74	75-99	100-249
24F2705	50R02-12AC	23.5	DPDT	6.45	6.13	5.81	5.16
24F2706	50R02-24AC	95	DPDT	6.45	6.13	5.81	5.16
24F2707	50R02-120AC	2300	DPDT	6.45	6.13	5.81	5.16
24F3139	50R0L2-120AC	2300	DPDT	7.65	7.27	6.89	6.12
24F2709	50R02-12DC	95	DPDT	6.45	6.13	5.81	5.16
24F2710	50R02-24DC	430	DPDT	6.45	6.13	5.81	5.16
24F2019	50R02-48DC	1630	DPDT	6.45	6.13	5.81	5.16
24F2711	50R02-110DC	10000	DPDT	6.81	6.51	6.17	5.48
24F2714	50R03-24AC	95	3PDT	7.45	7.08	6.71	5.96
24F2715	50R03-120AC	2300	3PDT	7.45	7.08	6.71	5.96
24F2717	50R03-12DC	95	3PDT	7.45	7.08	6.71	5.96
24F2718	50R03-24DC	430	3PDT	7.45	7.08	6.71	5.96
24F2719	50R03-110DC	10000	3PDT	7.90	7.51	7.11	6.32

TYPE 65 COMMERCIAL SPDT RELAYS

Responds positively to low-power signals. 5 million operation mechanical life. Contact load rating: 3 A. Nom. power; 90 mw. **65F1** (screw mount, with solder term). **65FP1** (terminals with printed circuit) for mfg. UL-CSA listed. DC voltage. Shpg. wt.: 1 oz.

Stock No.	Type	Ohms	1-99	100-249	250-499
24F1981	65F1A-6DC	410	1.60	1.52	1.44
24F1982	65F1A-12DC	1640	1.60	1.52	1.44
24F1983	65F1A-24DC	6560	1.60	1.52	1.44
24F1984	65FP1A-6DC	410	1.70	1.62	1.53
24F1985	65FP1A-12DC	1640	1.70	1.62	1.53
24F1986	65FP1A-24DC	6560	1.70	1.62	1.53

SERIES 67 AC AND DC—4PDT

Switches 5 ampere loads from 1.2 VA or 900 MW signals. Solder or printed circuit terminals. Temp. range of —4°F. to +140°F. 14-prong plug, designed for stud MNT. 15/16" x 17/64" x 55/64" UL-CSA listed. Shpg. wt. 1.3 oz.

Stock No.	Type and Coil Volts	Ohms Coil	1-49	50-74	75-99	100-249
24F2829	67R4-12AC	43	5.00	4.75	4.50	4.00
24F2830	67R4-24AC	160	5.00	4.75	4.50	4.00
24F2831	67R4-120AC	3900	5.40	5.13	4.86	4.32
24F2832	67R4-6DC	40	4.40	4.18	3.96	3.52
24F2833	67R4-12DC	160	4.40	4.18	3.96	3.52
24F2834	67R4-24DC	650	4.40	4.18	3.96	3.52
24F2835	67R4-48DC	2600	4.60	4.37	4.14	3.68
24F2836	67R4-110DC	11000	5.10	4.85	4.59	4.08
(*)with Arc Barrier & additional rating of 120VAC, 17/10 H.P. per pole						
45F365	67RV4-12DC-SCO*	160	4.40	4.18	3.96	3.52
45F366	67RV4-24DC-SCO*	650	4.40	4.18	3.96	3.52
45F367	67RV4-120AC-SCO*	3900	5.40	5.13	4.86	4.32
24F2837	AD28 Solder Term. Skt.		.60	.57	.54	.48
24F2838	AD29 PC Socket		.60	.57	.54	.48

SERIES 62 DC DPDT, 4PDT 6PDT RELAYS

Type 62

Excellent stability, exceptional life at moderate loads. Rated 2 amperes. Nominal power for 2 pole and 4 pole: 700 milliwatts. For 6 pole: 1.4 watts. Plastic dust cover, stud mounting, and solder or printed-circuit terminal sockets 62R2 8 prong plug, 62R4 14 prong plug, 62R6 20-prong plug. Features a temperature range of +14°F to +158°F. Sensitive types rated for one million operations at maximum load. Voltage adjusted types with bifurcated contacts rated for 50 million operations switching dry-circuit loads. 13/16"x3/4"x19/32" UL/CSA Listed. Shpg. wt. 1 oz.

STANDARD CONTACTS— 2 AMP

Stock No.	Type and coil volts	Coil ohms	Action	1-49	50-74	75-99	100-249
24F2675	62R2-6DC	52	DPDT	3.05	2.90	2.75	2.44
24F2676	62R2-12DC	185	DPDT	3.05	2.90	2.75	2.44
24F2677	62R2-24DC	700	DPDT	3.05	2.90	2.75	2.44
24F2680	62R4-6DC	52	4PDT	3.40	3.23	3.06	2.72
24F2681	62R4-12DC	185	4PDT	3.40	3.23	3.06	2.72
24F2682	62R4-24DC	700	4PDT	3.40	3.23	3.06	2.72
24F2685	62R6-6DC	25	6PDT	4.40	4.18	3.96	3.52
24F2686	62R6-12DC	90	6PDT	4.40	4.18	3.96	3.52
24F2687	62R6-24DC	430	6PDT	4.40	4.18	3.96	3.52

STANDARD SCO Contacts—5 AMPS

45F372	62R2-12DC-SCO	185	DPDT	3.05	2.90	2.75	2.44
45F373	62R2-24DC-SCO	700	DPDT	3.05	2.90	2.75	2.44
24F3146	62R4-12DC-SCO	185	4PDT	3.40	3.23	3.06	2.72
24F3147	62R4-24DC-SCO	700	4PDT	3.40	3.23	3.06	2.72
45F374	62R6-12DC-SCO	90	6PDT	4.40	4.18	3.96	3.52
45F375	62R6-24DC-SCO	430	6PDT	4.40	4.18	3.96	3.52

SENSITIVE TYPES—1 AMP—SCO CONTACTS

45F386	62R2S-1000-SCO	1000	DPDT	3.40	3.23	3.06	2.72
45F381	62R2S-2500-SCO	2500	DPDT	3.40	3.23	3.06	2.72
45F382	62R2S-5000-SCO	5000	DPDT	3.80	3.61	3.42	3.04
45F383	62R2S-10,000-SCO	10,000	DPDT	4.20	3.99	3.78	3.36
45F384	62R4S-2500-SCO	2500	4PDT	3.80	3.61	3.42	3.04
45F359	62R4S-5000-SCO	5000	4PDT	4.20	3.99	3.78	3.36
45F360	62R4S-10,000-SCO	10,000	4PDT	4.60	4.37	4.14	3.68
45F361	62R6S-2500-SCO	2500	6PDT	4.90	4.66	4.41	3.92
45F362	62R6S-5000-SCO	5000	6PDT	5.40	5.13	4.86	4.32
45F365	62R6S-10,000-SCO	10,000	6PDT	5.90	5.61	5.31	4.72
24F2690	AD22-Solder Term, DPDT			.55	.52	.50	.44
24F3156	AD41-P.C. term. socket DPDT			.55	.52	.50	.44
24F2692	AD24-Solder term, 4PDT			.65	.62	.58	.52
24F3157	AD42-P.C. term socket 4PDT			.65	.62	.58	.52
24F2694	AD26-Solder term, 6PDT			.95	.90	.86	.76
24F3158	AD43-P.C. term. socket 6PDT			.95	.90	.86	.76

SERIES 68 AC & DC—SPDT, DPDT, 3PDT RELAYS

Versatile low-cost, general purpose relay for production-line switching of light to medium power loads. Fast installation—.187" terminals. Contact rating 10 amps at 28 VDC/115 VAC. 5 x 10^5 operations. Nominal power AC 1- and 2-pole types, 2.1 VA; 3-pole types, 2.5 VA, DC, 1.2 w. Minimum operating temperature: —49°F. Maximum: AC 1- and 2-pole, +131°F; 3-pole, +113°F; DC, +158°F. Polycarbonate cover. 68R34 has flange mtg. SCO contacts. 2.900"h. U/L listed. Weight 2.7 oz.

24F3125	68R1-120AC-SCO	2250	SPDT	3.50	3.33	3.15	2.80
24F3126	68R1-12DC-SCO	120	SPDT	3.40	3.23	3.06	2.72
24F3127	68R1-24DC-SCO	470	SPDT	3.40	3.23	3.06	2.72
24F3128	68R2-120AC-SCO	2250	DPDT	4.30	4.09	3.87	3.44
24F3129	68R2-12DC-SCO	120	DPDT	3.85	3.66	3.47	3.08
24F3130	68R2-24DC-SCO	470	DPDT	3.85	3.66	3.47	3.08
24F3131	68R3-120AC-SCO	2000	3PDT	4.85	4.61	4.37	3.88
24F3132	68R3-12DC-SCO	120	3PDT	4.40	4.18	3.96	3.52
24F3133	68R3-24DC-SCO	470	3PDT	4.40	4.18	3.96	3.52
24F3134	68R34-120AC-SCO	2000	3PDT	4.85	4.61	4.37	3.88
24F3135	68R34-12DC-SCO	120	3PDT	4.40	4.18	3.96	3.52
24F3136	68R34-24DC-SCO	470	3PDT	4.40	4.18	3.96	3.52
24F3137	AD63 Solder term socket			.75	.71	.68	.60
24F3138	AD62-1P.C. term. socket			.85	.81	.77	.68

GENERAL PURPOSE SERIES 59 SPDT RELAYS

Snap switch relay features an excellent contact rating of 2 amperes. The precise contact assembly provides positive operations from on-off or slowly changing signals. Mechanical life; 1,000,000 operations. Temperature range: +14° to 158° F. **59A01D:** Metal dust cover 8-pin plug, dia. 15/16" x 19/32" height. Nominal power: 300 mw. U.L. CSA Listed. Shipping weight: 2 oz.

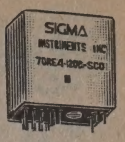
24F1978	59A01D 6DC	120	4.65	4.42	4.19	3.26
24F1979	59A01D 12DC	465	4.65	4.42	4.19	3.26
24F1980	59A01D 24DC	1800	4.65	4.42	4.19	3.26

Miniature General Purpose Relays

SIGMA

SERIES 70 GENERAL PURPOSE RELAYS

Miniature industrial relays for low-level to 5-amp multiple circuit switching. UL and CSA approved. Directly interchangeable with leading competitive types. Choice of voltage adjusted (standard or bifurcated contacts) or current sensitive adjusted. Voltage adjusted with bifurcated contacts rated at 50 million operations. Current sensitive adjusted picks up from signals as low as 85mw. Choice of PC or solder terminal sockets. Mechanical life of both voltage and current adjusted types is 100 million operations. Typical applications include communications and EDP. Temp. +14°F to +158°F.



SOLDER TERMINALS

2 AMPS—Standard Contacts

Stk. No.	Type No.	Coil Ohms	Nominal Power	1-49	50-74	75-99	100-249
67F535	70R2-12DC	185	700mW	3.25	3.09	2.93	2.60
38F1647	70R2-24DC	700	700mW	3.25	3.09	2.93	2.60
67F536	70R2-110DC	15,000	700mW	4.70	4.47	4.23	3.76
38F1650	70R4-12DC	185	700mW	3.60	3.42	3.24	2.88
38F1651	70R4-24DC	700	700mW	3.60	3.42	3.24	2.88
67F537	70R4-110DC	15,000	700mW	5.20	4.94	4.68	4.16
67F538	70R6-12DC	90	1.4 W	4.60	4.37	4.14	3.68
38F1654	70R6-24DC	430	1.4 W	4.60	4.37	4.14	3.68
67F539	70R6-110DC	9,000	1.4 W	5.80	5.51	5.22	4.64

5 AMPS—Standard Silver Cadmium Oxide Contacts

38F1648	70R2-12DC	185	700mW	3.25	3.09	2.93	2.60
38F1649	70R2-24DC	700	700mW	3.25	3.09	2.93	2.60
67F540	70R2-110DC	15,000	700mW	4.70	4.47	4.23	3.76
38F1652	70R4-12DC	185	700mW	3.60	3.42	3.24	2.88
38F1653	70R4-24DC	700	700mW	3.60	3.42	3.24	2.88
67F580	70R4-110DC	15,000	700mW	5.20	4.94	4.68	4.16
67F581	70R6-12DC	90	1.4 W	5.00	4.75	4.50	4.00
67F582	70R6-24DC	430	1.4 W	4.60	4.37	4.14	3.68
67F583	70R6-110DC	9,000	1.4 W	5.80	5.51	5.22	4.64

2 AMP—Bifurcated Contacts

67F584	70R2T-12DC	185	700mW	3.65	3.47	3.29	2.92
67F585	70R2T-24DC	700	700mW	3.65	3.47	3.29	2.92
67F586	70R2T-110DC	15,000	700mW	5.10	4.85	4.59	4.08
67F587	70R4T-12DC	185	700mW	4.20	3.99	3.78	3.36
67F588	70R4T-24DC	700	700mW	4.20	3.99	3.78	3.36
67F589	70R4T-110DC	15,000	700mW	5.60	5.32	5.04	4.48
67F450	70R6T-12DC	90	1.4 W	5.10	4.85	4.59	4.08
67F451	70R6T-24DC	430	1.4 W	5.10	4.85	4.59	4.08
67F452	70R6T-110DC	9,000	1.4 W	6.50	6.18	5.85	5.20

1 AMP Sensitive Types

Stk. No.	Type No.	Contacts	Pickup Power mW	1-49	50-74	75-99	100-249
67F467	70R2S-1000	DPDT	85	3.60	3.32	3.24	2.88
38F1655	70R2S-2500	DPDT	85	3.60	3.42	3.24	2.88
38F1656	70R2S-5000	DPDT	85	4.00	3.80	3.60	3.20
38F1657	70R2S-10,000	DPDT	85	4.40	4.18	3.96	3.52
67F468	70R2S-15,000	DPDT	85	4.80	4.56	4.32	3.84
67F469	70R4S-1000	4PDT	175	4.00	3.80	3.60	3.20
38F1658	70R4S-2500	4PDT	175	4.00	3.80	3.60	3.20
38F1659	70R4S-5000	4PDT	175	4.40	4.18	3.96	3.52
38F1660	70R4S-10,000	4PDT	175	4.80	4.56	4.32	3.84
67F470	70R4S-15,000	4PDT	175	5.10	4.85	4.59	4.08

SERIES 77AC/DC, DPDT, 3PDT

Miniature relay for use in small business machines, alarm systems, automatic toys, communication systems. Silver, gold plated contacts provide 100,000 operations at 28VDC or 120VAC. Mech. life: 5M operations at 2 amp resistive load. Temp. +14° to +150°F.

SOLDER TERMINALS

Stk. No.	Type No.	Resis. Ohms	Contacts	1-49	50-74	75-99	100-249
67F453	77R2-6DC	31	DPDT	2.15	2.04	1.94	1.72
38F1666	77R2-12DC	125	DPDT	2.15	2.04	1.94	1.72
38F1667	77R2-24DC	500	DPDT	2.15	2.04	1.94	1.72
67F454	77R3-6DC	31	3PDT	3.75	3.56	3.38	3.00
67F455	77R3-12DC	125	3PDT	3.75	3.56	3.38	3.00
38F1671	77R3-24DC	500	3PDT	3.75	3.56	3.38	3.00
38F1668	77R2-24AC	250	DPDT	2.80	2.66	2.52	2.24
38F1669	77R2-120AC	5750	DPDT	3.50	3.33	3.15	2.80
67F456	77R3-24AC	250	3PDT	3.80	3.61	3.42	3.04
67F457	77R3-120AC	5750	3PDT	4.55	4.32	4.10	3.64

PC TERMINALS

67F458	77RE2-6DC	31	DPDT	2.15	2.04	1.94	1.72
67F459	77RE2-12DC	125	DPDT	2.15	2.04	1.94	1.72
38F1670	77RE2-24DC	500	DPDT	2.15	2.04	1.94	1.72
67F460	77RE3-6DC	31	3PDT	3.75	3.56	3.38	3.00
67F461	77RE3-12DC	125	3PDT	3.75	3.56	3.38	3.00
67F462	77RE3-24DC	500	3PDT	3.75	3.56	3.38	3.00
67F463	77RE2-24AC	250	DPDT	2.80	2.66	2.52	2.24
67F464	77RE2-120AC	5750	DPDT	3.50	3.33	3.15	2.80
67F465	77RE3-24AC	250	3PDT	3.80	3.61	3.42	3.04
67F466	77RE3-120AC	5750	3PDT	4.55	3.42	4.10	3.64

Stk. No.	Type No.	Description	1-49	50-74	75-99	100-249
38F1608	AD82	Solder terminal sockets	1.00	.95	.90	.80
38F1609	AD83	Printed circuit terminal sockets	1.20	1.14	1.08	.96

PC TERMINALS

2 AMPS—Standard Contacts

Stk. No.	Type No.	Coil Ohms	Nominal Power	1-49	50-74	75-99	100-249
67F471	70RE22-12DC	185	700mW	3.25	3.09	2.93	2.60
67F511	70RE22-24DC	700	700mW	3.25	3.09	2.93	2.60
67F512	70RE22-110DC	15,000	700mW	4.70	4.47	4.23	3.76
67F513	70RE42-12DC	185	700mW	3.60	3.42	3.24	2.88
67F514	70RE42-24DC	700	700mW	3.60	3.42	3.24	2.88
67F515	70RE42-110DC	15,000	700mW	5.20	4.94	4.68	4.16
67F516	70RE62-12DC	90	1.4 W	4.60	4.37	4.14	3.68
67F517	70RE62-24DC	430	1.4 W	4.60	4.37	4.14	3.68
67F518	70RE62-110DC	9,000	1.4 W	5.80	5.51	5.22	4.64

5 AMP—Standard Silver Cadmium Oxide Contacts

67F519	70RE22-12DC	185	700mW	3.35	3.18	3.02	2.68
67F520	70RE22-24DC	700	700mW	3.35	3.18	3.02	2.68
67F521	70RE22-110DC	15,000	700mW	4.80	4.56	4.32	3.84
67F522	70RE42-12DC	185	700mW	3.80	3.61	3.42	3.04
67F523	70RE42-24DC	700	700mW	3.80	3.61	3.42	3.04
67F524	70RE42-110DC	15,000	700mW	5.40	5.13	4.86	4.32
67F525	70RE62-12DC	80	1.4 W	5.00	4.75	4.50	4.00
67F526	70RE62-24DC	430	1.4 W	5.00	4.75	4.50	4.00
67F527	70RE62-110DC	9,000	1.4 W	6.00	5.70	5.40	4.80

2 AMP—Bifurcated Contacts

67F528	70RE2T-12DC	185	700mW	3.65	3.47	3.29	2.92
67F529	70RE2T-24DC	700	700mW	3.65	3.47	3.29	2.92
67F530	70RE2T-110DC	15,000	700mW	5.10	4.85	4.59	4.08
67F531	70RE4T-12DC	185	700mW	4.20	3.99	3.78	3.36
67F532	70RE4T-24DC	700	700mW	4.20	3.99	3.78	3.36
67F533	70RE4T-110DC	15,000	700mW	5.60	5.32	5.04	4.48
67F534	70RE6T-12DC	90	1.4 W	5.10	4.85	4.59	4.08
67F472	70RE6T-24DC	430	1.4 W	5.10	4.85	4.59	4.08
67F473	70RE6T-110DC	9,000	1.4 W	6.50	6.18	5.85	5.20

Stk. No.	Type No.	Description	1-49	50-74	75-99	100-249
38F1600	AD64	Solder terminal socket for DPDT	.55	.52	.50	.44
38F1601	AD65	Solder terminal socket for 4PDT	.65	.62	.59	.52
38F1602	AD66	Solder terminal socket for 6PDT	.95	.90	.86	.76
38F1603	AD67	PC terminal socket for DPDT	.55	.52	.50	.44
38F1604	AD68	PC terminal socket for 4PDT	.65	.62	.59	.52
38F1605	AD69	PC terminal socket for 6PDT	.95	.90	.86	.76

SERIES 76 AC/DC –DPDT, 4PDT

Subminiature relay for heavy duty industrial or consumer applications provides continuous multipole switching of resistive loads up to 10 amp each pole at 120VAC. Mech. life 10,000,000 operations. Elect. life 100,000 oper.

Stk. No.	Type No.	Resis. Ohms	Contacts	1-49	50-74	75-99	100-249
67F474	76R2-6DC-SCO	40	DPDT	3.75	3.56	3.38	3.00
38F1661	76R2-12DC-SCO	160	DPDT	3.75	3.56	3.38	3.00
38F1662	76R2-24DC-SCO	650	DPDT	3.75	3.56	3.38	3.00
67F475	76R4-6DC-SCO	25	4PDT	5.10	4.85	4.59	4.08
67F476	76R4-12DC-SCO	100	4PDT	5.10	4.85	4.59	4.08
38F1664	76R4-24DC-SCO	350	4PDT	5.10	4.85	4.59	4.08
67F477	76R2-24AC-SCO	160	DPDT	4.20	3.99	3.78	3.36
38F1663	76R2-120AC-SCO	3900	DPDT	4.60	4.37	4.14	3.68
67F478	76R4-24AC-SCO	78	4PDT	5.50	5.23	4.95	4.40
38F1665	76R4-120AC-SCO	2400	4PDT	6.20	5.89	5.58	4.96

Stk. No.	Type No.	Description	1-49	50-74	75-99	100-249
38F1606	AD74	Solder terminal socket for DPDT	.75	.71	.68	.60
38F1607	AD75	Solder terminal socket for 4PDT	.85	.81	.77	.68
38F1610	AD84	PC terminal socket for DPDT	.75	.71	.68	.60
38F1611	AD85	PC terminal socket for 4PDT	.85	.81	.77	.68

SERIES 78 AC/DC—SPDT

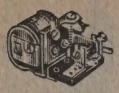
Subminiature relay for PC use. Positive response to power coil signals as low as .4 watts. Oper. temp. +14°F to +158°F.

Stk. No.	Type No.	Nominal Volts	Resis. Ohms	1-99	100-249	250-499
67F479	78RE1-6DC	6DC	100	1.25	1.19	1.13
38F1672	78RE1-12DC	12DC	400	1.25	1.19	1.13
38F1673	78RE1-24DC	24DC	1600	1.40	1.33	1.26
38F1674	78RE1-120AC	120AC	5500	2.15	2.04	1.94

10

Sensitive Relays

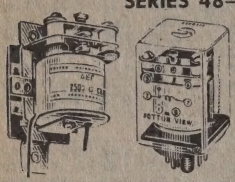
SERIES 4—SPDT DC RELAYS



Fór vacuum tube and transistor drives; and applications requiring high dropout or narrow differential. Ideal for circuits where energizing current does not drop to zero. Pickup power, 20 mW. Contact rating, 2 amps at 28 VDC/120 VAC resistive. Temperature range, +32 to +122 F. **4F:** Unenclosed, screw mounting, solder terminals. Shpg. wt. 2¼ oz. **4R:** UL listed for use in burglary protection equipment. Dust cover, 5-pin plug. Shpg. wt. 3¾ oz.

Stock No.	Type & Coil Ohms	Pickup Max. mADC	Dropout Min. mADC	1-49	50-74	75-99	100-249
24F352	4F-1000 S-SIL	4.5	2.0	8.65	8.22	7.79	6.92
24F353	4F-2500 S-SIL	3.0	1.3	8.65	8.22	7.79	6.92
24F354	4F-5000 S-SIL	2.0	.90	9.10	8.65	8.19	7.28
24F350	4F-8000 S-SIL	1.6	.75	9.40	8.93	8.46	7.52
24F1700	4F-10,000 S-SIL	1.4	.65	9.40	8.93	8.46	7.52
24F2770	4R-1000 S-SIL	4.5	2.0	11.80	11.21	10.69	9.44
24F3170	4R-2500S-SIL	3.0	1.3	13.00	12.35	11.70	10.40
24F2771	4R-5000 S-SIL	2.0	.90	12.15	11.54	10.94	9.64
24F2772	4R-8000 S-SIL	1.6	.75	12.50	11.88	11.25	10.00
24F2773	4R-10,000 S-SIL	1.4	.65	12.50	11.88	11.25	10.00

SERIES 48—SPST DC RELAYS



For alarm systems requiring operation from 10 mW. Bridge type contact. Compliant armature. Contact rating: 2 amp; Temp.: -4 to +158°F. **48F:** Unenclosed, screw mouting, solder terminals, 1 17/64, 4x2 9/32x1 7/16. Shpg. wt. 3 oz. **48RO:** Plastic dust cover, 8 pin octal plug. 1 23/64 sq.x2 7/64". UL-CSA listed. Shpg. wt. 4 oz.

Stock No.	Type & Coil Ohms	Pickup Max. mADC	Dropout Min. mADC	1-49	50-74	75-99	100-249
24F2779	48F-1000G-SIL	3.2	.32	7.30	6.94	6.57	5.84
24F2780	48F-2500G-SIL	2.0	.2	7.30	6.94	6.57	5.84
24F2783	48RO-1000G-SIL	3.2	.32	8.50	8.08	7.65	6.80
24F2784	48RO-2500G-SIL	2.0	.2	8.50	8.08	7.65	6.80

SERIES 41—AC & DC—SPDT

Industrial relay. Operates from on-off AC/DC signals. Adjustment S: 40 mW; ACS: 2 VA; ACG: .4 VA. Contact rating: ACG, 5 amps at 28 VDC/120 VAC; S, ACS: 2 amps. Temp. range, -67 to +185°F, except plastic covers, to +158°F. All UL/CSA listed. **41F, 41FZ:** Unenclosed, screw mtg., solder terminals. **41RO, 41ROZ:** Aluminum dust cover, 8-pin. **41RO6:** Plastic dust cover, 8-pin. **41JOZ:** Hermetically sealed, 8-pin. **41R, 41RZ:** Dust cover, 5-pin. Wts.: enclosed, 5½ oz.; unenclosed, 2½ oz. *Pickup power, 200 mW; contact rating 10 amps.

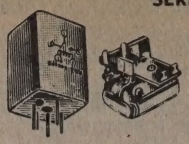
AC TYPES

Stock No.	Type & Coil Ohms	Nom Volts	1-49	50-74	75-99	100-249
24F365	41FZ-10 ACG-BSL	6	5.40	5.13	4.86	4.32
24F3164	41FZ-200 ACG-BSL	24	5.70	5.42	5.13	4.56
24F369	41FZ-5,000 ACG-BSL	120	5.70	5.42	5.13	4.56
24F364	41FZ-35 ACS-SIL	6	6.30	5.99	5.67	5.04
24F368	41FZ-10,000 ACS-SIL	120	7.00	6.65	6.30	5.60
53F775	41JOZ-10,000 ACS-SIL	120	17.20	16.34	15.48	13.76
24F2787	41JOZ-12,000 ACS-SIL	120	16.80	15.96	15.12	13.44
24F2788	41ROZ-5,000 ACG-BSL	120	8.80	8.36	7.92	7.04
24F2789	41RZ-5,000 ACG-BSL	120	8.00	7.60	7.20	6.40

DC TYPES

24F2790	41F-200 S-SIL	6	6.00	5.70	5.40	4.80
24F2791	41F-500 S-SIL	...	6.00	5.70	5.40	4.80
24F1714	41F-1,000 S-SIL	12	6.00	5.70	5.40	4.80
53F776	41F-2,500 S-SIL	...	6.30	5.99	5.67	5.04
24F2792	41F-5,000 S-SIL	24	6.30	5.99	5.67	5.04
24F1747	41F-10,000 S-SIL	...	6.60	6.29	5.94	5.28
53F777	41F-200 G-BSL*	12	5.70	5.42	5.13	4.56
53F778	41F-1,000 G-BSL*	24	5.70	5.42	5.13	4.56
53F779	41F-5,000 G-BSL*	...	5.90	5.61	5.31	4.72
53F780	41R-1,000 S-SIL	12	8.95	8.50	8.06	7.16
24F3169	41R-5,000 S-SIL	24	9.20	8.74	8.28	7.36
53F781	41R-8,000 S-SIL	...	9.60	9.12	8.64	7.68
24F1716	41RO-1,000 S-SIL	12	9.45	8.98	8.51	7.56
53F782	41RO-2,500 S-SIL	...	9.45	8.98	8.51	7.56
24F2793	41RO-5,000 S-SIL	24	9.75	9.26	8.78	7.80
24F2794	41RO-10,000 S-SIL	...	10.10	9.60	9.09	8.08
53F783	41RO6-500 S-SIL	...	8.95	8.50	8.06	7.16
24F2795	41RO6-1,000 S-SIL	12	8.55	8.12	7.70	6.84
24F2796	41RO6-2,500 S-SIL	...	8.55	8.12	7.70	6.84
24F2797	41RO6-5,000 S-SIL	24	8.75	8.31	7.88	7.00

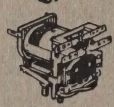
SERIES 5—SPDT DC RELAY



Sensitive type for overload-underload detection. Withstands overloads of 30:1. Contact ratings: S: 1 amp; SS, .25 amp. Temp.: S: -40 to +158°F; SS, +50 to 140°F. **5F:** Unenclosed, screw mtg., solder terminals. Wt., 4½ oz. **5JO:** Hermetically sealed; 8-pin plug. Wt. 7½ oz. **5R:** Dust cover; 5-pin plug. **5RO:** 8-pin. Wt. 5¾ oz.

Stock No.	Type & Coil Ohms	Pickup Max. mADC	Dropout Min. mADC	1-49	50-74	75-99	100-249
24F355	5F-1,000 S-SIL	2.3	.80	12.30	11.69	11.07	9.84
24F356	5F-2,500 S-SIL	1.4	.50	12.30	11.69	11.07	9.84
24F357	5F-5,000 S-SIL	1.0	.40	13.15	12.49	11.84	10.52
24F358	5F-10,000 S-SIL	.70	.25	14.40	13.68	12.96	11.52
24F3171	5F-16,000 S-SIL	.55	.20	15.50	14.73	13.95	12.40
24F2774	5F-1,000 SS-PAL	1.0	.40	13.95	13.25	12.56	11.16
24F2775	5F-10,000 SS-PAL	.30	.13	16.00	15.20	14.40	12.80
53F784	5JO-1,000 S-SIL	2.3	.80	22.55	21.42	20.30	18.04
53F785	5JO-2,500 S-SIL	1.4	.50	22.55	21.42	20.30	18.04
53F786	5JO-5,000 S-SIL	1.0	.40	23.40	22.23	21.06	18.72
53F787	5JO-10,000 S-SIL	.70	.25	24.60	23.37	22.14	19.68
53F788	5JO-16,000 S-SIL	.55	.20	25.95	24.65	23.36	20.76
24F2776	5R-1,000 S-SIL	2.3	.80	15.50	14.73	13.95	12.40
24F2777	5R-2,500 S-SIL	1.4	.50	15.50	14.73	13.95	12.40
24F2778	5R-5,000 S-SIL	1.0	.40	16.35	15.53	14.72	13.08
24F1742	5R-10,000 S-SIL	.70	.25	17.50	16.63	15.75	14.00
24F1743	5R-16,000 S-SIL	.55	.20	18.85	17.91	16.97	15.08
53F789	5R-1,000 SS-PAL	1.0	.40	18.00	17.10	16.20	14.40
53F790	5R-10,000 SS-PAL	.30	.13	20.75	19.71	18.68	16.60
24F3174	5RO-1,000 S-SIL	2.3	.80	16.70	15.87	15.03	13.36
53F791	5RO-2,500 S-SIL	1.4	.50	16.70	15.87	15.03	13.36
53F792	5RO-5,000 S-SIL	1.0	.40	17.55	16.67	15.80	14.04
24F3177	5RO-10,000 S-SIL	.70	.25	18.85	17.91	16.97	15.08
53F793	5RO-16,000 S-SIL	.55	.20	20.25	19.24	18.23	16.20

SERIES 42—DPDT AC AND DC RELAYS



100 mW for 1-billion-operation mechanical life. Adjustment S: 100 mW; G: 200 mW; G: 200 mW; ACS: .3 VA; ACG: 5VA. Contact ratings (at 28 VDC/120 VAC resistive): ACG, G: 5A; ACS, S: 2A. Temp.: -67 to +185°F, except plastic covers, to +158°F. UL and CSA listed.

42RO, 42ROZ: Plastic dust cover, 8-pin octal plug. **42RO6, 42RO6Z:** Differ in wiring only. **42JOZ:** Hermetically sealed, 8-pin plug. **42F:** Unenclosed, stud mounting, solder terminals. Shpg. wt. 5¼ oz.

AC TYPES

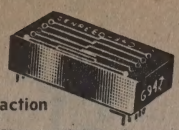
Stock No.	Type & Coil Ohms	Nom. Volts	1-49	50-74	75-99	100-249
24F2798	42JOZ-4000 ACG-SIL	120	15.70	14.92	14.13	12.56
24F2799	42ROZ8 ACG-SIL	6	9.10	8.65	8.19	7.28
24F2800	42ROZ-50 ACG-SIL	12	9.10	8.65	8.19	7.28
24F2801	42ROZ-200 ACG-SIL	24	9.10	8.65	8.19	7.28
24F2802	42ROZ-4000 ACG-SIL	120	9.10	8.65	8.19	7.28
24F2049	42RO6Z-4000 ACG-SIL	120	9.10	8.65	8.19	7.28
24F2803	42ROZ-7000 ACS-SIL	120	10.85	10.31	9.77	8.68
53F794	42RO6Z-8 ACG-SIL	120	9.45	8.98	8.51	7.56

DC TYPES

53F795	42F-150 G-SIL	...	7.10	6.75	6.39	5.68
53F796	42F-500 G-SIL	...	7.10	6.75	6.39	5.68
53F797	42F-1,000 G-SIL	24	7.10	6.75	6.39	5.68
53F798	42F-2,500 G-SIL	48	7.10	6.75	6.39	5.68
53F799	42RO-50 G-SIL	6	9.60	9.12	8.64	7.68
35F815	42RO-100 G-SIL	...	9.60	9.12	8.64	7.68
24F2804	42RO-200 G-SIL	12	9.10	8.65	8.19	7.28
24F2805	42RO-500 G-SIL	...	9.10	8.65	8.19	7.28
24F2806	42RO-1,000 G-SIL	24	9.10	8.65	8.19	7.28
24F2807	42RO-2,500 G-SIL	48	9.10	8.65	8.19	7.28
24F2808	42RO-5,000 G-SIL	...	9.45	8.98	8.51	7.56
24F2809	42RO-10,000 G-SIL	...	9.70	9.22	8.73	7.76
24F1810	42RO-12,000 G-SIL	...	10.15	9.64	9.14	8.12
35F816	42RO-100 S-SIL	...	10.45	9.93	9.41	8.36
24F2811	42RO-150 S-SIL	6	10.00	9.50	9.00	8.00
35F817	42RO-200 S-SIL	...	10.45	9.93	9.41	8.36
24F2812	42RO-500 S-SIL	12	10.00	9.50	9.00	8.00
24F2813	42RO-1,000 S-SIL	...	10.00	9.50	9.00	8.00
24F2814	42RO-2,500 S-SIL	24	10.00	9.50	9.00	8.00
24F2815	42RO-5,000 S-SIL	...	10.35	9.83	9.32	8.28
35F818	42RO-10,000 S-SIL	...	10.65	10.12	9.59	8.52
35F819	42RO06-50 G-SIL	6	9.60	9.12	8.64	7.68
24F2041	42RO6-500 G-SIL	...	9.10	8.65	8.19	7.28
24F2010	42RO6-1,000 G-SIL	24	9.10	8.65	8.19	7.28
24F2043	42RO6-2,500 G-SIL	48	9.10	8.65	8.19	7.28
24F2011	42RO6-5,000 G-SIL	...	9.45	8.98	8.51	7.56
24F2045	42RO6-10,000 G-SIL	...	9.70	9.22	8.73	7.76
24F2009	42RO6-500 S-SIL	12	10.45	9.93	9.41	8.36
24F2817	42RO6-1,000 S-SIL	...	10.00	9.50	9.00	8.00
24F3179	42RO6-2,500 S-SIL	24	10.00	9.50	9.00	8.00

Reed, Time Delay and Hybrid Relays SIGMA

SERIES 193 REED RELAYS

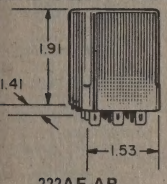


- 20 Contact Combinations
- Single Throw Switching
- Double Throw Switching
- Magnetically Shielded for Minimum Interaction

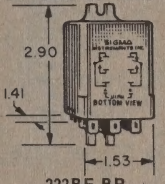
Enclosed reed relays. SPST thru 6PST, SPDT thru 4PDT. Form A capsules for single throw switching; Form C for double throw switching. Printed circuit type pin contacts are on 1.000" x 0.100" PC grid spacing. Magnetically shielded for minimum interaction and housed in a molded plastic case. All have standoffs. Contact Rating: 0.5 amp.

Stock No.	Mfr's. Type	Coil Ohms	Con-tacts	1-49	50-74	75-99	100-249
53F820	193RE1A3-6G	70	1A	2.80	2.66	2.52	2.24
53F330	193RE1A3-12G	280	1A	2.80	2.66	2.52	2.24
53F337	193RE1A3-24G	1500	1A	2.80	2.66	2.52	2.24
53F821	193RE1C3-6G	70	1C	4.65	4.42	4.19	3.72
53F331	193RE1C3-12G	280	1C	4.65	4.42	4.19	3.72
53F338	193RE1C3-24G	1500	1C	4.65	4.42	4.19	3.72
53F822	193RE2A3-6G	70	2A	3.60	3.42	3.24	2.88
53F332	193RE2A3-12G	280	2A	3.60	3.42	3.24	2.88
53F339	193RE2A3-24G	1500	2A	3.60	3.42	3.24	2.88
53F823	193RE2C3-6G	70	2C	6.20	5.89	5.58	4.96
53F333	193RE2C3-12G	280	2C	6.20	5.89	5.58	4.96
53F340	193RE2C3-24G	1500	2C	6.20	5.89	5.58	4.96
53F824	193RE3A3-6G	30	3A	4.20	3.99	3.78	3.36
53F825	193RE3A3-12G	120	3A	4.20	3.99	3.78	3.36
53F826	193RE3A3-24G	640	3A	4.20	3.99	3.78	3.36
53F827	193RE3C3-6G	30	3C	8.70	8.27	7.83	6.96
53F828	193RE3C3-12G	120	3C	8.70	8.27	7.83	6.96
53F829	193RE3C3-24G	640	3C	8.70	8.27	7.83	6.96
53F830	193RE4A3-6G	30	4A	5.30	5.04	4.77	4.24
53F334	193RE4A3-12G	120	4A	5.30	5.04	4.77	4.24
53F341	193RE4A3-24G	640	4A	5.30	5.04	4.77	4.24
53F831	193RE4C3-6G	19	4C	11.40	10.83	10.26	9.12
53F335	193RE4C3-12G	77	4C	11.40	10.83	10.26	9.12
53F342	193RE4C3-24G	410	4C	11.40	10.83	10.26	9.12
53F832	193RE5A3-6G	19	5A	6.50	6.18	5.85	5.20
53F833	193RE5A3-12G	77	5A	6.50	6.18	5.85	5.20
53F834	193RE5A3-24G	410	5A	6.50	6.18	5.85	5.20
53F835	193RE6A3-6G	19	6A	7.90	7.51	7.11	6.32
53F336	193RE6A3-12G	77	6A	7.90	7.51	7.11	6.32
53F343	193RE6A3-24G	410	6A	7.90	7.51	7.11	6.32

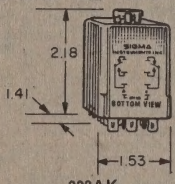
TIME DELAY RELAYS—SERIES 222 AC AND DC—DPDT



222AF-AR



222BF-BR



222AK

Solid state time delay relay with timing intervals from 1 to 120 seconds. Available in *fixed time delay on operate, †resistor adjustable and ‡knob adjustable in either AC or DC. For use in automated and semi-automated industrial applications. Life Rated: 100,000 operations, minimum electrical life; 10 million operations, minimum mechanical life. Reset time, 150 milliseconds, nom. Recycle time, 150 mseconds, nom. Operating temperature range: +14°F to +122°F.

Stock No.	Mfr's. Type & Nom. Coil Volts	Time Delay Sec.	Est. Resis. Required Ohms	1-9	10-49	50-99	100-249
53F836	222AF-010-24DC*	10	....	13.50	12.15	10.80	9.45
53F837	222AF-120-24DC*	120	....	15.00	13.50	12.00	10.50
53F838	222AR-010-24DC†	1-10	160K	14.25	12.85	11.40	10.00
53F839	222AR-120-24DC†	1-120	2.0 megs	15.50	13.95	12.40	10.85
53F840	222BF-010-24DC*	10	....	13.50	12.15	10.80	9.45
53F841	222BF-120-24DC*	120	....	15.00	13.50	12.00	10.50
53F842	222BR-010-24DC†	1-10	160K	14.25	12.83	11.40	9.98
53F843	222BR-120-24DC†	1-120	2.0 megs	15.50	13.95	12.40	10.85
53F844	222AF-010-24AC*	10	....	13.50	12.15	10.80	9.45
53F845	222AF-010-120AC*	10	....	13.50	12.15	10.80	9.45
53F846	222AF-120-120AC*	120	....	15.00	13.50	12.00	10.50
53F847	222AR-010-120AC†	1-10	180K	14.25	12.85	11.40	10.00
53F848	222AR-120-120AC†	1-120	2.4 megs	15.50	13.95	12.40	10.85
53F849	222AK-010-120AC‡	1-10	....	15.50	13.95	12.40	10.85
53F850	222AK-120-120AC‡	1-120		16.95	15.25	13.55	11.87
53F851	222BF-010-24AC*	10	....	13.50	12.15	10.80	9.45
53F852	222BF-010-120AC*	10	....	13.50	12.15	10.80	9.45
53F853	222BF-120-120AC*	120	....	15.00	13.50	12.00	10.50
53F854	222BR-010-24AC†	1-10	180K	14.25	12.85	11.40	10.00
53F855	222BR-010-120AC†	1-10	180K	14.25	12.85	11.40	10.00
53F856	222BR-120-120AC†	1-120	2.4 megs	15.50	13.95	12.40	10.85

SERIES 191 REED DELAYS

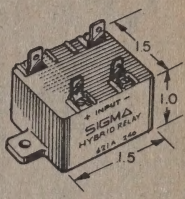
- Choice of 2 Package Forms
- Form A—SPST and DPST Switching
- Form C—SPDT Switching

Standard 14 pin, dual-in-line packaged reed relays. Best suited for test and computer peripheral equipment. Operating Time: 1.0 milliseconds maximum at rated voltage. Isolation Resistance: 10 million ohms min. Internal diode, coil suppression, electromagnetic and electrostatic shielding optional. Rating Amps: *0.5, †0.25.

Stock No.	Mfr's. Type & Nom. VDC	Resis. Ohms	Con-tacts	1-49	50-74	75-99	100-249
38F1675	191TE1A1-5S*	500	1A	3.00	2.85	2.70	2.40
38F1676	191TE1A1-5G*	200	1A	3.00	2.85	2.70	2.40
38F1677	191TE1A1-6S*	500	1A	3.00	2.85	2.70	2.40
38F1678	191TE1A1-6G*	200	1A	3.00	2.85	2.70	2.40
38F1679	191TE1A1-12G*	1250	1A	3.00	2.85	2.70	2.40
38F1680	191TE1A1-12L*	500	1A	3.00	2.85	2.70	2.40
38F1681	191TE2A1-5G*	200	2A	5.50	5.23	4.95	4.40
53F857	191TE2A1-6G*	200	2A	5.50	5.23	4.95	4.40
53F858	191TE2A1-12G*	500	2A	5.50	5.23	4.95	4.40
53F859	191TE2A1-24L*	1200	2A	5.50	5.23	4.95	4.40
38F1682	191TE1C1-5S†	200	1C	4.50	4.28	4.05	3.60
38F1683	191TE1C1-5G†	150	1C	4.50	4.28	4.05	3.60
38F1684	191TE1C1-6S†	200	1C	4.50	4.28	4.05	3.60
38F1685	191TE1C1-6G†	150	1C	4.50	4.28	4.05	3.60
38F1686	191TE1C1-12G†	500	1C	4.50	4.28	4.05	3.60
53F860	191TE1C1-24L†	1250	1C	4.50	4.28	4.05	3.60

SERIES 221 HYBRID RELAYS

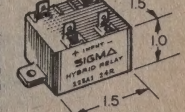
For photocopy equipment, process controls, instrumentation. Uses reed relay to sense and provide gating to an AC semiconductor. Compatible with T.T.L logic; used to switch inductive, capacitive, tungsten or resistive loads. Operate time, 2 msec max., 60 Hz. Release time, 9 msec max., 60 Hz. Di-electric strength, V rms, between all insulated points, 1500 VAC rms. *Output, 200 VAC; †Output, 400 VAC.



Stock No.	Mfr's. Type & Input VDC	Output Amps.	Input Imped. Ohms	1-49	50-74	75-99	100-249
53F861	221A-1-5*	4	525	9.25	8.79	8.33	7.40
53F862	221A-1-6*	4	100	8.75	8.31	7.88	7.00
53F863	221A-1-12D*	4	420	8.75	8.31	7.88	7.00
53F864	221A-1-24D*	4	2150	8.75	8.31	7.88	7.00
53F865	221A-2-5D†	4	525	9.75	9.26	8.78	7.80
53F866	221A-2-6D†	4	100	9.25	8.79	8.33	7.40
53F867	221A-2-12D†	4	420	9.25	8.79	8.33	7.40
53F868	221A-2-24D†	4	2150	9.25	8.79	8.33	7.40
53F869	221A-3-5D*	10	525	10.50	9.98	9.45	8.40
53F870	221A-3-6D*	10	100	10.00	9.50	9.00	8.00
53F871	221A-3-12D*	10	420	10.00	9.50	9.00	8.00
53F872	221A-3-24D*	10	2150	10.00	9.50	9.00	8.00
53F873	221A-4-5D†	10	525	11.00	10.45	9.90	8.80
53F874	221A-4-6D†	10	100	10.50	9.98	9.45	8.40
53F875	221A-4-12D†	10	420	10.50	9.98	9.45	8.40
53F876	221A-4-24D†	10	2150	10.50	9.98	9.45	8.40

SERIES 223 HYBRID RELAYS

For use in vending machines, process controls, machine tools. Isolates power input from low level control circuits. Utilizes an optical coupler to control an AC semiconductor. Can be operated from either AC or DC sources. Operate time, 60 Hz, 50 milliseconds. Release time, 60 Hz, 50 milliseconds. Dielectric strength, V rms, between all insulated points, 1000 VAC rms. Output, 200 Volts.



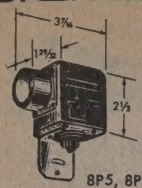
Stock No.	Mfr's. Types & Input VDC/VAC	Output Amps.	Input mA	1-49	50-74	75-99	100-249
53F877	223A-1-6R	4	50	8.75	8.31	7.88	7.00
53F878	223A-3-6R	10	50	10.00	9.50	9.00	8.00
53F879	223A-1-12R	4	24	8.75	8.31	7.88	7.00
53F880	223A-3-12R	10	24	10.00	9.50	9.00	8.00
53F881	223A-1-24R	4	24	8.75	8.31	7.88	7.00
53F882	223A-3-24R	10	24	10.00	9.50	9.00	8.00
53F883	223A-1-120R	4	1.3	8.75	8.31	7.88	7.00
53F884	223A-3-120R	10	1.3	10.00	9.50	9.00	8.00

10

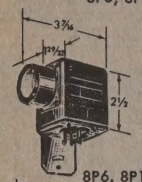
SIGMA Photo-Electric & Opto Isolator Components

SERIES 8

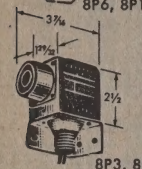
- **Positive "Light" or "Dark" Operation**
- **Replaceable Low-Voltage Lamps**
- **Replaceable Plug-Type Output Relay**
- **For Light-Beam Control**



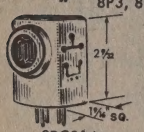
8P5, 8P9



8P6, 8P10



8P3, 8P8

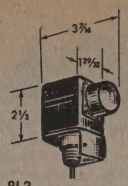


8RC01A, 8RC02A

Economical and compact systems. For light-beam control of moving objects in material handling, processing, production, packaging. High-efficiency optical systems for positive "light" or "dark" operation. Replaceable incandescent lamps operate from low voltage for maximum life. High-speed receivers 8P8, 8P9, 8P10 operate over 12-foot range. Output relay replaceable plug-type. Minimum life 100,000 electrical operations; 100,000,000 mechanical operations. General purpose receivers 8P3, 8P5, 8P6 operate 600 times per minute over 12-foot range. Minimum life 10,000,000 operations. Power consumption, all types, 2.5 volt amps. Temperature range: +32°F to +112°F. Housings: NEMA-1. Miniature receivers 8RC01A, 8RC02A operate 120 times per minute over 12-foot range or 1,000,000 electrical operations, minimum; 1,000,000,000 mechanical. Rugged plug-in unit 8ROC1A UL listed, has ⅝" light sensitive aperture. 8ROC2A has plastic shield with 3⁄32" aperture for positive Light Source, 8L3. Used with all integral receivers lamp rated for 10,000 hour life.

Stock No.	Type	Operations/ Minute	Operating Distance (feet, max)	Source Voltage (AC)	Contact Arrangement	Rating (amperes)	1-49	50-74	75-99	100-249
24F427	8P3-115	600	12	115	SPDT	10*	26.80	25.46	24.12	21.44
24F3032	8P3-230	600	12	230	SPDT	10*	26.80	25.46	24.12	21.44
24F428	8P8-115	1200	12	115	SPDT	5**	53.65	50.97	48.29	42.92
24F3033	8P8-230	1200	12	230	SPDT	5**	53.65	50.97	48.29	42.92
24F437	8P5-115	600	12	115	DPDT	10*	26.80	25.46	24.12	21.44
24F3034	8P5-230	600	12	230	DPDT	10*	26.80	25.46	24.12	21.44
24F3035	8P9-115	1200	12	115	DPDT	5**	53.65	50.97	48.29	42.92
24F3036	8P9-230	1200	12	230	DPDT	5**	53.65	50.97	48.29	42.92
24F438	8P6-115	600	12	115	SPDT	10*	25.65	24.37	23.09	20.52
24F3037	8P6-230	600	12	230	SPDT	10*	25.65	24.37	23.09	20.52
24F3038	8P10-115	1200	12	115	SPDT	5**	51.25	48.69	46.13	41.00
24F3039	8P10-230	1200	12	230	SPDT	5**	51.25	48.69	46.13	41.00
24F1719	8RCO1A	120	12	115	SPDT	3	22.20	21.09	19.98	17.76
24F1720	8RCO2A	120	12	115	SPDT	3	22.20	21.09	19.98	17.76

* at 28 VDC/115 VAC resistive; at 230 VAC resistive, 5 amperes
**at 28 VDC/115 VAC resistive; at 230 VAC resistive, 2.5 amperes



8L3

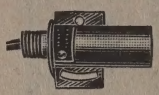
LIGHT SOURCES

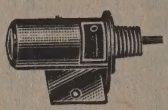
Bracket, ½" conduit, leads #18 AWG, 19". Weight 13 ounces.

Stock No.	Type	Source Volts (AC)	1-49	50-74	75-99	100-249
24F430	8L3-115	115	19.50	18.53	17.55	15.60
24F3040	8L3-230	230	19.50	18.53	17.55	15.60

RECEIVERS, LIGHT SOURCES AND AMPLIFIERS

8P7-8L7


8P4

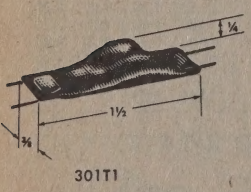

8L4

8A, 8A3

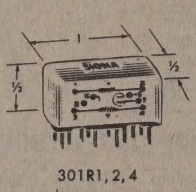
Subminiature receiver 8P7 and light source 8L3 operate 600 times a minute over 12-inch range. 8P4 and light source 8L4 operate 600 times a minute over a 25-foot maximum range. Adjustable-focus light source can be connected to 4.5 volt amplifier terminal for 25-foot operation with 40,000-hour lamp life, or to 5.5 volt terminal for 25-foot operation. 4,000-hour lamp life. Amplifiers 8A and 8A3 receive and amplify signals from sensing elements. 8A responds instantaneously. Replaceable plug-type relay. All circuitry except output relay solid state. 8A3: Variable time delay, 50 milliseconds to 20 seconds. 11½ inches high by 10¹⁵⁄₁₆ inches wide by 4¼ inches deep. Shipping Weight: 9 lbs., 4 oz.

Stock No.	Type	Operations/ Minute	Oper. Dis. Max.	Source Volt. (AC)	Contact Arrangement	Rating (amp)	1-49	50-74	75-99	100-249
24F431	8P7 (Receiver) and	600	12 in.	115/230	Amplifier provides		17.75	16.86	15.98	14.20
24F432	8L7 (Light Source)	600	12 in.	115/230	system output		12.85	12.21	11.57	10.28
24F433	8P4 (Receiver) and	600	25 ft.	115/230	Amplifier provides		19.50	18.53	17.55	15.60
24F434	8L4 (Light Source)	600	25 ft.	115/230	system output		17.05	16.20	15.35	13.64
24F435	8A (Amplifier)	.....	.....	115/230	DPDT	5.	73.15	69.45	65.79	58.48
24F436	8A3 (Amplifier)	.....	.....	115/230	DPDT	10..	98.05	93.15	88.23	78.44
24F3041	AT373-1(Housing)	.....	.....	.....	.....	.....	19.25	18.29	17.33	15.40

SERIES 301—1, 2 and 4 POLE



301T1



301R1, 2, 4

AD32-1

Opto-isolators feature solid state construction, 10 Ohm min. isolation between output and input circuits. Signal applied to the input is coupled by means of light to one, two or four mutually isolated photoconductive cells. Suitable for AC/DC input/output. Cell has 300mW dissipation capability. Visual on/off state indication in plug-in models. High reliability switching functions include logic circuits, data sampling, audio switching and data processing. Other applications: noiseless audio level control, tremolo circuits, RC oscillator tuning. Temp.: −40°C to +50°C.

Stock No.	Type No. after "R" ind. no. of poles.	Input Characteristics Lamp Voltage	Input Characteristics Lamp Current (milliamperes)	Output Characteristics—Photocell (at 25°C) On Resistance, R_L (ohms, max.)	Off Resistance, R_D (megohms, min.)	Voltage Rating (DC or AC peak)	Power Dissipation, Each Cell (mw)	1-49	50-74	75-99	100-249
24F1588	301R1-6	6	40	400	10	250	500	3.15	2.99	2.84	2.52
24F1589	301R1-12	12	19	500	10	250	500	3.15	2.99	2.84	2.52
24F1590	301R1-24	24	40	200	10	250	175	3.15	2.99	2.84	2.52
24F1591	301R1-150	150	2	500	10	250	500	3.15	2.99	2.84	2.52
24F1592	301R2-6	6	40	400	10	250	400	4.90	4.66	4.41	3.92
24F1593	301R2-12	12	19	500	10	250	400	4.90	4.66	4.41	3.92
24F1594	301R2-24	24	40	200	10	250	175	4.90	4.66	4.41	3.92
24F1595	301R2-150	150	2	500	10	250	400	4.90	4.66	4.41	3.92
24F1596	301R4-6	6	80	650	10	250	175	6.90	6.56	6.21	5.52
24F1597	301R4-12	12	38	1000	10	250	175	6.90	6.56	6.21	5.52
24F1598	301R4-24	24	40	500	10	250	75	6.90	6.56	6.21	5.52
24F3042	301T1-2A1	2	40	2000	10	250	200	2.80	2.47	2.34	2.08
24F3043	301T1-2A2	2	40	800	10	100	200	2.60	2.47	2.34	2.08
24F3044	301T1-2B1	2	25	1000	10	250	400	3.60	3.42	3.24	2.88
45F344	301T1-6B1	6	50	400	10	250	400	1.00	.95	.90	.80
45F345	301T1-12B1	12	24	400	10	250	400	1.00	.95	.90	.80
24F3045	301T1-120A1	120	1.3	1200	10	250	400	1.00	.95	.90	.80
45F346	301T1-150A1	150	2	500	10	250	400	1.00	.95	.90	.80
24F3046	301T2-6B1	6	50	1000	20	250	200	1.50	1.43	1.35	1.20
24F3047	301T2-12B1	12	24	1000	20	250	200	1.50	1.43	1.35	1.20
24F3048	301T2-120A1	120	1.3	3000	20	250	200	1.50	1.43	1.35	1.20
24F3049	301T2-150A1	150	2	1200	20	250	200	1.50	1.43	1.35	1.20
24F1599	AD32-1	Socket for solder Term. mounting						.80	.76	.72	.64
45F347	AD58-1	PC Board Socket						.80	.76	.72	.64

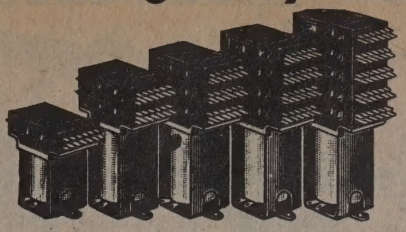
Multipole, Hi-Density Switching Relays

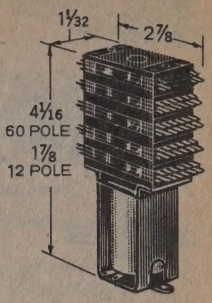
T-BAR INCORPORATED

GENERAL PURPOSE LO-LEVEL LATCHING RELAYS

- **Stack-up Contact Wafers Switch From 12 to 60 Circuits**
- **Easily-Wired Snap-on Crimp Terminals Fit Into 6-pole Connectors**

Solenoid actuated relays with unique design employing stacked-up enclosed contact wafers for up to 60-pole switching. Ideal for aircraft, telemetry, communications, computers. Latching series has ability to maintain circuit stability. Ideal where power drain strains circuit power or generates undesirable heat. Terminals mate with T-Bar Connectors. Contact assemblies in dust-tight plastic enclosures 1½" wide by 2⅜" long; height is 1³⁄₃₂" per 12 pole wafer.





Type	Application	No. of Poles	Contact Forms	Latching/Non-Latching	Coil Voltage
801	Gen. Purpose	4 to 60	"A" or "C"	Non-Latching	12, 24, 48, 110 VDC
		60 pole unit			115 VAC
901	Low-Level	"A" form only			
805	Gen. Purpose	12 to 24	"C"	Latching	24 VDC
905	Low-Level	12 to 24	"C"	Latching	24, 28 VDC
907	Low-Level	36 to 98	"C"	Latching	24, 28 VDC

- **Easily Mounted Only 2 Screws**
- **Mount In Any Position**

Series 800—30,000,000 mechanical (latching limited to 1,000,000) 20,000,000 @ 100 mw 100,000 @ 5 amps 28 VDC.

Series 900—30,000,000 mechanical 20,000,000 @ 100 mw 100,000 @ 1 amp at 28 VDC.

Contacts: Series 800—general purpose gold plated. Series 900—low-level bifurcated gold plated.

Contact Rating: Series 800—5 amps max. resistive to 150 watts. Series 900—1 amp max. resistive to 50 watts.

Contact Resistance: 20 milliohms typical
Ambient Temperatures: −55° to plus 85°C
Terminals: Mate with T-Bar Connectors
Dielectric Strength: 1000 VRMS @ 60 cycles/sec.
Insulation Resistance: 5000 megohms min.

TYPE 801 DC RELAYS

Stk. No.	Type	Action	Coil DCV	1-24	25-49	50-74	75-99
59F700	801-4C24	4PDT	24	11.00	10.52	10.06	9.65
59F701	801-8C24	8PDT	24	15.18	14.49	13.83	13.24
59F764	801-12A12	12PST	12	17.76	16.94	16.15	15.46
59F765	801-12A24	12PST	24	16.26	15.52	14.81	14.18
59F766	801-12A28	12PST	28	16.26	15.52	14.81	14.18
59F767	801-12A48	12PST	48	17.76	16.94	16.15	15.46
59F768	801-12A110	12PST	110	16.26	15.52	14.81	14.18
59F702	801-12C12	12PDT	12	18.94	18.06	17.22	16.47
59F703	801-12C24	12PDT	24	17.34	16.54	15.77	15.09
59F750	801-12C28	12PDT	28	17.34	16.54	15.77	15.09
59F704	801-12C48	12PDT	48	18.94	18.06	17.22	16.47
59F705	801-12C110	12PDT	110	17.34	16.54	15.77	15.09
59F769	801-24A12	24PST	12	30.26	28.88	27.56	26.40
59F770	801-24A24	24PST	24	27.74	26.48	25.29	24.22
59F771	801-24A28	24PST	28	27.74	26.48	25.29	24.22
59F772	801-24A48	24PST	48	30.26	28.88	27.56	26.40
59F773	801-24A110	24PST	110	27.74	26.48	25.29	24.22
59F751	801-24C12	24PDT	12	34.34	32.75	31.25	29.89
59F712	801-24C24	24PDT	24	31.44	30.00	28.62	27.41
59F752	801-24C28	24PDT	28	31.44	30.00	28.62	27.41

Stk. No.	Type	Action	Coil DCV	1-24	25-49	50-74	75-99
59F713	801-24C48	24PDT	48	34.34	32.75	31.25	29.89
59F714	801-24C110	24PDT	110	31.44	30.00	28.62	27.41
59F774	801-36A12	36PST	12	40.61	38.78	37.03	35.48
59F775	801-36A24	36PST	24	37.28	35.61	34.02	32.61
59F776	801-36A28	36PST	28	37.28	35.61	34.02	32.61
59F777	801-36A48	36PST	48	40.61	38.78	37.03	35.48
59F778	801-36A110	36PST	110	37.28	35.61	34.02	32.61
59F753	801-36C12	36PDT	12	46.65	44.52	42.48	40.67
59F721	801-36C24	36PDT	24	42.77	40.82	38.98	37.33
59F754	801-36C28	36PDT	28	42.77	40.82	38.98	37.33
59F722	801-36C48	36PDT	48	46.65	44.52	42.48	40.67
59F723	801-36C110	36PDT	110	42.77	40.82	38.98	37.33
59F779	801-48A12	48PST	12	46.80	44.72	42.75	40.98
59F780	801-48A24	48PST	24	46.80	44.72	42.75	40.98
59F781	801-48A28	48PST	28	46.80	44.72	42.75	40.98
59F775	801-48C12	48PDT	12	59.10	56.42	53.85	51.57
59F756	801-48C24	48PDT	24	59.10	56.42	53.85	51.57
59F757	801-48C28	48PDT	28	59.10	56.42	53.85	51.57
59F758	801-48C48	48PDT	48	59.10	56.42	53.85	51.57
59F759	801-48C110	48PDT	110	59.10	56.42	53.85	51.57

TYPE 901 DC RELAYS

59F1665	901-12C12	12PDT	12	18.94	18.06	17.22	16.47
59F1666	901-12C24	12PDT	24	17.34	16.54	15.77	15.09
59F1668	901-24C12	24PDT	12	34.34	32.75	31.25	29.89
59F1669	901-24C24	24PDT	24	31.44	30.00	28.62	27.41
59F1670	901-24C110	24PDT	110	31.44	30.00	28.62	27.41
59F1671	901-36C24	36PDT	24	42.77	40.82	38.98	37.33
59F1672	901-36C110	36PDT	110	42.77	40.82	38.98	37.33

TYPE 907 DC RELAYS

59F1678	907-36C24	36PDT	24	64.29	61.28	58.41	55.68
59F1679	907-36C28	36PDT	28	64.29	61.28	58.41	55.68
59F1680	907-48C28	48PDT	28	76.74	73.17	69.77	66.55
59F1681	907-48C24	48PDT	24	76.74	73.17	69.77	66.55

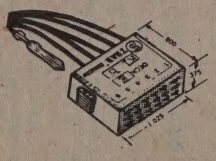
TYPE 801 & 901 115 VAC RELAYS

Stk. No.	Type	Action	1-24	25-49	50-74	75-99
59F789	801-4C115	4PDT	16.37	15.61	14.90	14.26
59F790	801-8C115	8PDT	19.44	18.53	17.67	16.89
59F791	801-12A115	12PST(NO)	20.41	19.46	18.55	17.73
59F792	801-12C115	12PDT	21.39	20.38	19.44	18.57
59F793	801-24A115	24PST(NO)	32.19	30.71	29.32	28.06
59F794	801-24C115	24PDT	35.89	34.23	32.64	31.24

Stk. No.	Type	Action	1-24	25-49	50-74	75-99
59F795	801-36A115	37PST(NO)	45.07	43.01	41.06	39.30
59F796	801-36C115	36PDT	47.19	45.06	43.00	41.16
59F798	801-48C115	48PDT	63.56	60.64	57.87	55.40
59F799	801-60A115	60PST(NO)	69.01	65.89	62.92	60.26
59F1667	901-12C115	12PST(NO)	21.39	20.38	19.44	18.57
59F1673	901-36C115	36PST(NO)	47.19	45.06	43.00	41.16

T-BAR CONNECTOR

Model 88601. T-Bar Connector. For connecting wires to T-Bar switches or terminals. Nylon terminal block pushes onto wafer terminals. Wires are first crimped to snap-in terminal using the crimping tool below. Accommodates #18 to 26 stranded wire with max. insulation diameter of .074". Each connector handles 6 poles, single or double throw (18 terminals) consists of 1 connector-block, 20 crimp contacts, 2 labels and 1 retaining clip. (see index).
59F741. 1-99. NET.....1.35
100-499. Each.....1.25



CRIMPING TOOLS

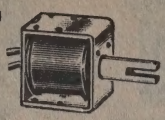
Model 8601-51 Crimping Tool. For use with T-Bar connector. Crimps wire and insulation to snap-in terminals.
59F742. NET.....59.75

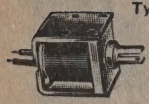
Model 8601-61. Extraction Tool. Removes snap-in terminal from connector block.
59F743. NET.....9.00

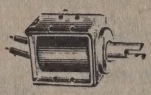
Model 8601-71. Connector Tong. For pushing on or withdrawing connectors from wafer terminals.
59 F 739. NET.....1.00

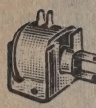
Guardian Solenoids

Type 1A1


Type 2 and 4


2HD AC-DC


4HD-DC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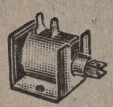
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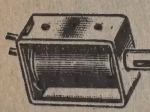
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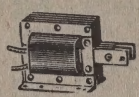
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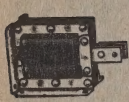
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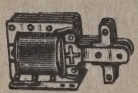
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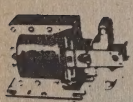
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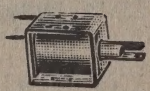
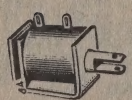

Type 4 AC-DC

Type 22

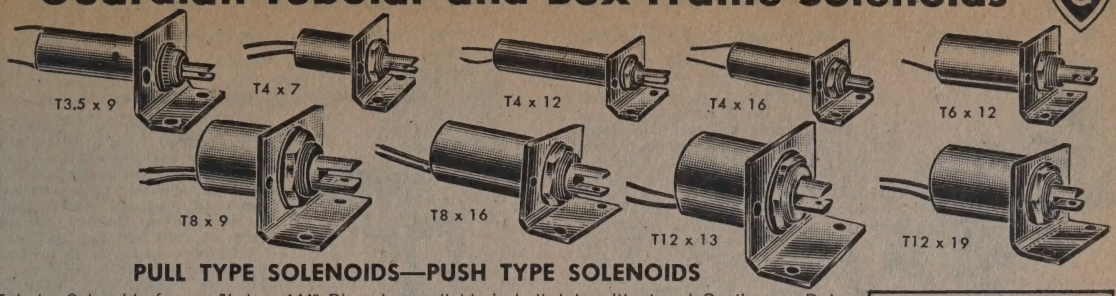

Type 24

Type 28

Type 34AC-DC

Stock No.	Type	Volts	Duty	Ohms	Lifts and Strokes Oz. at In. (Min.)	(Max.)	Body, Inches H. x L. x W.			1-24	25-49	50-99	100-249
24F870	1A1	120AC	Inter	300	8 @1/8"	2 @1/2"	1 1/16	1 5/32	1 1/16	3.71	3.34	3.15	2.60
24F871	1A1	120AC	Cont.	675	3 @1/8"	0.5@3/8"	1 1/16	1 5/32	1 1/16	3.71	3.34	3.15	2.60
24F078	2	120 AC	Inter.	60	33 @1/8"	9 @7/8"	1 5/8	1 5/8	1 7/16	5.20	4.68	4.42	3.64
24F079	2	120 AC	Cont.	166	10.5@1/8"	3 @7/8"	1 5/8	1 5/8	1 7/16	5.36	4.82	4.56	3.75
62F1897	2HD	120 AC	Inter.	36	38 @1/8"	16 @3/4"	1 11/16	1 13/16	1 7/16	10.01	9.01	8.51	7.01
62F1898	2HD	120 AC	Cont.	113	17 @1/8"	4 @3/4"	1 11/16	1 13/16	1 7/16	10.01	9.01	8.51	7.01
62F1899	2HD	24 DC	Inter.	20	100 @1/8"	5 @3/4"	1 11/16	1 13/16	1 7/16	10.31	9.28	8.76	7.22
62F1900	2HD	24 DC	Cont.	64	50 @1/8"	1 @3/8"	1 11/16	1 13/16	1 7/16	10.31	9.28	8.76	7.22
24F872	4	120 AC	Inter.	37	24 @1/8"	22 @1"	1 5/8	2 1/16	1 7/16	5.70	5.13	4.85	3.99
24F873	4	120 AC	Cont.	133	8 @1/8"	6 @1"	1 5/8	2 1/16	1 7/16	5.70	5.13	4.85	3.99
24F885	4	24 DC	Inter.	15	110 @1/8"	4 @1"	1 5/8	2 1/16	1 7/16	5.70	5.13	4.85	3.99
24F886	4	24 DC	Cont.	54	55 @1/8"	2.5@7/8"	1 5/8	2 1/16	1 7/16	5.70	5.13	4.85	3.99
24F887	4	115 DC	Inter.	346	90 @1/8"	4 @1"	1 5/8	2 1/16	1 7/16	5.90	5.31	5.02	4.13
24F888	4	115 DC	Cont.	1300	55 @1/8"	2.5@7/8"	1 5/8	2 1/16	1 7/16	5.90	5.31	5.02	4.13
62F1901	4HD	24 DC	Inter.	15	156 @1/8"	21 @3/4"	1 5/8	2 3/16	1 7/16	7.40	6.66	6.29	5.18
62F1902	4HD	24 DC	Cont.	50	70 @1/8"	4 @3/4"	1 5/8	2 3/16	1 7/16	7.40	6.66	6.29	5.18
62F1903	4HD	115 DC	Inter.	350	156 @1/8"	21 @3/4"	1 5/8	2 3/16	1 7/16	7.40	6.66	6.29	5.18
62F1904	4HD	115 DC	Cont.	1200	70 @1/8"	4 @3/4"	1 5/8	2 3/16	1 7/16	7.40	6.66	6.29	5.18
62F5600	9	120 AC	Inter.	220	17 @1/8"	8 @1/2"	1.00	1 5/32	1 1/16	3.20	2.88	2.72	2.24
67F5601	9	120 AC	Cont.	350	11 @1/8"	4 @1/2"	1.00	1 5/32	1 1/16	3.20	2.88	2.72	2.24
67F5602	9	24 DC	Inter.	52	16 @1/8"	1 @1/2"	1.00	1 5/32	1 1/16	3.00	2.70	2.55	2.10
67F5603	9	24 DC	Cont.	90	10 @1/8"	1 @7/16"	1.00	1 5/32	1 1/16	3.00	2.70	2.55	2.10
67F5604	10	120 AC	Inter.	74	40 @1/8"	25 @1/2"	1 13/32	1 1/16	1 3/8	3.40	3.06	2.89	2.38
67F5605	10	120 AC	Cont.	172	20 @1/8"	10 @1/2"	1 13/32	1 1/16	1 3/8	3.40	3.06	2.89	2.38
67F5606	10	24 DC	Inter.	37	26 @1/8"	4 @1/2"	1 13/32	1 1/16	1 3/8	3.20	2.88	2.72	2.24
67F5607	10	24 DC	Cont.	69	16 @1/8"	1 @1/2"	1 13/32	1 1/16	1 3/8	3.20	2.88	2.72	2.24
24F890	11	24 AC	Inter.	3.5	25 @1/8"	6 @1"	1 3/16	1 7/8	1 5/16	3.64	3.28	3.09	2.55
24F080	11	24AC	Cont.	8	12 @1/8"	1 @1"	1 3/16	1 7/8	1 5/16	3.64	3.28	3.09	2.55
24F081	11	120 AC	Inter.	85	25 @1/8"	6 @1"	1 3/16	1 7/8	1 5/16	3.64	3.28	3.09	2.55
24F082	11	120 AC	Cont.	200	12 @1/8"	1 @1"	1 3/16	1 7/8	1 5/16	3.64	3.28	3.09	2.55
24F889	11	6 DC	Inter.	2	40 @1/8"	2 @3/4"	1 3/16	1 7/8	1 5/16	3.64	3.28	3.09	2.55
24F083	11	6 DC	Cont.	4.5	25 @1/8"	1 @3/4"	1 3/16	1 7/8	1 5/16	3.64	3.28	3.09	2.55
24F891	11	24 DC	Inter.	31	40 @1/8"	2 @3/4"	1 3/16	1 7/8	1 5/16	3.64	3.28	3.09	2.55
24F084	11	24 DC	Cont.	72	25 @1/8"	1 @3/4"	1 3/16	1 7/8	1 5/16	3.64	3.28	3.09	2.55
24F3442	11P	24 AC	Inter.	3.5	20 @1/8"	4.8@1"	1 3/16	1 7/8	1 7/16	4.17	3.75	3.54	2.92
24F3453	11P	24 AC	Cont.	8	9.6@1/8"	0.8@1"	1 3/16	1 7/8	1 5/16	4.17	3.75	3.54	2.92
24F3443	11P	120 AC	Inter.	85	20 @1/8"	4.8@1"	1 3/16	1 7/8	1 5/16	4.17	3.75	3.54	2.92
24F3454	11P	120 AC	Cont.	200	9.6@1/8"	0.8@1"	1 3/16	1 7/8	1 7/16	4.17	3.75	3.54	2.92
24F3444	11P	6 DC	Inter.	2	32 @1/8"	1.6@3/4"	1 3/16	1 7/8	1 5/16	4.17	3.75	3.54	2.92
24F3445	11P	6 DC	Cont.	4.5	20 @1/8"	0.8@3/4"	1 3/16	1 7/8	1 5/16	4.17	3.75	3.54	2.92
24F3445	11P	24DC	Inter.	31	32 @1/8"	1.6@3/4"	1 3/16	1 7/8	1 5/16	4.17	3.75	3.54	2.92
24F3456	11P	24DC	Cont.	72	20 @1/8"	0.8@3/4"	1 3/16	1 7/8	1 5/16	4.17	3.75	3.54	2.92
24F086	12	120AC	Inter.	100	32 @1/8"	4 @1"	1 7/16	1 5/8	1 1/4	5.16	4.64	4.39	3.61
24F087	12	120AC	Cont.	150	22 @1/8"	3 @7/8"	1 7/16	1 5/8	1 1/4	5.16	4.64	4.39	3.61
24F874	14	120AC	Inter.	11	110 @1/8"	52 @1 1/2"	2 1/16	2 7/16	1 13/16	6.97	6.27	5.92	4.88
24F875	14	120 AC	Cont.	18	65 @1/8"	37 @1 1/16"	2 1/16	2 7/16	1 13/16	6.97	6.27	5.92	4.88
24F090	16	120 AC	Inter.	41	90 @1/8"	30 @3/4"	1 1/2	1 5/8	1 1/4	4.25	3.83	3.61	2.98
24F876	16	120 AC	Cont.	85	50 @1/8"	10 @3/4"	1 1/2	1 5/8	1 1/4	4.25	3.83	3.61	2.98
24F892	16	240 AC	Inter.	200	90 @1/8"	30 @3/4"	1 1/2	1 5/8	1 1/4	4.55	4.10	3.87	3.19
24F893	16	240 AC	Cont.	350	50 @1/8"	10 @3/4"	1 1/2	1 5/8	1 1/4	4.55	4.10	3.87	3.19
24F3446	16P	120AC	Inter.	41	90 @1/8"	30 @3/4"	1 1/2	1 5/8	1 1/4	4.78	4.30	4.06	3.35
24F3457	16P	120AC	Cont.	85	50 @1/8"	10 @3/4"	1 1/2	1 5/8	1 1/4	4.78	4.30	4.06	3.35
24F092	18	120AC	Inter.	8.8	280 @1/8"	80 @1"	2 3/32	2 1/2	1 13/16	5.76	5.18	4.90	4.03
24F093	18	120AC	Cont.	19.7	145 @1/8"	40 @1"	2 3/32	2 1/2	1 13/16	5.76	5.18	4.90	4.03
24F894	18	240AC	Inter.	45	280 @1/8"	80 @1"	2 3/32	2 1/2	1 13/16	6.28	5.65	5.34	4.40
24F895	18	240AC	Cont.	78	145 @1/8"	40 @1"	2 3/32	2 1/2	1 13/16	6.28	5.65	5.34	4.40
24F3447	18P	120AC	Inter.	8.8	280 @1/8"	80 @1"	2 3/16	2 1/2	1 13/16	6.29	5.66	5.35	4.40
24F3458	18P	120AC	Cont.	19.7	145 @1/8"	40 @1"	2 3/16	2 1/2	1 13/16	6.29	5.66	5.35	4.40
24F756	22	6 DC	Inter.	4	24 @1/16"	1 @3/8"	3/4	1 5/32	3/4	3.39	3.05	2.88	2.37
24F757	22	6 DC	Cont.	9	13 @1/16"	0.5@1/4"	3/4	1 5/32	3/4	3.39	3.05	2.88	2.37
24F758	22	24 DC	Inter.	60	24 @1/16"	1 @7/16"	3/4	1 5/32	3/4	3.39	3.05	2.88	2.37
24F759	22	24 DC	Cont.	144	13 @1/16"	0.5@3/8"	3/4	1 5/32	3/4	3.39	3.05	2.88	2.37
24F754	24	120 AC	Inter.	310	16 @1/16"	3 @5/8"	1	1 1/4	27/32	3.94	3.55	3.35	2.76
24F755	24	120 AC	Cont.	500	10.5@1/16"	2 @5/8"	1	1 1/4	27/32	3.94	3.55	3.35	2.76
24F176	28	24AC	Inter.	7.5	35 @1/16"	5 @1/2"	1 3/16	1 1/8	1 5/16	3.64	3.28	3.09	2.55
24F177	28	24AC	Cont.	17.4	20 @1/16"	2.5@1/2"	1 3/16	1 1/8	1 5/16	3.64	3.28	3.09	2.55
24F178	28	120AC	Inter.	220	35 @1/16"	5 @1/2"	1 3/16	1 1/8	1 5/16	3.94	3.55	3.35	2.76
24F179	28	120AC	Cont.	400	20 @1/16"	2.5@1/2"	1 3/16	1 1/8	1 5/16	3.94	3.55	3.35	2.76
24F218	28	6 DC	Inter.	3.3	35 @1/16"	2 @1/2"	1 3/16	1 1/8	1 5/16	3.39	3.05	2.88	2.37
24F219	28	6 DC	Cont.	7.7	24 @1/16"	1 @3/8"	1 3/16	1 1/8	1 5/16	3.39	3.05	2.88	2.37
24F220	28	12 DC	Inter.	13	35 @1/16"	2 @1/2"	1 3/16	1 1/8	1 5/16	3.39	3.05	2.88	2.37
24F221	28	12 DC	Cont.	27	24 @1/16"	1 @3/8"	1 3/16	1 1/8	1 5/16	3.39	3.05	2.88	2.37
24F222	28	24 DC	Inter.	50	35 @1/16"	2 @1/2"	1 3/16	1 1/8	1 5/16	3.39	3.05	2.88	2.37
24F223	28	24 DC	Cont.	104	24 @1/16"	1 @3/8"	1 3/16	1 1/8	1 5/16	3.39	3.05	2.88	2.37
24F3448	28P	24AC	Inter.	7.5	28 @1/16"	4 @1/2"	1 3/16	1 1/8	1 5/16	4.17	3.75	3.54	2.92
24F3459	28P	24 AC	Cont.	17.4	16 @1/16"	2 @1/2"	1 3/16	1 1/8	1 5/16	4.17	3.75	3.54	2.92
24F3449	28P	120 AC	Inter.	220	28 @1/16"	4 @1/2"	1 3/16	1 1/8	1 5/16	4.46	4.01	3.79	3.12
24F3460	28P	120 AC	Cont.	400	16 @1/16"	2 @1/2"	1 3/16	1 1/8	1 5/16	4.46	4.01	3.79	3.12
24F3450	28P	6 DC	Inter.	3.3	28 @1/16"	1.6@1/2"	1 3/16	1 1/8	1 5/16	3.92	3.53	3.33	2.74
24F3461	28P	6 DC	Cont.	7.7	19 @1/16"	0.8@3/8"	1 3/16	1 1/8	1 5/16	3.92	3.53	3.33	2.74
24F3451	28P	12DC	Inter.	13	28 @1/16"	1.6@1/2"	1 3/16	1 1/8	1 5/16	3.92	3.53	3.33	2.74
24F3462	28P	12DC	Cont.	27	19 @1/16"	0.8@3/8"	1 3/16	1 1/8	1 5/16	3.92	3.53	3.33	2.74
24F3452	28P	24DC	Inter.	50	28 @1/16"	1.6@1/2"	1 3/16	1 1/8	1 5/16	3.92	3.53	3.33	2.74
24F3463	28P	24DC	Cont.	104	19 @1/16"	0.8@3/8"	1 3/16	1 1/8	1 5/16	3.92	3.53	3.33	2.74
62F1905	34	120AC	Inter.	400	15 @1/16"	1 @1/2"	1 5/64	1 1/8	3/4	2.11	1.90	1.79	1.48
62F1906	34	120 AC	Cont.	865	7 @1/16"	0.5@1/2"	1 5/64	1 1/8	3/4	2.11	1.90	1.79	1.48
62F1909	34	24 DC	Inter.	66	17 @1/16"	1 @7/16"	1 5/64	1 1/8	3/4	2.11	1.90	1.79	1.48
62F1910	34	24 DC	Cont.	145	8.5@1/16"	0.5@1/4"	1 5/64	1 1/8	3/4	2.11	1.90	1.79	1.48

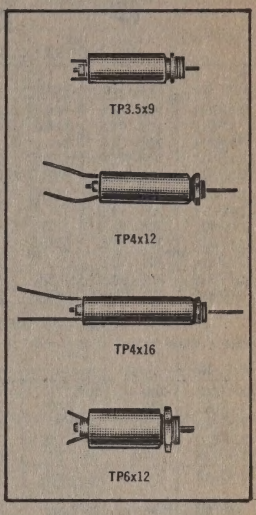
Guardian Tubular and Box Frame Solenoids



PULL TYPE SOLENOIDS—PUSH TYPE SOLENOIDS

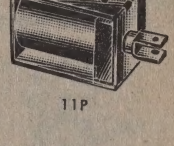
Tubular Solenoids from a 7/16 to a 1 1/2" Diameter available in both Intermittent and Continuous Duty 24VDC. Clear design allows side by side mounting, permitting easy installation. Just insert threaded bushing through chassis hole and tighten furnished nut. Computers, Aircraft and Missiles, Office Equipment and Copy Machines are some of the typical applications for these products. Intermittent Types cannot be energized for more than 1 minute or be permitted to rise more than 85°C above 25°C ambient, without giving sufficient time to cool between operations. Continuous Duty Types are designed so that they will not rise more than 85°C above the 25°C ambient temperature when operated at rated load. Life expectancy at rated load is 10 million cycles.

The T3.5, T4 (in two lengths) and the T6 have been fitted with non-magnetic metal push rods which push out from the threaded mounting end of the solenoid and are designated as TP3.5, TP4, and TP6. In tubular solenoid construction the push types are equal in "lift" to pull type. For all push type tubular solenoids in the table below the lengths of the push rods are the same as the maximum stroke lengths specified. Hex nuts as well as "L" shaped brackets for either panel or surface mounting are furnished.



TUBULAR 24 VDC (*) Denotes Push type solenoids

Stk. No.	Type	Duty	Lifts and Strokes Minimum	Lifts and Strokes Maximum	Size, Inches LxDia.	Ohms	Watts	1-24	25-49	50-99
24F2971	T3.5x9	Inter.	11 oz. at 1/32"	1 oz. at 1/2"	1 1/8 x 7/16	57	10	3.86	3.47	3.28
24F2980	T3.5x9	Cont.	4.5 oz. at 1/32"	.25 at 5/16"	1 1/8 x 7/16	260	2	3.96	3.56	3.37
67F5608	T3.5x9 (12V)	Inter.	11 oz. at 1/32"	1 oz. at 1/2"	1 1/8 x 7/16	14	10	3.86	3.47	3.28
67F5609	T3.5x9 (12V)	Cont.	4 oz. at 1/32"	.25 oz. at 5/16"	1 1/8 x 7/16	80	2	3.96	3.56	3.37
24F3434	TP3.5x9*	Inter.	9 oz. at 1/32"	0.5 oz. at 1/2"	1 1/8 x 7/16	57	10	4.58	4.12	3.89
24F3438	TP3.5x9*	Cont.	3.5 oz. at 1/32"	.25 oz. at 1/4"	1 1/8 x 7/16	260	2	4.68	4.21	3.98
24F2972	T4x7	Inter.	10 at 1/32"	1 oz. at 1/4"	7/8 x 1/2	80	7	4.41	3.97	3.75
24F2981	T4x7	Cont.	4 at 1/32"	.25 at 5/32"	7/8 x 1/2	240	2.4	4.52	4.07	3.84
67F5610	TP4x7*	Inter.	5 oz. at 1/16"	.75 oz. at 1/4"	7/8 x 1 3/16	80	7	5.11	4.60	4.34
67F5611	TP4x7*	Cont.	1.5 oz. at 1/16"	.25 oz. at 1/8"	7/8 x 1 3/16	240	2.4	5.22	4.70	4.44
24F2973	T4x12	Inter.	15 at 1/32"	1 oz. at 3/4"	1 1/2 x 1/2	38	15	4.73	4.26	4.02
24F2982	T4x12	Cont.	8 oz. at 1/32"	1 oz. at 5/16"	1 1/2 x 1/2	160	3.5	4.83	4.35	4.11
24F3435	TP4x12*	Inter.	12 oz. at 1/32"	0.5 oz. at 5/8"	1 1/2 x 1/2	38	15	5.45	4.91	4.63
24F3439	TP4x12*	Cont.	6 oz. at 1/32"	0.5 oz. at 5/16"	1 1/2 x 1/2	160	3.5	5.56	5.00	4.73
24F2974	T4x16	Inter.	17 at 1/32"	2 at 1 1/8"	2 x 1/2	24	20	5.04	4.54	4.28
24F2983	T4x16	Cont.	10 at 1/32"	.5 at 1/8"	2 x 1/2	145	4	5.15	4.64	4.38
67F5612	T4x16 (12V)	Inter.	17 oz. at 1/32"	2 oz. at 1 1/8"	2 x 1 3/16	6	20	5.04	4.54	4.28
67F5613	T4x16 (12V)	Cont.	10 oz. at 1/32"	0.5 oz. at 1/8"	2 x 1 3/16	36	4	5.15	4.64	4.38
24F3436	TP4x16*	Inter.	14 oz. at 1/32"	0.5 oz. at 1 1/8"	2 x 1/2	24	20	5.77	5.19	4.90
24F3440	TP4x16*	Cont.	8 oz. at 1/32"	.05 oz. at 1/4"	2 x 1/2	145	4	5.87	5.28	4.99
24F2975	T6x12	Inter.	30 at 1/16"	2 oz. at 1/8"	1 1/2 x 3/4	25	22	5.25	4.73	4.46
24F2984	T6x12	Cont.	16 at 1/16"	1.5 at 1/2"	1 1/2 x 3/4	165	3.5	5.36	4.82	4.56
67F5614	T6x12 (12V)	Inter.	30 oz. at 1/16"	2 oz. at 1/8"	1 1/2 x 1 1/16	6.5	22	5.25	4.73	4.46
67F5615	T6x12 (12V)	Cont.	16 oz. at 1/16"	1 oz. at 1/2"	1 1/2 x 1 1/16	41	3.5	5.36	4.82	4.56
24F3437	TP6x12*	Inter.	25 oz. at 1/16"	1 1/2 oz. at 1/8"	1 1/2 x 3/4	25	22	5.98	5.38	5.08
24F3441	TP6x12*	Cont.	13 oz. at 1/16"	1 oz. at 1/2"	1 1/2 x 3/4	165	3.5	6.08	5.47	5.17
24F2976	T8x9	Inter.	50 at 1/16"	1 at 9/16"	1 1/4 x 1	30	19	5.41	4.87	4.60
24F2985	T8x9	Cont.	13 at 1/16"	1 at 3/8"	1 1/4 x 1	145	4	5.46	4.91	4.64
67F5616	TP8x9*	Inter.	40 oz. at 1/16"	1 oz. at 9/16"	1 1/4 x 1	30	19	6.11	5.50	5.19
67F5617	TP8x9*	Cont.	11 oz. at 1/16"	1 oz. at 3/8"	1 1/4 x 1	145	4	6.16	5.54	5.24
24F2977	T8x16	Inter.	80 at 1/16"	2 at 1 1/4"	2 x 1	15	38	5.67	5.10	4.82
24F2986	T8x16	Cont.	32 at 5/8"	2 at 5/8"	2 x 1	105	5.5	5.78	5.20	4.91
67F5618	T8x16 (12V)	Inter.	80 oz. at 1/16"	2 oz. at 1 1/4"	2 x 1 1/2	2.7	38	5.67	5.10	4.82
67F5619	T8x16 (12V)	Cont.	32 oz. at 1/16"	2 oz. at 5/8"	2 x 1 1/2	26	5.5	5.78	5.20	4.91
24F2978	T12x13	Inter.	150 at 1/8"	8 at 1/8"	1 5/8 x 1 1/2	14	40	6.83	6.15	5.81
24F2987	T12x13	Cont.	48 at 1/8"	1 at 3/4"	1 5/8 x 1 1/2	85	6.6	7.04	6.34	5.98
67F5620	TP12x13*	Inter.	120 oz. at 1/8"	6.5 oz. at 1/8"	1 5/8 x 1 1/2	14	40	7.55	6.80	6.42
67F5621	TP12x13*	Cont.	48 oz. at 1/8"	1 oz. at 3/4"	1 5/8 x 1 1/2	85	7	7.67	6.90	6.52
24F2979	T12x19	Inter.	165 at 1/8"	6 at 1 1/2"	2 3/8 x 1 1/2	9.5	60	7.86	7.07	6.68
24F2988	T12x19	Cont.	80 at 1/8"	1 at 1 1/4"	2 3/8 x 1 1/2	59	10	7.96	7.16	6.77
67F5622	TP12x19*	Inter.	130 oz. at 1/8"	5 oz. at 1 1/2"	1 1/2 x 2 3/8	9.5	60	8.56	7.70	7.28
67F5623	TP12x19*	Cont.	65 oz. at 1/8"	1 oz. at 1"	1 1/2 x 2 3/4	59	10	8.66	7.79	7.36

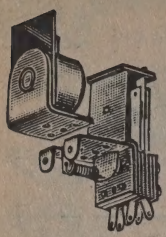


BOX FRAME

Stk. No.	Type	Duty	Volts	Ohms	Stroke Max.	Stroke Min.	Watts	1-24	25-49	50-99
24F3442	11P	Int.	24AC	3.5	20 Oz. at 1/2"	4.8 Oz. at 1"	7.5	4.17	3.75	3.54
24F3443	11P	Int.	120AC	85	20 Oz. at 1/2"	4.8 Oz. at 1"	7.5	4.17	3.75	3.54
24F3444	11P	Int.	6DC	2	32 Oz. at 1/2"	1.6 Oz. at 3/4"	7.5	4.17	3.75	3.54
24F3445	11P	Int.	24DC	31	32 Oz. at 1/2"	1.6 Oz. at 3/4"	7.5	4.17	3.75	3.54
24F3453	11P	Cont.	24AC	8	9.6 Oz. at 1/2"	0.8 Oz. at 1"	7.5	4.17	3.75	3.54
24F3454	11P	Cont.	120AC	200	9.6 Oz. at 1/2"	0.8 Oz. at 1"	7.5	4.17	3.75	3.54
24F3455	11P	Cont.	6DC	4.5	20 Oz. at 1/2"	0.8 Oz. at 3/4"	7.5	4.17	3.75	3.54
24F3456	11P	Cont.	24DC	72	20 Oz. at 1/2"	0.8 Oz. at 3/4"	7.5	4.17	3.75	3.54
24F3446	16P	Int.	120AC	41	90 Oz. at 1/2"	30 Oz. at 3/4"	7.5	4.78	4.30	4.06
24F3457	16P	Cont.	120AC	85	50 Oz. at 1/2"	10 Oz. at 3/4"	7.5	4.78	4.30	4.06
24F3447	18P	Int.	120AC	8.8	280 Oz. at 1/2"	80 Oz. at 1"	16.5	6.29	5.66	5.35
24F3458	18P	Cont.	120AC	19.7	145 Oz. at 1/2"	40 Oz. at 1"	16.5	6.29	5.66	5.35
24F3448	28P	Int.	24AC	7.5	35 Oz. at 1/16"	5 Oz. at 1/2"	3.5	4.17	3.75	3.54
24F3449	28P	Int.	120AC	220	35 Oz. at 1/16"	5 Oz. at 1/2"	3.5	4.46	4.01	3.79
24F3450	28P	Int.	6DC	3.3	35 Oz. at 1/16"	2.6 Oz. at 1/2"	3.5	3.92	3.53	3.33
24F3451	28P	Int.	12DC	13	35 Oz. at 1/16"	2 Oz. at 1/2"	3.5	3.92	3.53	3.33
24F3452	28P	Int.	24DC	50	35 Oz. at 1/16"	2 Oz. at 1/2"	3.5	3.92	3.53	3.33
24F3459	28P	Cont.	24AC	17.4	20 Oz. at 1/16"	2.5 Oz. at 1/2"	3.5	4.17	3.75	3.54
24F3460	28P	Cont.	120AC	400	20 Oz. at 1/16"	2.5 Oz. at 1/2"	3.5	4.46	4.01	3.79
24F3461	28P	Cont.	6DC	7.7	24 Oz. at 1/16"	1 Oz. at 3/8"	3.5	3.92	3.53	3.33
24F3462	28P	Cont.	12DC	27	24 Oz. at 1/16"	1 Oz. at 3/8"	3.5	3.92	3.53	3.33
24F3463	28P	Cont.	24DC	104	24 Oz. at 1/16"	1 Oz. at 3/8"	3.5	3.92	3.53	3.33

Sizes: 11P—1 5/16 x 1 27/32 x 1 3/16, 16P—1 5/8 x 1 1/4 x 1 1/2, 18P—2 1/2 x 1 1/16 x 2 1/16, 28P—1 1/2 x 1 5/16 x 1 3/16

Guardian Open Relays



SERIES "200" RELAYS

With coil assembly (coil and field piece) and contact assembly (switch blades, armature return spring and mounting bracket). Midget contact assembly is interchangeable with Series "200" contact assembly. Contacts: 60 Hz. AC noninduct. Stnd. Size; 2-5/8" x 1-27/32" x 1-1/32". Midget: 1 13/16" x 1-25/32" x 1-3/32" x1-3/32". MTG (all 200 relays): (2) 6-32 mtg. holes. 687" ctr. 4 oz.
(*) Rating 8 amps. (**) Rating 10 amps. (†) Rating 12.5 amps.

UNIVERSAL "200" SERIES RELAYS

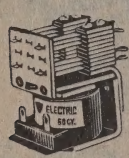
Stk. No.	Type No.	Volts	1-24	25-49	50-99	100-249	250-Up
24F810	200- 6A	6AC	2.12	1.91	1.80	1.48	1.38
24F811	200- 12A	12AC	2.12	1.91	1.80	1.48	1.38
24F812	200- 24A	24AC	2.12	1.91	1.80	1.48	1.38
24F813	200-120A	120AC	2.46	2.21	2.09	1.72	1.60
24F814	200-240A	240AC	3.27	2.94	2.78	2.29	2.13
24F820	200- 6D	6DC	2.29	2.06	1.95	1.60	1.49
24F821	200- 12D	12DC	2.29	2.06	1.95	1.60	1.49
24F822	200- 24D	24DC	2.29	2.06	1.95	1.60	1.49
24F823	200- 32D	32DC	2.29	2.06	1.95	1.60	1.49
24F824	200-110D	110DC	3.04	2.74	2.58	2.13	1.98
24F815	200-5000D	5000Ω	2.63	2.37	2.24	1.84	1.71
24F829	200-10000D	10000Ω	3.04	2.74	2.58	2.13	1.98

CONTACT SWITCH ASSEMBLIES

Stk. No.	Type	Con-tacts	1-24	25-49	50-99	100-249	250-Up
24F800	200-1	SPDT*	1.94	1.75	1.65	1.36	1.26
24F801	200-2	DPDT*	2.54	2.29	2.16	1.78	1.65
24F830	200-3	DPDT	1.93	1.74	1.64	1.35	1.25
24F802	200-4	DPDT†	2.85	2.57	2.42	2.00	1.85
24F805	200-5	4PDT*	4.48	4.03	3.81	3.14	2.91
24F803	200-MI	Midget SPDT**	1.82	1.64	1.55	1.27	1.18
24F804	200-M2	Midget DPDT**	2.24	2.02	1.90	1.57	1.46
24F831	200-M3	DPDT	1.93	1.74	1.64	1.35	1.25
24F806	200-M5	Midget 4PDT*	3.63	3.27	3.09	2.54	2.36

10

GENERAL-PURPOSE ECONOMY 10-AMP RELAY



640 AC Relay
645 DC Relay

Types 640AC and 645DC. Compact, lightweight relay capable of unusually heavy power control for its size. Incorporates many features for longer life and better performance at lower cost. Coil cover is precision-molded nylon to provide improved protection against knocks and abuse. Cover eliminates need for the usual impregnation processing of the coil. 120V, 60Hz, non-inductive loads. U/L Approved. Dimensions: 2-5/32" high x 1-3/32" wide x 1-7/8" long. Silver contacts. *Normally open. Shipping Weight: 4 oz.

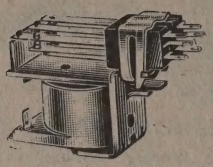
AC VOLTS

Stock No.	Type And Coil Volts	Cont.	1-24	25-49	50-99	100-249	250-499
24F004	640U-A-24A	SPST*	3.32	2.99	2.82	2.32	2.16
24F005	640U-C-24A	SPDT	3.61	3.25	3.07	2.53	2.35
24F006	640U-2C-24A	DPDT	3.89	3.50	3.31	2.72	2.53
24F007	640U-4C-24A	4PDT	5.72	5.15	4.86	4.00	3.72
24F008	640U-A-120A	SPST*	3.32	2.99	2.82	2.32	2.16
24F009	640U-C-120A	SPDT	3.61	3.25	3.07	2.53	2.35
24F010	640U-2C-120A	DPDT	3.89	3.50	3.31	2.72	2.53
24F011	640U-4C-120A	4PDT	5.72	5.15	4.86	4.00	3.72
24F012	640U-2C-240A	DPDT	4.80	4.32	4.08	3.36	3.12

DC VOLTS

24F106	645U-A-12D	SPST*	3.32	2.99	2.82	2.32	2.16
24F107	645U-C-12D	SPDT	3.61	3.25	3.07	2.53	2.35
24F108	645U-2C-12D	DPDT	3.89	3.50	3.31	2.72	2.53
24F109	645U-4C-12D	4PDT	5.72	5.15	4.86	4.00	3.72
24F017	645U-A-24D	SPST*	3.32	2.99	2.82	2.32	2.16
24F018	645U-C-24D	SPDT	3.61	3.25	3.07	2.53	2.35
24F019	645U-2C-24D	DPDT	3.89	3.50	3.31	2.72	2.53
24F020	645U-4C-24D	4PDT	5.72	5.15	4.86	4.00	3.72
24F021	645U-A-110D	SPST*	3.89	3.50	3.31	2.72	2.53
24F022	645U-C-110D	SPDT	4.23	3.81	3.61	2.96	2.75
24F023	645U-2C-110D	DPDT	4.51	4.06	3.83	3.16	2.93
24F024	645U-4C-110D	4PDT	6.01	5.41	5.11	4.21	3.91

900 SERIES DPDT 10 AMP RELAYS



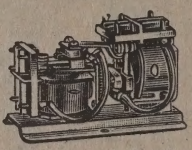
Number of parts and assembly time reduced by 50%. Eliminates cold flow while maintaining accurate adjustments. 1-piece switch mounting clip and return spring. Resistive load 120 VAC. Single screw mounting. Unitary field and core, no gap between core and field piece. Contacts: DPDT can control up to 10 amps. Mechanical life in excess of 1,000,000 operations. Size 2 11/16" x 1 25/32" x 1 5/64"; Shipping Weight: 6 oz.

Stock No.	Type & Coil Volts	1-9	10-24	25-49
62F1875	900-2C-24VAC	2.00	1.90	1.75
62F1876	900-2C-120VAC			
62F1877	900-2C-240VAC			
62F1878	905-2C-6VDC			
62F1879	905-2C-12VDC			
62F1880	905-2C-24VDC			

As above, but with 3/16 quick-disconnect terminals

24F2444	910-2C-24AC	2.00	1.90	1.75
24F2445	910-2C-120AC			
24F2446	910-2C-240AC			
24F2447	915-2C-6DC			
24F2448	915-2C-12DC			
24F2449	915-2C-24DC			

INTERLOCKING RELAY SERIES 1200/1200 120VAC



Metal Frame Bracket
Pulse Operated

Two interlocking AC relays in sturdy metal frame bracket. Used to maintain circuits continuously without coil power consumption. Unit is electrically pulse operated with mechanical hold and electrical release. Contacts 4PDT rated at 10 amps, 60 Hz, moninductive. Size: 1 7/8" x 1 3/4" x 2-7/8". Shipping Weight: 5.5 oz.

Stock No.	Type & Coil Volts	1-24	25-49	50-99	100-249	250-499
24F868	IR-1200/1200-4C-120A	10.82	9.74	9.20	7.57	7.03

10 AMP MEDIUM POWER AC/DC RELAY

Highly efficent realy for communications, remote control switching circuits, automation and laboratory applications. All terminals are solder lug type and molded in phenolic panel block for coils as well as contacts. Barrier in panel block raised to meet U/L in-sulation throughout. Contacts rated 10 amps at 60 cycles, 120 vac, Non-inductive load. Mounting: Single mounting hole, 6-32 tap. Size: 1 45/64 x 1 1/4 x 1 1/32". Shipping Weight: 2.5 oz.

TYPE 1240 -AC VOLTS

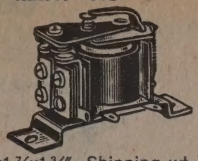
Stk. No.	Type and Coil Volts	Contacts	1-24	25-49	50-99	100-249	250-Up
24F3400	1240-2C-6A	DPDT	4.13	3.72	3.51	2.89	2.68
24F3401	1240-3C-6A	3PDT	4.68	4.21	3.98	3.28	3.04
24F3402	1240-2C-24A	DPDT	4.13	3.72	3.51	2.89	2.68
24F3403	1240-3C-24A	3PDT	4.68	4.21	3.98	3.28	3.04
24F3404	1240-2C-120A	DPDT	4.13	3.72	3.51	2.89	2.68
24F3405	1240-3C-120A	3PDT	4.68	4.21	3.98	3.28	3.04
24F3406	1240-2C-240A	DPDT	4.40	3.96	3.74	3.08	2.86
24F3527	1240-3C-240A	3DPT	4.95	4.46	4.21	3.74	3.22

TYPE 1245-DC VOLTS

Stk. No.	Type and Coil Volts	Contacts	1-24	25-49	50-99	100-249	250-Up
24F3407	1245-2C-6D	DPDT	3.74	3.37	3.18	2.62	2.43
24F3408	1245-3C-6D	3PDT	4.24	3.82	3.60	2.97	2.76
24F3409	1245-2C-12D	DPDT	3.74	3.37	3.18	2.62	2.43
24F3410	1245-3C-12D	3PDT	4.24	3.82	3.60	2.97	2.76
24F3411	1245-2C-24D	DPDT	3.74	3.37	3.18	2.62	2.43
24F3412	1245-3C-24D	3PDT	4.24	3.82	3.60	2.97	2.76
24F2413	1245-2C-110D	DPDT	4.13	3.72	3.51	2.89	2.68
24F3414	1245-3C-110D	3PDT	4.68	4.21	3.98	3.28	3.04

Guardian Heavy Duty and Enclosed Relays

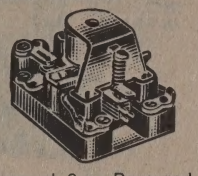
HEAVY DUTY INDUSTRIAL 20 AMP RELAY—AC



Type-220. Rugged relay breaks up to 20 amperes, at 240 volts. Armature is equipped with Phenolic contact mounting block carrying 5/16" dual contacts. Phenolic is tested at 1500 volts breakdown to ground. Contacts are silver alloy. Relay is available in SPST-NO contact combination only. Contact rating at 60 cycles, 20 amps. 240 V non-inductive load. Size: 3x1 3/16x1 3/4". Shipping wt. 5.5 oz.

Stock No.	Type	Volts	1-24	25-49	50-99	100-249	250-Up
24F052	220-A-24A	24	5.15	4.64	4.38	3.61	3.35
24F053	220-A-120A	115	5.78	5.20	4.91	4.05	3.76
24F054	220-A-240A	230	6.35	5.72	5.40	4.45	4.13

SERIES 2600/2620 25-AMP POWER RELAYS



Inverted coil construction protects armature and contacts from mechanical damage or electrical shorting. Series 2600U and 2605U have screw type terminals and are DPDT. Press to test armature lever makes for convenient manual circuit testing. Series 2620U and 2625U are manufactured with the same specs, but are DPST. For mounting there are two .196" dia. holes in base. Size 3 5/16"x2 1/2"x2 1/16". Shpg. wt. 8 oz. Recessed SPDT, auxiliary switch has solder lug blade tails rated for 10 amp. operation. Terminal kit for easy do it yourself conversion.

DPDT

Stock No.	Type	Volts	1-24	25-49	50-99	100-249	250-Up
24F3415	2600U-DPDT-24A	24AC	7.43	6.69	6.32	5.20	4.83
24F3416	2600U-DPDT-120A	120AC	7.43	6.69	6.32	5.20	4.83
24F3417	2600U-DPDT-240A	240AC	7.81	7.03	6.64	5.47	5.08
24F3418	2605U-DPDT-12D	12DC	7.43	6.69	6.32	5.20	4.83
24F3419	2605U-DPDT-24D	24DC	7.43	6.69	6.32	5.20	4.83
24F3420	2605U-DPDT-110D	110DC	7.81	7.03	6.64	5.47	5.08

DPST

24F3421	2620U-DPST-24A	24AC	5.65	5.09	4.80	3.96	3.67
24F3422	2620U-DPST-120A	120AC	5.65	5.09	4.80	3.96	3.67
24F3423	2620U-DPST-240A	240AC	6.15	5.54	5.23	4.31	4.00
24F2990	2625U-DPST-12D	12DC	5.70	5.13	4.85	3.99	3.71
24F3424	2625U-DPST-24D	24DC	5.70	5.13	4.85	3.99	3.71
24F3425	2625U-DPST-110D	110DC	6.15	5.54	5.23	4.31	4.00
24F2426	2600U-SPDT-Aux.-SW	.....	1.55	1.40	1.32	1.09	1.01
24F3427	2600U-QC. Terminal Kit	.....	.77	.69	.65	.54	.50

ENCLOSED PLUG-IN 10 AMP RELAY

Type 1210. Type 1215. Enclosed in a transparent, lightweight Lexan case, resistant to temperatures of 200°F. 8 pin octal plug for DPDT and 11 pin for 3PDT. Contacts rated for 10 amperes and 60 Hz. 120 V. AC non-inductive load. A.C. types. U.L. listed. Size 2 5/16"x1 3/8"x1 3/8". Shpg. wt., 3.5 oz.

TYPE 1210—AC VOLTS

Stock No.	Type	Volts	Cont.	1-24	25-49	50-99	100-249
24F115	1210-2C-6A	6	DPDT	6.60	5.94	5.61	4.62
24F116	1210-3C-6A	6	3 PDT	8.25	7.43	7.01	5.78
24F117	1210-2C-24A	24	DPDT	6.60	5.94	5.61	4.62
24F118	1210-3C-24A	24	3 PDT	8.25	7.43	7.01	5.78
24F119	1210-2C-120A	120	DPDT	6.60	5.94	5.61	4.62
24F120	1210-3C-120A	120	3 PDT	8.25	7.43	7.01	5.78
24F2457	1210-2C-240A	240	DPDT	6.88	6.19	5.85	4.82
24F2458	1210-3C-240A	240	3 PDT	8.53	7.68	7.25	5.97

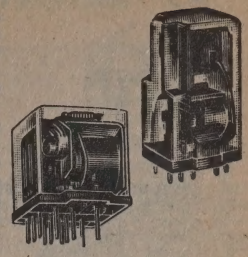
TYPE 1215—DC VOLTS

24F121	1215-2C-6D	6	DPDT	6.60	5.94	5.61	4.62
24F122	1215-3C-6D	6	3 PDT	8.25	7.43	7.01	5.78
24F2459	1215-2C-12D	12	DPDT	6.60	5.94	5.61	4.62
24F2460	1215-3C-12D	12	3 PDT	8.25	7.43	7.01	5.78
24F123	1215-2C-24D	24	DPDT	6.60	5.94	5.61	4.62
24F124	1215-3C-24D	24	3 PDT	8.25	7.43	7.01	5.78
24F2461	1215-2C-110D	110	DPDT	7.15	6.44	6.08	5.01
24F2462	1215-3C-110D	110	3 PDT	8.80	7.92	7.48	6.16

Type 1210N. Neon lamp lights when coil is energized or indicates circuit fault when lamp is "dark". Contacts 10 amp at 120V AC. Wt., 3.5 oz.

Stock No.	Mfg. No.	Coil Res.	Cont.	1-24	25-49	50-99	100-249
24F191	1210N-2C-120A*	1110	DPDT	7.73	6.96	6.57	5.41
24F192	1210N-3C-120A†	1110	3 PDT	9.15	8.24	7.78	6.41

SERIES 1220-AC AND 1225-DC 10 AMP RELAYS



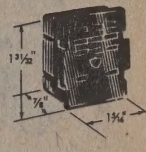
Features "UNI-GUARD" continuous loop moving blades; AMP Faston 110 Series quick connect or socket plug-in. The 1220 Relay comes complete with mounting bracket. The 1220/1220 is an electrical reset relay. 1220M is a manual reset relay with same concept design as the standard 1220 series. Relay is reduced in height and cost by the elimination of radio type plug extra wiring and sub assembly between relay and plug. U/L Recognized. 1 5/32"x1 11/16"x 1 9/16". DPDT except *3PDT.

Stock No.	Type	Coil Volt	1-24	25-49	50-99	100-249	250-Up
62F1882	1220-2C-24A	24AC	4.58	4.12	3.89	3.21	2.98
62F1883	1220-2C-120A	120AC	4.58	4.12	3.89	3.21	2.98
62F1884	1220-2C-240A	240AC	4.87	4.38	4.14	3.41	3.17
62F1886	1220-3C-24A*	24AC	5.15	4.64	4.38	3.61	3.35
62F1887	1220-3C-120A*	120AC	5.15	4.64	4.38	3.61	3.35
62F1888	1220-3C-240A*	240AC	5.44	4.90	4.62	3.81	3.54
62F1889	1225-2C-6D	6DC	4.58	4.12	3.89	3.21	2.98
62F1890	1225-2C-12D	12DC	4.58	4.12	3.89	3.21	2.98
62F1891	1225-2C-24D	24DC	4.58	4.12	3.89	3.21	2.98
62F1892	1225-2C-110D	110DC	4.87	4.38	4.14	3.41	3.17
62F1893	1225-3C-6D*	6DC	5.15	4.64	4.38	3.61	3.35
62F1894	1225-3C-12D*	12DC	5.15	4.64	4.38	3.61	3.35
62F1895	1225-3C-24D*	24DC	5.15	4.64	4.38	3.61	3.35
62F1896	1225-3C-110D*	110DC	5.44	4.90	4.62	3.81	3.54
	MANUAL RESET (1220M)						
24F3428	1220M-2C-24A	24AC					
24F3429	1220M-2C-120A	120AC	6.29	5.66	5.35	4.40	4.09
24F3430	1225M-2C-24D	24DC					
	LATCHING RESET (1220/1220)						
24F3431	1220/1220-2C-24A	24AC					
24F3432	1220/1220-2C-120A	120AC	14.30	12.87	12.16	10.01	9.30
24F3433	1225/1225-2C-24D	24DC					

1220 SERIES SOCKETS

U/L component recognition. Socket terminal lugs may be soldered to, or will accept, AMP series 110 quick connects. Dimensions: **SOC-1,** 1 31/32" high; by 1 9/16" wide; by 3/8" thick. **SOC-2** 1 31/32" high; by 1 9/16" wide; by 1/2" thick.

Stock No.	Type	1-9	10-Up
24F3470	SOC-1	.65	.60
24F3471	SOC-2	.65	.60

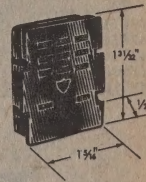


SOC-1

MINIATURE PLUG-IN RELAY

1310 AC, 1315 DC. Contact: 4PDT rated at 120v. AC or 30 volts DC resistive. Power req. approx. 1.2 volt amp. at nom. voltage for AC 0.9 watts for DC. Temp. range −45°C to 70°C. Shipping wt. 1 1/8 oz.

Stock No.	Type	Coil Volt.	1-24	25-49	50-99	100-249	250-Up
24F3232	1310-4C	6AC	5.10	4.59	4.34	3.57	3.32
24F3233	1310-4C	12AC	5.10	4.59	4.34	3.57	3.32
24F3234	1310-4C	24AC	5.10	4.59	4.34	3.57	3.32
24F3235	1310-4C	120AC	5.30	4.77	4.51	3.71	3.45
24F3236	1315-4C	6DC	4.39	3.95	3.73	3.07	2.85
24F3237	1315-4C	12DC	4.39	3.95	3.73	3.07	2.85
24F3238	1315-4C	24DC	4.39	3.95	3.73	3.07	2.85
24F3239	1315-4C	110DC	4.95	4.46	4.21	3.47	3.22



SOC-2

PRINTED CIRCUIT RELAYS

Type 1310P AC, 1315P DC. Contacts rated 5 amp at 30VDC or 115VAC. Wt. 1 1/8 oz.

Stock No.	Type	Coil Volt.	1-24	25-49	50-99	100-249	250-Up
24F3240	1310P-4C	6AC	5.10	4.59	4.34	3.57	3.32
24F3241	1310P-4C	12AC	5.10	4.59	4.34	3.57	3.32
24F3242	1310P-4C	24AC	5.10	4.59	4.34	3.57	3.32
24F3243	1310P-4C	120AC	5.30	4.77	4.51	3.71	3.45
24F3244	1315P-4C	6DC	4.39	3.95	3.73	3.07	2.85
24F3245	1315P-4C	12DC	4.39	3.95	3.73	3.07	2.85
24F3246	1315P-4C	24DC	4.39	3.95	3.73	3.07	2.85
24F3247	1315P-4C	110DC	4.95	4.46	4.21	3.47	3.22

1310 Relay

1310 SERIES SOCKETS

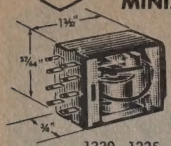
1310-1ST with solder terminals; **1310-2PC** with printed circuit terminals and **1310-3SN** with solder terminal snap-in. Panel cutout for socket should measure 1.015"x.858" with .025" radii at all four corners.

Stock No.	Type	NET
24F3472	1310-1ST	.60
24F3473	1310-2PC	.60
24F3474	1310-3SN	.60

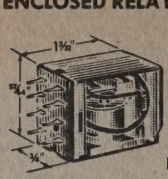
1310 Socket

Guardian Miniature and Time Delay Relays

MINIATURE ENCLOSED RELAYS



1330 - 1335
Plug In

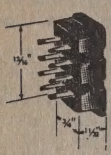


1330P - 1335P
PC Terminals

1330 - 1335 Plug **1330P - 1335P Printed Circuit**
DPDT. Contacts rated 5 amps at 30 VDC or 120 VAC. Heat resistant lexan cover. For business, photocopy equipment, computers, and appliances. Weight ¾ oz.

Stock No.	Type	Coil Voltage	Coil Res.	1-24	25-49	50-99
67F5624	1330-2C-6A	6AC	15	3.88	3.49	3.30
67F5625	1330-2C-12A	12AC	50	3.88	3.49	3.30
67F5626	1330-2C-24A	24AC	245	3.88	3.49	3.30
67F5627	1330-2C-120A	120AC	5400	4.08	3.67	3.47
67F5628	1335-2C-6D	6DC	30	3.79	3.41	3.22
67F5629	1335-2C-12D	12DC	125	3.79	3.41	3.22
67F5630	1335-2C-24D	24DC	500	3.79	3.41	3.22
67F5631	1330P-2C-6A	6AC	15	3.88	3.49	3.30
67F5632	1330P-2C-12A	12AC	50	3.88	3.49	3.30
67F5633	1330P-2C-24A	24AC	245	3.88	3.49	3.30
67F5634	1330P-2C-120A	120AC	5400	4.08	3.67	3.47
67F5635	1335-2C-6D	6DC	30	3.79	3.41	3.22
67F5636	1335P-2C-12D	12DC	125	3.79	3.41	3.22
67F5637	1335P-2C-24D	24DC	500	3.79	3.41	3.22

NEW 1330 SERIES SOCKETS

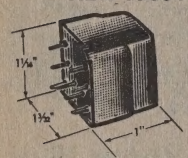


1330-1ST with solder terminals. **1330-2PC** with printed circuit terminals. Panel cutout should meas. .759" x .830". Radii: .025".

Stock No.	Type	Net
67F5638	1330-1ST	.50
67F5639	1330-2PC	.50

10

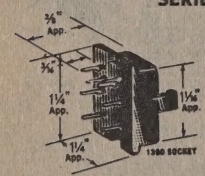
NEW 1360 PC/1365 PC DPDT SWITCHING



For low power solid state circuitry .060" dia. terminals on .1" grid spacing for standard printed circuit board. Solders right on PC board or use mating socket. 1W normal power, 3500 ohms coil resistance (120VAC-60Hz). Mechanical life in excess of 10,000,000 operations. 5 amp. resistive 120VAC 60 Hz contact rating. DPDT switching. Weight 1 oz.

Stock No.	Type	Coil Voltage	1-24	25-49	50-99
67F5640	1360PC-2C-24A	24AC	3.67	3.30	3.12
67F5641	1360PC-2C-120A	120AC	3.98	3.58	3.38
67F5642	1365PC-2C-6D	6DC	3.67	3.30	3.12
67F5643	1365PC-2C-12D	12DC	3.67	3.30	3.12
67F5644	1365PC-2C-24D	24DC	3.67	3.30	3.12

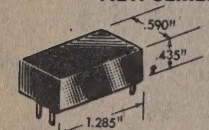
SERIES 1360 SOCKET



Solder directly to PC board or snap through underside of chassis. Connections may be made before/after insertion of socket into chassis. Panel cutout should measure 1.265" x 1.078".

Stock No.	Type	NET
67F5645	1360-1	.50

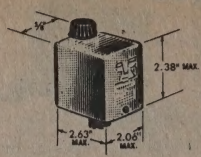
NEW SERIES 1435 MINIATURES



Specifically designed for applications with either demanding space limitations or operating requirements which cannot be met with reed or conventional contact type relays. 1 amp @ 26 VDC, PC term. in 0.10" grid. Wt.: 10g.

Stock No.	Type	Coil Res.	Coil Voltage	Cont.	1-24	25-49	50-99
67F5646	1435-1C-6D	66	6DC	SPDT	3.00	2.70	2.55
67F5647	1435-2C-6D	66	6DC	DPDT	4.18	3.76	3.55
67F5648	1435-1C-12D	330	12DC	SPDT	3.00	2.70	2.55
67F5649	1435-2C-12D	330	12DC	DPDT	4.22	3.80	3.59
67F5650	1435-1C-24D	950	24DC	SPDT	3.22	2.90	2.74
67F5651	1435-2C-24D	950	24DC	DPDT	4.40	3.96	3.74
67F5652	1435-1C-48D	4700	48DC	SPDT	3.60	3.24	3.06
67F5653	1435-2C-48D	4700	48DC	DPDT	4.50	4.05	3.83

TDO SERIES TIME DELAY

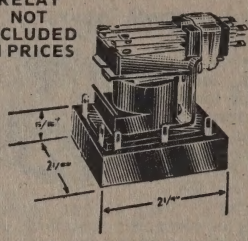


Series TDO incorporates many features of more expensive units. Contacts rated at 5 amps, DPDT, 120VAC with adjustable delay of 0.5 to 30 seconds on attract with a ten-turn potentiometer. Repeatability is within 5% after a line interruption of 100ms. Standard unit is 120VAC.

Stock No.	Type	Volts	Delay Range (Sec.)	1-24	24-49	50-99	100-249
62F1912	TDO62C30-120A	120VAC	.5 to 30	17.14	15.43	14.57	13.71

SERIES 6900/6905 TIME DELAY MODULES

RELAY NOT INCLUDED IN PRICES

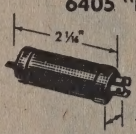


Replaces Series TMT Time Delay Modules. Low cost, totally solid state "long time delay" module—perfectly mated to popular Guardian relays. Time delay externally adjustable in four ranges: .5 to 10 seconds, 5 to 120 seconds, 10 to 300 seconds, and 300 and 2000 seconds. Choice of either delay on operate or delay on release. Accuracy and repeatability after first time out: Accuracy, ±10% of setting for combined variations of ambient temperature and power supply regulation. Repeatability, ±2% for fixed line input. Minimum life expectancy is one million operations. In part number "O" indicates delay on operate, "R" delay on release.

Stk. No.	Type	Volts	Time Range Sec.	1-24	25-49	50-99	100-249	250-Up
24F2522	6900-O-10-A	120VAC	15 to 10	10.26	9.23	8.72	7.18	6.67
24F2523	6900-O-120-A	120VAC	5 to 120	10.32	9.29	8.77	7.22	6.71
24F2524	6900-O-300-A	120VAC	10 to 300	11.92	10.73	10.13	8.34	7.75
24F2525	6900-O-2000-A	120VAC	300 to 2000	14.16	12.74	12.04	9.91	9.20
24F2526	6905-O-10-D	12-24VDC	.5 to 10	10.04	9.04	8.53	7.03	6.53
24F2527	6905-O-120-D	12-24VDC	5 to 120	10.12	9.11	8.60	7.08	6.58
24F2528	6905-O-300-D	12-24VDC	10 to 300	11.72	10.55	9.96	8.20	7.62
24F2529	6900-R-10-A	120VAC	.5 to 10	12.26	11.03	10.42	8.58	7.97
24F2530	6900-R-120-A	120VAC	5 to 120	12.32	11.08	10.47	9.62	8.00
24F2531	6900-R-300-A	120VAC	10 to 300	13.92	12.53	11.83	9.74	9.05
24F2532	6905-R-10-D	12-24VDC	.5 to 10	12.04	10.84	10.23	8.43	7.83
24F2533	6905-R-120-D	12-24VDC	5 to 120	12.12	10.91	10.30	8.48	7.88
24F2534	6905-R-300-D	12-24VDC	10 to 300	13.72	12.35	11.66	9.60	8.92

Relay not included in prices

6405 "FLAT BOTTOM" INLINE TIME DELAY

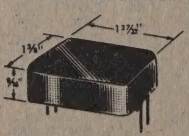


Accuracy: ±10% of setting for combined ambient temp. and power supply regs. Repeatability ±2% for fixed line input. Adjustment by 1 meg. ohm potentiometer.

Stock No.	Type	Volts	Time Range Sec.	1-24	25-49	50-99	100-249	250-Up
67F5654	6405-2L-10	12 to 48 VDC	.1 to 10	9.08	8.17	7.72	6.36	5.90
67F5655	6415-2L-10			9.16	8.24	7.79	6.41	5.95
67F5656	6405-2H-10	90 to 130 VDC	.1 to 10	9.08	8.17	7.72	6.36	5.90
67F5657	6415-2H-10			9.16	8.24	7.79	6.41	5.95
67F5658	6405-2L-120	12 to 48 VDC	5 to 120	9.16	8.24	7.79	6.41	5.95
67F5659	6415-2L-120			9.24	8.32	7.85	6.47	6.01
67F5660	6405-2H-120	90 to 130 VDC	5 to 120	9.16	8.24	7.79	6.41	5.95
67F5661	6415-2H-120			9.24	8.32	7.85	6.47	6.01
67F5662	6405--2H-300	12 to 48 VDC	10 to 300	10.74	9.67	9.13	7.52	6.98
67F5663	6415-2L-300			10.74	9.67	9.13	7.52	6.98
67F5664	6405-2H-300	90 to 130 VDC	10 to 300	10.74	9.67	9.13	7.52	6.98
67F5665	6415-2H-300			10.74	9.67	9.13	7.52	6.98

6405 = solid lead termination. 6415 = 3/16" QC termination.

6505 ELECTRONIC "ZERO-CROSSOVER" SWITCHES



Crossover: 0.0 VAC ±10V. Load power: 120 VAC. Contact combination: SPST-NO. Contact ratings: 1.0 amp @ 120 VAC, 56/60 Hz. Operating temp.: 120° to +55°C. Min. operations: 10 million. Term: PC .047" dia. x .375" pins.

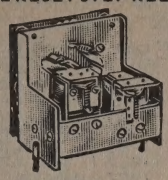
Stock No.	Type	Volts	1-24	25-49	50-99	100-249
67F5666	6505-6D	6VDC	13.88	12.49	11.80	9.72
67F5667	6505-12D	12VDC	13.88	12.49	11.80	9.72
67F5668	6505-24D	24VDC	13.88	12.49	11.80	9.72

Stepper and Isolation Relays

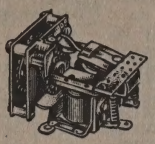
GUARDIAN STEPPER RELAYS

ELECTRICAL RESET STEP RELAY

ype PER. Positive echanical stops vailable to limit "steps." esets when coil nergized. Coil V 120 VAC; 5W (stepping coil), 7W eset coil). No of pts: 40. 5 active contacts. Size x3⅜x3⅜16. Wt. 22 oz. ype MER. Reset stepper ith positive acting in- erlock, actuated by agnet. Positive reset on one-hundredth of second. Coil V 120 AC. 20W stepping coil, 7W reset coil. No. of pts: 24. 22 active con- acts. Size 3¼x2⅜16x3⅛. Wt. 11.5 oz.



Type PER



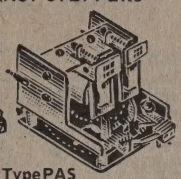
Type MER

tk. No.	Type & Volts	VA.	1-24	25-49	50-99	100-249	250-499
4F766	PER/40-120A	60-10	32.16	28.94	27.34	22.51	20.90
4F865	MER-120A	40-10	19.30	17.37	16.41	13.51	12.55
2F1919	MER-24D		19.30	17.37	16.41	13.51	12.55

TYPES MAS & PAS ADD AND SUBTRACT STEPPERS

TYPE MAS. Cam ac- uated switch at zero osition. Used to indicate ero balance between ulse. 9 Watts. Shpg. Wt. 1 lbs. TYPE PAS. Bi- irectional with wiper noving in either direction epending on which coil is nergized. 35 Watts. Shpg. 2 lbs.

Type MAS

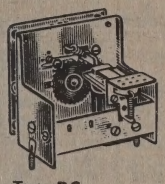


TypePAS

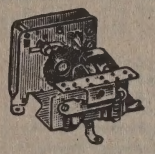
Stk. No.	Type	VA	1-24	25-49	50-99	100-249
4F772	MAS-120A	12	21.14	19.03	17.97	14.80
7F5669	PAS-120A	60	32.16	28.94	27.34	22.51

CONTINUOUS ROTATION STEP RELAY

Type PC Oilite shaft earing. Beryllium copper awl control shutter. older beaded for easy oldering. Life expectancy t 4,000,000 steps; operate t 15% below, or 10% bove voltage. Coil. 120 VAC. 20W; no. of pts.: 40. 0 active contacts. Size, 3⅜x3x3⅜16. Wt. 17 oz. Type MC. Smaller rotation stepper similar to P.C.; ife expectancy 2,000,000 steps. Coil V 120 VAC, 17W. No. pts. 24. 24 active contacts. Size: 2⅜16x3x3¼.



Type PC



Type MC

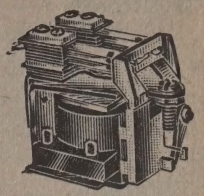
Stk. No.	Type and AC Volts	VA.	1-24	25-49	50-99	100-249	250-499
24F762	PC-120A	35	24.43	21.99	20.77	17.10	15.88
24F764	MC-120A	30	18.09	16.28	15.38	12.66	11.76

SAVE TIME! At Newark—fast, efficient service always!

SAVE MONEY! Quantity Prices Competitive with Manufacturer!

NEW! SERIES 840L (AC) & 845L (DC) ON/OFF RELAY STEPPERS

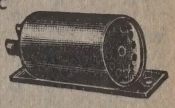
- Single Coil Impulse Operated Mechanical Latching Relay Stepper



SPDT, DPDT or 4PDT contact combinations. Impulse as short as 20 ms energizes the coil to reverse position of switches. Contacts: 10 amp, at 120VAC, 60 Hz non-inductive. Power requirement: 8.2 volt amps. Shipping wt.: 5.2 oz.

Stk. No.	Type	Coil Voltage	Cont. Comb.	1-24	25-49	50-99	100-249
67F5670	840L-C-24A	24AC	SPDT	5.23	4.71	4.45	3.66
67F5671	840L-2C-24A	24AC	DPDT	6.30	5.67	5.36	4.41
67F5672	840L-4C-24A	24AC	4PDT	9.00	8.10	7.65	6.30
67F5673	840L-C-120A	120AC	SPDT	5.23	4.71	4.45	3.66
67F5674	840L-2C-120A	120AC	DPDT	6.30	5.67	5.36	4.41
67F5675	840L-4C-120A	120AC	4PDT	9.00	8.10	7.65	6.30
67F5676	845L-C-12D	12DC	SPDT	5.23	4.71	4.45	3.66
67F5677	845L-2C-12D	12DC	DPDT	6.30	5.67	5.36	4.41
67F5678	845L-4C-12D	12DC	4PDT	9.00	8.10	7.65	6.30
67F5679	845L-C-24D	24DC	SPDT	5.23	4.71	4.45	3.66
67F5680	845L-2C-24D	24DC	DPDT	6.30	5.67	5.36	4.41
67F5681	845L-4C-24D	24DC	4PDT	9.00	8.10	7.65	6.30

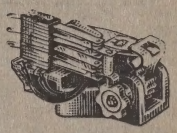
ROTOMITE STEPPER-DC



Confinuous rotation on 12 positions up to 20 step per sec. Stepping mechanism, coils and contacts completely (metal) enclosed. 3 amps resistive, 1 amp inductive (50% P.F.). Tests well over 1,000,000 operations. Appr.: bus. machines, lighting, sorting, computer circuits, and counting. Size: 3"L.x1⅜16" D. Shpg. wt., 5 oz.

Stk. No.	Mfg. No.	VDC	1-24	25-49	50-99	100-249	250-499
24F125	705-12P-6D	6	7.55	6.80	6.42	5.29	4.91
24F126	705-12P-12D	12					
24F127	705-12P-24D	24					

SEQUENCE RELAY



For on/off control of lighting, motors, appliances and speaker applications, among others. Each impulse (up to 10 steps per second) reverses contacts. Contacts rated 12½ amps, 120V, 60 Hz. Size: 3⅛16x 2¼x 2⅜16". Shpg. wt., 7.5 oz.

TYPE 660 - DC VOLTS

Stock No.	Type	Cont. Comb.	Volts	1-24	25-49	50-99	100-249	250-Up
24F2437	660-C-24A	SPDT	24	7.69	6.92	6.54	5.38	5.00
24F193	660-C-120A	SPDT	120	7.69	6.92	6.54	5.38	5.00
24F2438	660-2C-24A	DPDT	24	8.30	7.47	7.06	5.81	5.40
24F194	660-2C-120A	DPDT	120	8.30	7.47	7.06	5.81	5.40
24F2439	660-4C-24A	4PDT	24	12.07	10.86	10.26	8.45	7.85
24F2440	660-4C-120A	4PDT	120	12.07	10.86	10.26	8.45	7.85

TYPE 665—DC VOLTS

24F2441	665-C-24D	SPDT	24	7.69	6.92	6.54	5.38	5.00
24F2442	665-2C-24D	DPDT	24	8.30	7.47	7.06	5.81	5.40
24F2443	665-4C-24D	4PDT	24	12.07	10.86	10.26	8.45	7.85

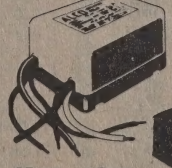
ALCO ISOLATION RELAYS

Millions of applications because of compact size. Typical uses are in automatic apparatus demanding isolated control circuits. Relay combines isolated step down transformer & sensitive low volt, relay in a single laminated core construction. Operates from 95-125 VAC.

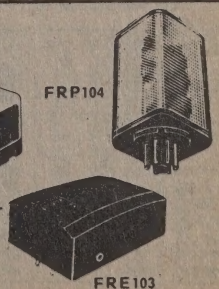
Model FRP-104. A standard octal base plug feature is added to the basic isolation relay for the industrial user. The relay is protected by a plastic dust cover. SPDT @ 5 amps. Same specs as above.

Model FRE-103. SPDT plug-in relay has 3-way receptacle top portion. Comes in plastic case. Same specs as above.

Stk.No.	Type	Action	1-99	100-499	500-999
61F969	FR-102	SPDT	4.45	3.47	3.03
61F1206	FRE-103	SPDT	5.95	4.64	4.05
61F970	FRP-104	SPDT	5.45	4.25	3.71



FR101 FR102



FRP104

FRE103

Enclosed Plug-In Relays

TU-154 DC RELAYS

For applications in industrial control and data processing systems. Available in 4PDT or 6PDT, both with dust cover. Made under the U/L recognized file #E20604. Operates at 25°C with rating of 3 amps resistive at 115VAC, 60 Hz. Temp. Scale for 4PDT is —55C to +71C, 6PDT ranges from —55 C to +65 C. Oper Time 15 ms. Shpg. Wt. 1.5 oz.

COIL RESISTANCE AND OPERATE DATA (AT 25°C)

Stock No.	Type	Contacts	Volts DC	Ohms	1-9	10-49	50-99	100-499
59F1264	TU154-4C	4PDT	6	35.5	4.00	3.60	3.00	2.80
59F1265	TU154-4C		12	138	4.00	3.60	3.00	2.80
59F1266	TU154-4C		24	700	4.00	3.60	3.00	2.80
59F1267	TU154-4C		48	2500	4.00	3.60	3.00	2.80
59F1268	TU154-4C		115	10000	4.90	4.41	3.68	3.43
59F1269	TU154-6C	6PDT	6	35.5	5.10	4.59	3.83	3.57
59F1270	TU154-6C		12	138	5.10	4.59	3.83	3.57
59F1271	TU154-6C		24	700	5.10	4.59	3.83	3.57
59F1272	TU154-6C		48	2500	5.10	4.59	3.83	3.57
59F1273	TU154-6C		115	10000	6.00	5.40	4.50	4.20

T -154 DC RELAYS

Compact telephone relays. No external Wiring, contact arms extend, plug-in terminals 2 amp contacts, 700 mw except 6-C with 1.5W coil power. Shpg. Wt. 2 oz.

Stock No.	Type	Volt	Cont.	Ohms	1-9	10-49	50-99	100-499
59F459	T154-2C	6	DPDT	52	3.25	2.92	2.44	2.27
59F460	T154-2C	12	DPDT	185	3.25	2.92	2.44	2.27
59F461	T154-2C	24	DPDT	700	3.25	2.92	2.44	2.27
59F462	T154-2C	48	DPDT	2500	3.25	2.92	2.44	2.27
59F463	T154-2C	115	DPDT	15000	4.95	4.45	3.71	3.46
59F464	T154-4C	6	4PDT	52	3.63	3.27	2.72	2.54
59F465	T154-4C	12	4PDT	185	3.63	3.27	2.72	2.54
59F466	T154-4C	24	4PDT	700	3.63	3.27	2.72	2.54
59F467	T154-4C	48	4PDT	2500	3.63	3.27	2.72	2.54
59F468	T154-4C	115	4PDT	15000	5.33	4.80	3.99	3.73
59F469	T154-6C	6	6PDT	25	4.66	4.19	3.49	3.26
59F470	T154-6C	12	6PDT	90	4.66	4.19	3.49	3.26
59F471	T154-6C	24	6PDT	430	4.66	4.19	3.49	3.26
59F472	T154-6C	48	6PDT	1550	4.66	4.19	3.49	3.26
59F473	T154-6C	115	6PDT	9000	5.56	5.00	4.17	3.89

TF-154 DC RELAYS

5 amp contacts; with 700 mw except on the 6 PDT which is 1.5W. combination solder terminals and plug in style.

Stock No.	Type	Volt	Cont.	Ohms	1-9	10-49	50-99	100-499
59F484	TF154-2C	6	DPDT	52	3.37	3.03	2.53	2.36
59F485	TF154-2C	12	DPDT	185	3.37	3.03	2.53	2.36
59F486	TF154-2C	24	DPDT	700	3.37	3.03	2.53	2.36
59F487	TF154-2C	48	DPDT	2500	3.37	3.03	2.53	2.36
59F488	TF154-2C	115	DPDT	15000	5.07	4.56	3.80	3.55
59F489	TF154-4C	6	4PDT	52	3.87	3.48	2.90	2.71
59F490	TF154-4C	12	4PDT	185	3.87	3.48	2.90	2.71
59F491	TF154-4C	24	4PDT	700	3.87	3.48	2.90	2.71
59F492	TF154-4C	48	4PDT	2500	3.87	3.48	2.90	2.71
59F493	TF154-4C	115	4PDT	15000	5.57	5.01	4.17	3.90
59F494	TF154-6C	6	6PDT	25	5.02	4.52	3.76	3.51
59F495	TF154-6C	12	6PDT	90	5.02	4.52	3.76	3.51
59F496	TF154-6C	24	6PDT	430	5.02	4.52	3.76	3.51
59F497	TF154-6C	48	6PDT	1550	5.02	4.52	3.76	3.51
59F498	TF154-6C	115	6PDT	9000	5.92	5.33	4.44	4.14

TS-154 PLATE CIRCUIT RELAYS

1 amp contacts, DPDT-85mw, 4PDT. Shipping Weight 2 oz.

59F509	TS154-2C	5.8 ma	DPDT	2500	3.55	3.19	2.66	2.48
59F510	TS154-2C	4.1 ma	DPDT	5000	4.05	3.64	3.04	2.83
59F511	TS154-2C	3.1 ma	DPDT	10000	4.45	4.00	3.34	3.11
59F512	TS154-4C	8.4 ma	4PDT	2500	3.96	3.57	2.97	2.77
59F513	TS154-4C	6.2 ma	4PDT	5000	4.46	4.02	3.35	3.12
59F514	TS154-4C	4.5 ma	4PDT	10000	4.86	4.38	3.65	3.40

T-163 BIFURCATED DC RELAYS

Maximum contact arrangement of 6PDT. Ambient temperature ranges from —55°C to +71°C. Has Dielectric Strength of 1000 volts rms. at sea level, and 500 volts rms. across open contacts. Insulation Resistance (at +25°C) is 1000 megohms. Shpg. Wt. 2 oz. max.

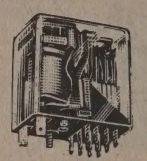
59F526	T-163-2C	6	DPDT	52	3.65	3.28	2.74	2.55
59F527	T-163-2C	12	DPDT	185	3.65	3.28	2.74	2.55
59F528	T-163-2C	24	DPDT	700	3.65	3.28	2.74	2.55
59F529	T-163-2C	48	DPDT	2500	3.65	3.28	2.74	2.55
59F530	T-163-2C	115	DPDT	15000	5.35	4.81	4.01	3.74
59F531	T-163-4C	6	4PDT	52	4.16	3.74	3.12	2.91
59F532	T-163-4C	12	4PDT	185	4.16	3.74	3.12	2.91
59F533	T-163-4C	24	4PDT	700	4.16	3.74	3.12	2.91
59F534	T-163-4C	48	4PDT	2500	4.16	3.74	3.12	2.91
59F535	T-163-4C	115	4PDT	15000	5.86	5.27	4.39	4.10
59F536	T-163-6C	6	6PDT	52	5.34	4.81	4.01	3.74
59F537	T-163-6C	12	6PDT	185	5.34	4.81	4.01	3.74
59F538	T-163-6C	24	6PDT	700	5.34	4.81	4.01	3.74
59F539	T-163-6C	48	6PDT	2500	5.34	4.81	4.01	3.74
59F540	T-163-6C	115	6PDT	15000	6.24	5.62	4.69	4.37

TF-255 AC RELAYS

AC version of the T154 relay with 5 amp contacts. Contact Arrangement available in 2PDT or 4PDT. Contacts: Low level to 5 amp resistive at 29VDC, 3 amp at 115VAC. Coil: 1.5VA nominal power except 2.5VA for 220 V and 4 PDT relays. Shpg. Wt. 2 oz.

Stock No.	Type TF255-	Volt	Cont.	Resis. Ohms	1-9	10-49	50-99	100-499
59F1280	2C	6	DPDT	6.4	4.40	3.96	3.30	3.08
59F1281	2C	12	DPDT	31.8	4.40	3.96	3.30	3.08
59F1202	2C	24	DPDT	112.5	4.40	3.96	3.30	3.08
59F1282	2C	48	DPDT	460	4.40	3.96	3.30	3.08
59F1203	2C	115	DPDT	1575	4.28	3.85	3.21	3.00
59F1283	4C	6	4PDT	6.4	5.12	4.61	3.84	3.58
59F1284	4C	12	4PDT	31.8	5.12	4.61	3.84	3.58
59F1207	4C	24	4PDT	112.5	5.12	4.61	3.84	3.58
59F1285	4C	48	4PDT	460	5.12	4.61	3.84	3.58
59F1208	4C	115	4PDT	1575	5.12	4.61	3.84	3.58

T-351 MAGNETIC LATCHING DC RELAYS



Actuated by a pulse of 10 milli-seconds duration, it is able to withstand a continuous coil input. Coil available with one or two windings. Coil dissipation: 1.2 W. Operate time: 10 ms max. (set or reset) Contact ratings: T-351, 1A at 29 VDC, non-ind. and 0.5A at 115 VAC, non ind.; TF-351, 5A at 24 VDC, non-ind, and 3A at 115VAC, non-ind. With up to 4 contact (2x) circuits, 6 normally opened or closed. Size: $^{47}/_{64}$x$^{11}/_{64}$x$^{13}/_{16}$

Single Coil

Stock No.	Type	VDC	Ohms	Contact	1-9	10-49	50-99	100-499
59F1286	T351-2C	6	40	DPDT	5.00	4.50	3.75	3.50
59F1211	T351-2C	12	166	DPDT	5.00	4.50	3.75	3.50
59F1212	T351-2C	24	630	DPDT	5.00	4.50	3.75	3.50
59F1287	T351-2C	48	2640	DPDT	5.00	4.50	3.75	3.50
59F1214	T351-2C	115	13800	DPDT	6.40	5.76	4.80	4.48
59F1288	T351-4C	6	40	4PDT	5.50	4.95	4.12	3.85
59F1216	T351-4C	12	166	4PDT	5.50	4.95	4.12	3.85
59F1217	T351-4C	24	630	4PDT	5.50	4.95	4.12	3.85
59F1289	T351-4C	48	2640	4PDT	5.70	5.13	4.27	3.99
59F1219	T351-4C	115	13800	4PDT	6.90	6.21	5.17	4.83
59F1220	TF351-2C	6	40	DPDT	5.12	4.61	3.84	3.58
59F1221	TF351-2C	12	166	DPDT	5.12	4.61	3.84	3.58
59F1222	TF351-2C	24	630	DPDT	5.12	4.61	3.84	3.58
59F1223	TF351-2C	48	2020	DPDT	5.32	4.79	3.99	3.72
59F1224	TF351-2C	115	13800	DPDT	6.52	5.87	4.89	4.56

Double Coil

59F1225	T351-2C	2/6	31.5	DPDT	6.00	5.40	4.50	4.20
59F1226	T351-2C	2/12	134	DPDT	6.00	5.40	4.50	4.20
59F1227	T351-2C	2/24	485	DPDT	6.00	5.40	4.50	4.20
59F1228	T351-2C	2/48	1760	DPDT	6.40	5.76	4.80	4.48
59F1229	T351-2C	2/115	9600	DPDT	8.80	7.92	6.60	6.16
59F1230	T351-4C	2/6	31.5	4PDT	6.50	5.85	4.87	4.55
59F1231	T351-4C	2/12	134	4PDT	6.50	5.85	4.87	4.55
59F1232	T351-4C	2/24	485	4PDT	6.50	5.85	4.87	4.55
59F1233	T351-4C	2/48	1760	4PDT	6.90	6.21	5.17	4.83
59F1234	T351-4C	2/115	9600	4PDT	9.30	8.37	6.97	6.51
59F1235	TF351-2C	2/6	31.5	DPDT	6.12	5.51	4.59	4.28
59F1236	TF351-2C	2/12	134	DPDT	6.12	5.51	4.59	4.28
59F1237	TF351-2C	2/24	485	DPDT	6.12	5.51	4.59	4.28
59F1238	TF351-2C	2/48	1760	DPDT	6.52	5.87	4.89	4.56
59F1239	TF351-2C	2/115	9600	DPDT	8.92	8.03	6.69	6.24

SOCKETS FOR RELAYS ON THIS PAGE

Above chassis mounting sockets, Beryllium copper, silver plated contacts. Socket: mica filled phenolic. Hardware: retainer ring and ground wire. The 30055 comes with retainer ring and ground wire. The 30054 comes with ground wire only.

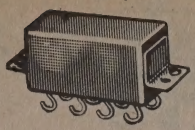
Stock No.	Type	For Relays	1-9	10-49	50-99	100-499
59F517	30055-1	2PDT-Solder	.60	.55	.45	.43
59F1252	30054-1	2PDT-Solder	.55	.50	.41	.39
59F541	30055-5	2PDT-Pr. Cir.	.60	.55	.45	.43
59F1256	30054-5	2PDT-Pr. Cir.	.55	.50	.41	.39
59F1261	30055-3	2PDT-Pr. Cir.	.72	.65	.55	.50
59F1254	30054-3	2PDT-Pr. Cir.	.67	.60	.50	.47
59F1263	30055-8	4PDT-Solder	.80	.73	.61	.56
59F1258	30054-8	4PDT-Solder	.75	.68	.56	.53
59F518	30055-2	4PDT-Solder	.77	.70	.59	.53
59F1253	30054-2	4PDT-Solder	.72	.65	.54	.50
59F542	30055-6	4PDT-Pr. Cir.	.80	.73	.61	.56
59F1257	30054-6	4PDT-Pr. Cir.	.75	.68	.56	.53
59F1262	30055-4	4PDT-Pr. Cir.	.88	.80	.67	.61
59F1255	30054-4	4PDT-Pr. Cir.	.95	.86	.72	.67
59F519	30055-20	6PDT-Solder	1.05	.95	.79	.74
59F1259	30054-20	6PDT-Solder	1.00	.90	.75	.70
59F543	30055-24	6PDT-Pr. Cir.	1.05	.95	.79	.74
59F1260	30054-24	6PDT-Pr. Cir.	1.00	.90	.75	.70

Relays and Solenoids

ALLIED CONTROL RELAYS

HALF CRYSTAL CAN RELAY

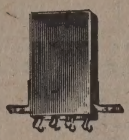
HALF CRYSTAL can relay in all welded construction with solder hook or plug in terminals. Bifurcated contacts - higher reliability, especially in dry circuit areas. Dielectric strength; 1000 volts RMS at sea level, 500 volts RMS between open contacts: between coil terminals and case, 350 volts R.m.s. at 80,000 feet.



Stk.No.	Type	Volts	Amps	Coil Res.	1-9	10-49	50-99	100-499
59F1246	S6A1	26.5V O-C	2	700	9.90	8.91	7.43	6.93
59F1247	S6H3	26.5V O-C	2	700	9.90	8.91	7.43	6.93

WJS-3D AND WJS-6D DC RELAYS

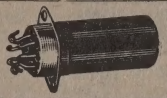
Welded construction, bifurcated contacts. Meets MIL-R-5757/13. Ambient temp.: —65°C to +125°C. Non-inductive—low level up to 3 amps @ 29 VDC or 1 amp @115 VAC case underground. Terminals: 0.2 in grid spaced Shock; 50g operational. Insl. rest.: 1000 megohms min. Min. pull-in power; WJS-3D, 25 mw; WJS-6D, 40 mw. Hook solder term.



Stk. No.	Type	Curr. Ma	Ohms	Cont.	1-9	10-49	50-99	100-499
59F666	WJS-3D	1.6	10000	SPDT	13.50	12.15	10.13	9.45
59F667	WJS-6D	4.0	2500	DPDT	11.85	10.67	8.89	8.30
59F668	WJS-6D	2.8	5000	DPDT	11.85	10.67	8.89	8.30

MH SEALED RELAYS

26.5 VDC, 5 amp. solder hook terminals. Vibration 34-1000 Hz at 15G Temp, for MH. —55° to +85°C for MH-B, —65°C to +125°C. Wt. 2 oz.



Stk. No.	Type	Ohm	Coil Pwr.	Cont.	1-9	10-49	50-99	100-499
59F439	MH-6D	400	1.75W	DPDT	14.25	12.83	10.69	9.98
59F442	MHB-6D	325	1.25W	DPDT	14.25	12.83	10.69	9.98
59F441	MH-18D	240	3.0W	4PDT	23.75	21.38	17.81	16.63
59F444	MHB-18D	200	3.5W	4PDT	23.75	21.38	17.81	16.63
59F440	MH-12D	300	2.5W	6PDT	20.90	18.81	15.68	14.63

You Can Depend on NEWARK

for Everything

in Industrial Electronics

BOT AC/DC RELAYS

AC-DC relay for 15 amp at 29 VDC and 115 VAC .05 ohms max. resistance. Temp: —55°C to +71°C. The BOT is an unenclosed DPDT relay with standard mounting. Terminals solder lug. Wt. 5 oz.

Stock No.	Type	Voltage	Ohm	Coil Power	1-9	10-49	50-99	100-499
59F405	BOT6A	24AC	17.	5VA	5.95	5.36	4.46	4.17
59F406	BOT6A	115AC	445	5VA	5.95	5.36	4.46	4.17
59F409	BOT6D	12DC	70	2.5W	5.50	4.95	4.13	3.85
59F410	BOT6D	26.5DC	230	2.5W	5.50	4.95	4.13	3.85
59F411	BOT6D	110DC	5000	2.5W	5.50	4.95	4.13	3.85

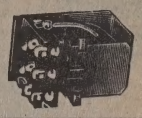
BOHR AC/DC RELAYS

Same as BOT except 10 amps, hermetically sealed. Plug-in style. RETMA or EIA socket. Wt. 9.5 oz.

Stk.No.	Type	Voltage	Ohm	Coil Power	1-9	10-49	50-99	100-499
59F412	BOHR-6A	115AC	445	5VA	12.75	11.48	9.56	8.93
59F413	BOHR-6D	2615DC	230	2.5W	12.30	11.07	9.23	8.61

PO-9 AND PO-12 AC/DC RELAYS SERIES

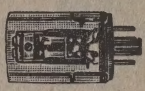
Low cost compact. PO-9 3PDT, PO-12 4PDT, 15 ampere relays. Mounting (4)—6-32 tapped holes. Wt., 8.0 oz.



Stk. No.	Type	Volt.	Wattage	Ohm	1-9	10-49	50-99	100-499
59F450	PO-9A	115AC	10.5VA	145	8.25	7.43	6.19	5.78
59F452	PO-9D	24DC	2.5W	230	7.75	6.95	5.81	5.48
59F453	PO-9D	110DC	2.5W	5000	7.75	6.95	5.81	5.48
59F454	PO-12A	115AC	10.5VA	145	9.00	8.10	6.75	6.30
59F455	PO-12D	13.2DC	2.5W	70	8.50	7.65	6.38	5.95
59F456	PO-12D	24DC	2.5W	230	8.50	7.65	6.38	5.95

GENERAL PURPOSE RELAYS

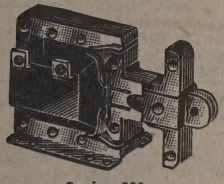
DPDT enclosed in a transparent polycarbonate cover and rigidly secured to base. Enclosure: dust cover. Socket: Any standard RETMA or EIA octal. Contacts rated 5 amps. Shpg. weight: 2.5 ounces.



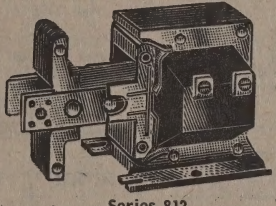
Stock No.	Type	Volt.	Ohms	1-9	10-49	50-99	100-499
59F1243	TEFDO-2C	115AC	2580.0,	4.90	4.41	3.68	3.43

10

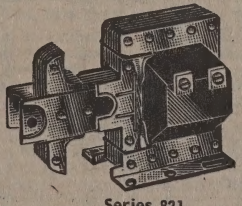
CONTROLS COMPANY OF AMERICA AC SOLENOIDS



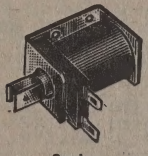
Series 801



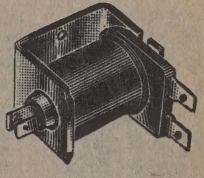
Series 812
Series 813



Series 821



Series 860-300

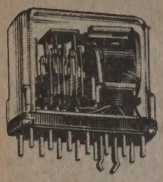


Series 860-200

AC solenoids are available in both intermittent and continuous duty types. Coil windings are imbedded in a heavy shock resistant layer of epoxy. Zinc dichromate finish made by the world's largest manufacturer of solenoids.

Stk. No.	Part Number	Volts	Current	Duty	Ohms	Amps.	Adj. Stroke (in.)	Max-Lift Minimum Stroke	Shpg. Wt. Oz.	1-24	25-49	50-99	100-249	250-499	500-999
24F1600	801-101-2	115	AC	Con.	71	.30	1/8-5/8	53	8	4.29	3.90	3.59	3.29	2.84	2.49
24F1601	801-102-2	115	AC	Int.	48.8	.50	1/8-5/8	75	8	4.29	3.90	3.59	3.29	2.84	2.49
24F1602	801-103-2	230	AC	Con.	284	.15	1/8-5/8	53	8	4.29	3.90	3.59	3.29	2.84	2.49
24F1603	812-101-2	115	AC	Con.	17.7	.58	1/8-1 1/16	154	18	5.67	5.00	4.75	4.39	3.76	3.47
24F1604	812-102-2	115	AC	Int.	12.35	.97	1/8-1 1/16	192	18	5.67	5.00	4.75	4.39	3.76	3.47
24F1605	812-103-2	230	AC	Con.	70.8	.29	1/8-1 1/16	154	18	5.67	5.00	4.75	4.39	3.76	3.47
24F1606	813-101-2	115	AC	Con.	12.6	.60	1/8-1 1/16	196	22	6.60	5.67	5.24	4.87	4.02	3.68
24F1607	813-102-2	115	AC	Int.	8.04	1.41	1/8-1 1/16	292	22	6.60	5.67	5.24	4.87	4.02	3.68
24F1608	813-103-2	230	AC	Con.	50.4	.30	1/8-1 1/16	196	22	6.60	5.67	5.24	4.87	4.02	3.68
24F1609	821-101-2	115	AC	Con.	4.68	.97	1/8-1 3/8	300	40	8.42	7.41	6.70	6.20	5.14	4.73
24F1610	821-102-2	115	AC	Int.	3.17	1.77	1/8-1 3/8	460	40	8.42	7.41	6.70	6.20	5.14	4.73
24F1611	821-103-2	230	AC	Con.	18.7	.485	1/8-1 3/8	300	40	8.42	7.41	6.70	6.20	5.14	4.73

Struthers Dunn Relays



219

FRAME GENERAL PURPOSE RELAYS

For lab type "tail chasing" circuits, solenoids, and heaters. Clear thermoplastic enclosure, mounted on 12-pin plugs. 10 amp. contact current carrying capacity. Insulation: ¼" over the surface, ⅛" through air. 1500 dielectric test. Max amb. 53°C. 20,000,000 cycle no-load life. Withstand 110% nominal V without damage. Oper: AC 85% nominal V; DC 80% nominal V. Base 1½x2⅜". Height, 2 19/32" (less pins) UL listed. Wt. 7 oz.

Stk. No.	Type 219—	Coil Volts	DPDT Cont.	1-24	25-49	50-74	75-99	100-249
60F3101	XBXP	24DC	DPDT	16.30	15.49	14.67	13.04	11.41
60F3102	XBXP	115DC	DPDT					
60F3100	XBXP	115AC	DPDT					
60F3104	BBXP	24DC	+2NO	19.50	18.53	17.55	15.60	13.65
60F3105	BBXP	115DC	+2NO					
60F3103	BBXP	115AC	+2NO					
60F3107	ABAP	24DC	+INO+INC					
60F3108	ABAP	115DC	+INO+INC					
60F3106	ABAP	115AC	+INO+INC					

With Neon Indicating Light

Neon lamp across relay coil indicates when power is available.

Stock No.	Type	DPDT Contacts	1-24	25-49	50-74	75-99	100-249
60F3194	219BBXPL	+2 NO	21.10	20.05	18.99	16.88	14.77
60F3193	219ABAPL	+INO+INC					

211

GENERAL PURPOSE PLUG-IN RELAYS

Type 219. 14 pin plug-in relay. Designed for miss free contact operations. Operating life: 20 million operations min. Operating time: 25 millisec. max. Release time: same as operating time max. AC relays operate at 85% and 110% nominal VAC. DC operates at 80% and 110% nom. VAC. Built in actuator available.

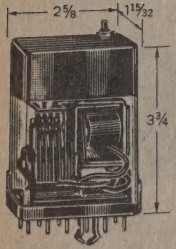
Stock No.	Type 219—	Coil Volts	DPDT Cont.	1-24	25-49	50-74	75-99	100-249
60F3050	XDXP	24 VDC	4PDT	22.10	21.00	19.89	17.68	15.41
60F3051	FXXP	24 VDC	6P—NO					
60F3052	DXBP	24 VDC	4P-NO+ 2P-NC					
60F3053	XDXP	115 VAC	4PDT					
60F3054	FXXP	115 VAC	6P—NO					
60F3055	DXBP	115 VAC	4P-NO+ 2P-NC					

255

211 FRAME SEQUENCE 115VAC RELAYS

For applications requiring max. dependability in min. space. Double cam movement on each step. Molded spacers lock contacts into position and provide 150V insulation to meet U.L. requirements. Eight tooth ratchets are standard. Rated at 5 amps @ 115V AC. Operated 15% below rated AC voltage & 20% on DC. Position: vertical with ratchets up. Min life: 1,000,000 oper. Size: 3¾ (less pins) x 2⅝x1 15/32". Wt.: 6 oz. (*) Contacts open and close alternately. (**) Transfer on each impulse.

Stk. No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3109	211AXAP	DPST*	30.00	28.50	27.00	24.00	21.00
60F3111	211XBXP	DPDT**	33.10	31.45	29.79	26.48	23.17



236

255 FRAME LATCH 115 VAC RELAYS

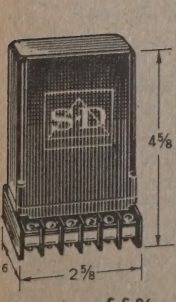
For dependable, long-life service on industrial panels. Combines standard 219 frame relay with latching frame. Min. life 10 million mech. oper. Coil rated for continuous duty. Cont. rated 10 amps. @ 115VAC. 115V electrical spacings of ¼" surface & ⅛" air. Size 3¾ x 2⅝ x 1 15/32". Wt. 9 oz.

Stk. No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3112	255XBXP	DPDT	32.10	30.50	28.89	25.67	22.47
60F3113	255XCXP	3PDT	34.70	32.97	31.23	27.76	24.29
60F3114	255BXBP	2NO; 2NC	34.70	32.97	31.23	27.76	24.29

236ABXP FRAME TIME-DELAY 115VAC RELAYS

Solid state delay networks. 90:1 range. Cont: 10 amps. 115VAC resist. Repeat accuracy ±5% @ fixed V. Will operate at voltages from 95 to 125V, but timing var. inversely with voltages. 20 million mech oper. life. Size 3¾ x 2⅝ x 1 15/32".

Stock No.	Time Range	1-24	25-49	50-74	75-99	100-249
60F3115	0.2 to 20 sec.	75.10	71.35	67.59	60.08	52.57
60F3116	2.0 to 200 sec.	75.10	71.35	67.59	60.08	52.57



S.S.96

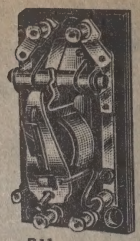
MODEL S.S. 96 SOLID STATE RELAY

- **Contact rating 1 amp continuous, 25 amp inrush.**
- **Triac Load Circuits.**
- **Separate transformer coupled Triacs.**

Control voltage-120 volts AC, 50/60 Hz. Photo isolated input circuit. Dielectric has 1500 volts RMS between all isolated circuits. Continuously gated outputs. Separate transformer couples Triacs. Plugs into existing type 27390 sockets, Stk. No. 60F3117. Ambient temperature: -10°C to 70°C.

Stk. No.	Type	Contacts	Each
60F3806	96BXB	2 NO-2 NC	52.50
60F3805	96DXX	4 NO	52.50

SEQUENCE RELAYS



B11

C85

DPST cam-operated contacts repeat predetermined sequence continuously. Type B11BXX contacts open and close together. Type B11AXA contacts open and close alternately. Coils 115 VAC for intermittent duty only. Contact ratings: 6 amps @ 24 VDC 115 VAC., 3 amps @ 230 VAC. ½ amp. @ 115 VDC. Eight tooth ratchets. Six terminals: #6-32 studs complete with wiring hardware for front connection. Size: 2 x 3 13/16" Av. wt., 1 lb.

Stk. No.	Type	1-49	50-99	100-249
60F3124	B11BXX	34.10	30.69	27.28
60F3125	B11AXA	34.10	30.69	27.28

POWER SEQUENCE RELAY

DPST cam operated contacts repeat predetermined sequence continuously. Contacts open and close alternately. Contact ratings: 20 amps @ 115 VAC or 24 VDC; 10 amps @ 230VDC; 1 amp @ 115VDC; ¼ amp @ 230 VDC. Coil, 115 VAC Eight toothed ratchets. Same terminals as Type B11. Size: 3 x 5". Shpg. wt., 1 lb.

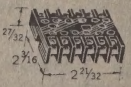
Stk. No.	Type	1-49	50-99	100-249
60F3127	C85AXA	53.90	48.51	43.12

PLASTIC RELAY ENCLOSURE

Make your own plug-in type enclosure for experimental circuits, timing devices, etc. It features the same construction as enclosures on this page. Fits Type 27390 socket on this page. Case is sturdy, thermoplastic with molded phenolic base. Size: 2⅝x1 15/32". Twelve usable pins with 10-amp current rating. Polarized by means of a mounting clip. All necessary hardware is included. Ship. weight, 4 oz.

Stk. No.	Type	Size	Net
60F3131*	CX3671	2 19/32" high less pins	3.50
60F3132	CX3672	3¾" high less pins	3.50

TYPE 27390 12-PIN PLUG-IN SOCKET



Heavy-duty socket for all 12 pin relays listed on left. Front-connected screws have clamp plates for No. 14 wires. 2 3/16W x 2 21/32L x 27/32H. Wt. 3 oz.

Socket 27390 **60F3117. Each 2.50**

SOCKET FOR 4-PDT & 6 POLE RELAYS

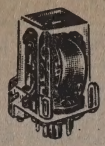
14 terminal socket accepts 219 4P DT and 6 pole models. Front-connected screws with captive clamp plates hold two #14 wires. Construction same as 12 terminal versions above except for 2 additional terminals. Base 2 3/16 x 3 3/32 x 27/32. Wt. 3½ oz.

60F3065. Type 33377 .....2.80

Struthers-Dunn Relays

214 FRAME GENERAL PURPOSE RELAYS

Insulation is Melamine bonded fibre glass. AC relays operate over a range of 85% to 110% of nom. VDC relays operate over a range of 80% to 110% of nom. Standard contacts are fine silver rated 10 amps, 115 VAC. Shpg. wt. 5 oz.



ENCLOSED

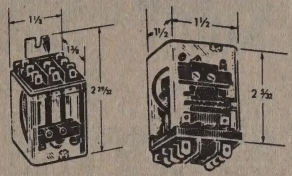
Stock No.	Type	Coil Volts	Action	1-24	25-49	50-74	75-99	100-249
60F3187	214XBX48P	115 AC	DPDT	5.30	5.04	4.77	4.24	3.71
60F3188	214XBX48P	24 DC	DPDT	5.30	5.04	4.77	4.24	3.71
60F3189	214XCX48P	115 AC	3PDT	6.30	5.99	5.67	5.04	4.41
60F3190	214XCX48P	24 DC	3PDT	6.30	5.99	5.67	5.04	4.41

WITH NEON INDICATING LIGHT

67F640	214XBX48PL	115 AC	DPDT	6.80	6.46	6.12	5.44	4.76
67F641	214XCX48PL	115 AC	3PDT	7.80	7.41	7.02	6.24	5.46

283 FRAME RELAYS

- **Long-life 10 amp contacts**
- **U.L. Recognized**
- **AC or DC Coils**
- **1, 2, or 3 pole D.T. contacts**
- **Quick connect terminals**



General-purpose industrial relays. Designed for high reliability, excellent packaging density, and good cost-to-quality relationships. Gold diffused, silver-cadmium oxide contacts with excellent wiping action permit these relays to be used on a variety of loads ranging from instrument and logic and other relays. Clear polycarbonate covers. Have 0.187" flat male terminals of the quick-connect type. Terminals are properly spaced for standard plug-in mounting, and are pierced to accommodate solder wiring. U.L. recognized. AC or DC coils.

ENCLOSED PLUG-IN

Stock No.	Type	Coil Volts	Action	1-24	25-49	50-74	75-99	100-249
67F642	283XAXC	12 VAC	SPDT	3.80	3.61	3.42	3.04	2.66
67F643	283XAXC	24 VAC	SPDT	3.80	3.61	3.42	3.04	2.66
67F644	283XAXC	120 VAC	SPDT	3.80	3.61	3.42	3.04	2.66
67F645	283XAXC	12 VDC	SPDT	3.65	3.47	3.29	2.92	2.56
67F646	283XAXC	24 VDC	SPDT	3.65	3.47	3.29	2.92	2.56
67F647	283XAXC	110 VDC	SPDT	4.30	4.09	3.87	3.44	3.01
67F648	283XBXC	12 VAC	2PDT	4.70	4.47	4.23	3.76	3.29
67F649	283XBXC	24 VAC	2PDT	4.70	4.47	4.23	3.76	3.29
67F650	283XBXC	120 VAC	2PDT	4.70	4.47	4.23	3.76	3.29
67F651	283XBXC	12 VDC	2PDT	4.20	3.99	3.78	3.36	2.94
67F652	283XBXC	24 VDC	2PDT	4.20	3.99	3.78	3.36	2.94
67F653	283XBXC	110 VDC	2PDT	4.90	4.66	4.41	3.92	3.43
67F654	283XCXC	12 VAC	3PDT	5.30	5.04	4.77	4.24	3.71
67F655	283XCXC	24 VAC	3PDT	5.30	5.04	4.77	4.24	3.71
67F656	283XCXC	120 VAC	3PDT	5.30	5.04	4.77	4.24	3.71
67F657	283XCXC	12 VDC	3PDT	4.85	4.61	4.37	3.88	3.40
67F658	283XCXC	24 VDC	3PDT	4.85	4.61	4.37	3.88	3.40
67F659	283XCXC	110 VDC	3PDT	5.30	5.04	4.77	4.24	3.71

ENCLOSED BRACKET-MOUNTED

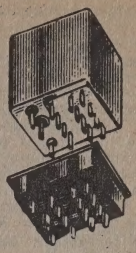
67F660	283XAXC1	12 VAC	SPDT	3.80	3.61	3.42	3.04	2.66
67F661	283XAXC1	24 VAC	SPDT	3.80	3.61	3.42	3.04	2.66
67F662	283XAXC1	120 VAC	SPDT	3.80	3.61	3.42	3.04	2.66
67F663	283XAXC1	12 VDC	SPDT	3.65	3.42	3.29	2.92	2.56
67F664	283XAXC1	24 VDC	SPDT	3.65	3.42	3.29	2.92	2.56
67F665	283XAXC1	110 VDC	SPDT	4.30	4.09	3.87	3.44	3.01
67F666	283XBXC1	12 VAC	2PDT	4.70	4.47	4.23	3.76	3.29
67F667	283XBXC1	24 VAC	2PDT	4.70	4.47	4.23	3.76	3.29
67F668	283XBXC1	120 VAC	2PDT	4.70	4.47	4.23	3.76	3.29
67F669	283XBXC1	12 VDC	2PDT	4.20	3.99	3.78	3.36	2.94
67F670	283XBXC1	24 VDC	2PDT	4.20	3.99	3.78	3.36	2.94
67F671	283XBXC1	110 VDC	2PDT	4.90	4.66	4.41	3.92	3.43
67F672	283XCXC1	12 VAC	3PDT	5.30	5.04	4.77	4.24	3.71
67F673	283XCXC1	24 VAC	3PDT	5.30	5.04	4.77	4.24	3.71
67F674	283XCXC1	120 VAC	3PDT	5.30	5.04	4.77	4.24	3.71
67F675	283XCXC1	12 VDC	3PDT	4.85	4.61	4.37	3.88	3.40
67F676	283XCXC1	24 VDC	3PDT	4.85	4.61	4.37	3.88	3.40
67F677	283XCXC1	110 VDC	3PDT	5.30	5.04	4.77	4.24	3.71

SOCKETS FOR ABOVE PLUG-INS

Stock Number	Type	Coil Voltage	Each
67F678	36579	P.C. Terminals	.75
67F679	36580	.187 Quick Connect	
67F680	36581	Solder Terminals	

MODEL 281 XDX PLUG-IN RELAY

4PDT 3 amp. contacts. Light duty relay contains in-line contacts. Enclosed by a removable nylon cover. Solder brass terminals and a single mounting stud for directly-wired applications; converts easily to plug-in by adding sockets. High contact packaging density makes it ideal for applications requiring large banks of relays. Contacts are fine silver buttons, gold flashed. Life expectancy 50 million mech. oper. minimum 750,000 elec .oper. min.

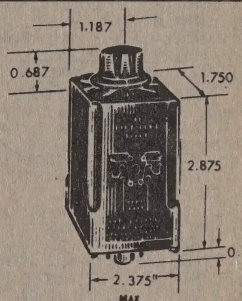


Stock No.	Coil Volts	Coil Current	Coil Ohms	1-24	25-49	50-74	75-99	100-249
60F3281	24 AC	40 MA	160	5.20	4.94	4.68	4.16	3.64
60F3282	115 AC	10 MA	3900	5.60	5.32	5.04	4.48	3.92
60F3283	12 DC	76 MA	160	4.50	4.28	4.05	3.60	3.15
60F3284	24 DC	37 MA	650	4.50	4.28	4.05	3.60	3.15
60F3285	110 DC	10 MA	11000	4.80	4.56	4.32	3.84	3.36

60F3286	32884—Solder Term. Socket. **NET**	.60
60F3287	32885—PC Term. Socket. **NET**	.60

MODEL 42 AND MODEL 45 RELAYS

- **Solid State Time Delay**
- **Designed for industrial control**
- **Long-life**
- **Transient protection**
- **DPDT 10 amps @ 120 VAC, 60 Hz. resistive**
- **Reference scale**



Model 42. Delay on release. Output contacts immediately transfer when external pilot switch closes. When pilot switch opens timing begins and output contacts transfer after preset adjustable time delay. Accuracy ±10% with 2% repeatability at 25°C. Temp. range, −10°C to +55°C. **Model 45.** Delay on operate. With contacts that transfer after a preset time period when energized, and return when deenergized. Warning: An interruption of power to the timer control circuit during the timing period may cause a momentary transfer of the relay contacts.

Type	Time Delay Range
42-010 or 45-010	0.1 to 10 Seconds
42-060 or 45-060	0.6 to 60 Seconds
42-180 or 45-180	1.8 to 180 Seconds

MODEL 42 DELAY ON RELEASE

Stock No.	Type	Volts	1-24	25-49	50-74	75-99	100-249
67F681	42-010	120 VAC	23.50	22.33	21.15	18.80	16.45
67F682	42-010	24 VAC	23.50	22.33	21.15	18.80	16.45
67F683	42-010	48 VDC	21.50	20.43	19.35	17.20	15.05
67F684	42-010	24 VDC	21.50	20.43	19.35	17.20	15.05
67F685	42-060	120 VAC	23.50	22.33	21.15	18.80	16.45
67F686	42-060	24 VAC	23.50	22.33	21.15	18.80	16.45
67F687	42-060	48 VDC	21.50	20.43	19.35	17.20	15.05
67F688	42-060	24 VDC	21.50	20.43	19.35	17.20	15.05
67F689	42-180	120 VAC	23.50	22.33	21.15	18.80	16.45
67F690	42-180	24 VAC	23.50	22.33	21.15	18.80	16.45
67F691	42-180	48 VDC	21.50	20.43	19.35	17.20	15.05
67F692	42-180	24 VDC	21.50	20.43	19.35	17.20	15.05

MODEL 45 DELAY ON OPERATE

67F693	45-010	120 VAC	19.50	18.53	17.55	15.60	13.65
67F694	45-010	24 VAC	19.50	18.53	17.55	15.60	13.65
67F695	45-010	48 VDC	18.50	17.58	16.65	14.80	12.95
67F696	45-010	24 VDC	18.50	17.58	16.65	14.80	12.95
67F697	45-060	120 VAC	19.50	18.53	17.55	15.60	13.65
67F698	45-060	24 VAC	19.50	18.53	17.55	15.60	13.65
67F699	45-060	48 VDC	18.50	17.58	16.65	14.80	12.95
67F700	45-060	24 VDC	18.50	17.58	16.65	14.80	12.95
67F701	45-180	120 VAC	19.50	18.53	17.55	15.60	13.65
67F702	45-180	24 VAC	19.50	18.53	17.55	15.60	13.65
67F703	45-180	48 VDC	18.50	17.58	16.65	14.80	12.95
67F704	45-180	24 VDC	18.50	17.58	16.65	14.80	12.95

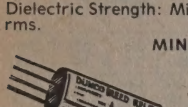
Struthers-Dunn Reed Relays

BASIC CHARACTERISTICS

All feature contamination-proof, glass-sealed reed switches, non-critical mounting, and complete magnetic shielding for exceptionally fast low-level and light duty switching. Most designs are available with either miniature or standard size reed switches, in a wide selection of Form A (SPST-NO), Form B (SPST-NC), or Form C (SPDT) contact arrangements. NOTES: (1) Voltage current & power ratings are independent maximums and no single value is to be exceeded. (2) Operate & Release times do not include bounce time, which is shown separately. Insulation Resistance: 1,000 megohms, min. Operating Ambient Range: —20° to +60°C Dielectric Strength: Min. 250V rms. Stand. 400V rms.

	MINIATURE SWITCHES			STANDARD SWITCHES		
	Form A	Form B	Form C	Form A	Form B	Form C
Maximum Ratings (1)—ac or dc resistive loads without inrush						
Volts	250	250	100	250	250	250
Amperes	0.500	0.500	0.250	1.0	1.0	0.5
Volt-Amperes	10	10	3	15	15	10
Performance Time—milliseconds, max.						
Operate Time (2)	0.5—1.5	0-5—1.5	0.5—1.5	1.5—2.0	1.5—2.0	1.5—2.0
Release Time (2)	0.5—1.5	0.5—1.5	0.5—1.5	0.5—1.5	0.5—1.5	0.5—1.5
Bounce on Operate	0.5	—	0.5	0.5	—	4.0
Bounce on Release	—	0.5	2.0	—	0.5	4.0
Life Expectancy—millions of operations						
Dry circuit	200	200	50	200	200	200
Half rating	20	20	20	100	100	50
Full rating	10	10	10	20	20	20

MINIATURE MOLDED SHIELD REEDS



Operating time is .5-2.5 msec. Release time less than 0.3 msec. Insulation resistance: 10,000 megs. MRR1A, 1 form A, N.O.; .425" dia. x 1.062". MRR2A. 2 form A, N.O.; .424x.515x1.062". MRR4A 4 form A, N.O.; .53x.810x1.062". Shpg. wt. 2 oz.

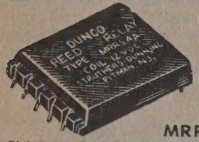
Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3154	MRR1A	6	288	4.20	3.99	3.78	3.36	2.94
60F3155	MRR1A	12	1152	4.20	3.99	3.78	3.36	2.94
60F3156	MRR1A	24	4600					
60F3157	MRR2A	6	144	**6.20**	**5.89**	**5.57**	**4.95**	**4.33**
60F3158	MRR2A	12	576					
60F3159	MRR2A	24	2300	7.70	7.32	6.93	6.16	5.39

STANDARD MOLDED SHIELDED REEDS

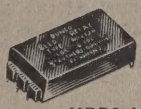
Axial leads, encapsulated with wrap around shielding. Operating time; .5 to 2.5 milliseconds, 10,000 megohms insulating res. Contact arrangement indicated by type numbers as follows: RR1A (1 Form A) and RR1B (1 Form B), .655" dia. x 1.875"; RR2A (2 Form A), .67 x .84 x 1.875". Shpg. wt. 4 oz.

Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3133	RR1A	6	90					
60F3134	RR1A	12	360	**3.20**	**3.04**	**2.88**	**2.56**	**2.24**
60F3135	RR1A	24	1440					
60F3136	RR1B	12	360	**4.10**	**3.90**	**3.69**	**3.28**	**2.87**
60F3137	RR1B	24	1440					
60F3138	RR2A	6	36					
60F3139	RR2A	12	145	**5.00**	**4.75**	**4.50**	**4.00**	**3.50**
60F3140	RR2A	24	580					

LOW PROFILE SUBMINIATURE FOR PRINTED CIRCUITS



MRRS4A



MRRS2A

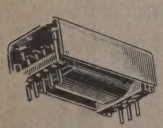
MRRS1A

Shielded internally. Designed to assure maximum environmental protection. Contact rating: 10 watts. Operate time: 1.0 ms. Temperature range: 0°C to +50°C. Shock resistance up to 50g. Mechanical life 200,000,000 operations at dry circuit level; 10,000 operations at minimum rating. Std. 0.172" grid space, right angle leads arranged to prevent incorrect insertion into circuit board. Insulation resistance: 100 megohms. All ave. 1.3" long and .35" high. Wt. 4 oz.

MRRS1A-SPST .500 wide, MRRS2A-DPST .625 wide, MRRS4A-4PST. 1.000 wide.

Stock No.	Type	Coil DC Volts Nom.	Coil DC Volts Oper.	Ohms	1-24	25 49	50-74	75-99	100-249
60F3206	MRRS1A	12	9.6	576	4.40	4.18	3.96	3.52	3.08
60F3207	MRRS1A	24	19.2	2300	4.40	4.18	3.96	3.52	3.08
60F3202	MRRS2A	12	9.6	380	6.10	5.80	5.49	4.88	4.27
60F3203	MRRS2A	24	19.2	1440	6.10	5.80	5.49	4.88	4.27
60F3204	MRRS4A	12	9.6	125	7.70	7.32	6.93	6.16	5.39
60F3205	MRRS4A	24	19.2	500	7.70	7.32	6.93	6.16	5.39

MRRN SERIES

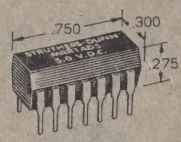


Low cost open dry reed relay designed for applications requiring reliability over an extremely long life. Snap-on metal covers for magnetic shielding. Contacts rated for low level to 12 volt-amperes. Non-magnetic P/C in-line terminals on 0.1" grid spacing. Size: 1⅛" long by ⅜" above the mounting board.

12 VOLTS DC

Stk. No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3088	MRRN1A	1 Form "A"—SPST N.O.	3.30	3.14	2.97	2.64	2.31
60F3089	MRRN2A	2 Form "A"—DPST N.O.	4.70	4.47	4.23	3.76	3.29
60F3090	MRRN3A	3 Form "A"—3PST N.O.	6.40	6.08	5.76	5.12	4.48

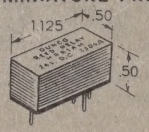
DUAL-IN-LINE REED RELAYS



Truly compatible with dual-in-line IC's including size and operating sensitivities that eliminate or minimize interface buffering. Pin spacing is industry standard for 14 pin dual-in-line IC's. (*) 4.5 volt must operate at 40 MW at 25°C. Height above PC Board is .275". Contact rated at 10 VA max, .250 Amp max, 100 volt max. Shipping Wt. 1 oz.

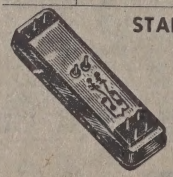
Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3800	MRR1ADSR*	5	500	4.50	4.28	4.05		3.15
60F3801	MRR1ADS	5	360	3.50	3.33	3.15	2.80	2.45
60F3802	MRR1ADS	12	1440	3.50	3.33	3.15	2.80	2.45

MINIATURE PRINTED CIRCUIT SHIELDED REEDS



Can be wired on 0.1 grid centers. MMR1AM, 1 form A; MRR1BM, 1 form B; MRR1A1BM, 1 form A, 1 form B; MRR2AM, 2 form A; MRR2BM 2 form B; Size; All aver. .50x.50x1.25". Shpg. wt. 5 oz.

Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3162	MRR1AM	6	144					
60F3163	MRR1AM	12	576	**5.70**	**5.42**	**5.13**	**4.56**	**3.99**
60F3164	MRR1AM	24	2304					
60F3165	MRR1BM	12	576	**5.90**	**5.61**	**5.31**	**4.72**	**4.13**
60F3166	MRR1BM	24	2304					
60F3168	MRR1A1BM	12	288	**7.70**	**7.32**	**6.93**	**6.16**	**5.39**
60F3169	MRR1A1BM	24	1152					
60F3170	MRR2AM	12	288	**6.80**	**6.46**	**6.12**	**5.44**	**4.76**
60F3171	MRR2AM	24	1152					
60F3172	MRR2BM	12	288	**7.00**	**7.32**	**6.93**	**6.16**	**5.39**
60F3173	MRR2BM	24	1152					



STANDARD PRINTED CIRCUIT SHIELDED REEDS

Entirely enclosed in a steel housing. Insulation resistance: 1000 megohms. RR1A1BM, 1 Form A, 1 Form B; 2.938x.800x.550". RR2A2BM, 2 Form A, 2 Form B; 2.938x1.200x.550". RR1CM, 1 Form C; 3 2.938x.600x.550".

Stock No.	Type	Coil VDC	Ohms	1-24	25-49	50-74	75-99	100-249
60F3143	RR1A1BM	6	36					
60F3144	RR1A1BM	12	144	**7.00**	**6.65**	**6.30**	**5.60**	**4.90**
60F3145	RR1A1BM	24	576					
60F3146	RR2A2BM	12	72	**12.30**	**11.69**	**11.07**	**9.84**	**8.61**
60F3147	RR2A2BM	24	288					
60F3148	RR1CM	12	1152	**12.70**	**12.07**	**11.43**	**10.16**	**8.89**
60F3149	RR1CM	24	4600					

12 VOLTS DC

Stock No.	Type	Contacts	1-24	25-49	50-74	75-99	100-249
60F3091	MRRN4A	4 Form "A"—4PST N.O.	8.00	7.60	7.20	6.40	5.60
60F3092	MRRN1C	1 Form "C"—SPDT	6.50	6.18	5.85	5.20	4.55
60F3093	MRRN2C	2 Form "C"—DPDT	9.50	9.03	8.55	7.60	6.65

24 VOLTS DC

60F3094	MRRN1A	1 Form "A"—SPST N.O.	3.70	3.52	3.33	2.96	2.59
60F3095	MRRN2A	2 Form "A"—DPST N.O.	5.00	4.75	4.50	4.00	3.50
60F3096	MRRN3A	3 Form "A"—3PST N.O.	6.40	6.08	5.76	5.12	4.48
60F3097	MRRN4A	4 Form "A"—4PST N.O.	8.00	7.60	7.20	6.40	5.60
60F3098	MRRN1C	1 Form "C"—SPDT	6.50	6.18	5.85	5.20	4.55
60F3099	MRRN2C	2 Form "C"—DPDT	9.50	9.03	8.55	7.60	6.65

Struthers - Dunn Relays

SERIES 425 GENERAL PURPOSE POWER RELAYS

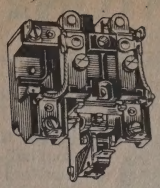
HOT ARMATURE TYPE

Stock No.	Type	Volts	Action	1-24	25-49	50-74	74-99	100-249
67F600	425XAX	12 VAC	SPDT	4.60	4.37	4.14	3.68	3.22
67F601	425XAX	24 VAC	SPDT	4.60	4.37	4.14	3.68	3.22
67F602	425XAX	120 VAC	SPDT	4.60	4.37	4.14	3.68	3.22
67F603	425XAX	208 VAC	SPDT	5.05	4.80	4.55	4.04	3.54
67F604	425XAX	240 VAC	SPDT	5.05	4.80	4.55	4.04	3.54
67F605	425XAX	12 VDC	SPDT	4.60	4.37	4.14	3.68	3.22
67F606	425XAX	24 VDC	SPDT	4.60	4.37	4.14	3.68	3.22
67F607	425XAX	110-125 VDC	SPDT	5.25	4.99	4.73	4.20	3.68

INSULATED ARMATURE TYPE (600 Volt Rating)

67F608	425HXX2	12 VAC	SPST-NO-DM	5.20	4.94	4.68	4.16	3.64
67F609	425HXX2	24 VAC	SPST-NO-DM	5.20	4.94	4.68	4.16	3.64
67F610	425HXX2	120 VAC	SPST-NO-DM	5.20	4.94	4.68	4.16	3.64
67F611	425HXX2	208 VAC	SPST-NO-DM	5.70	5.42	5.13	4.56	3.99
67F612	425HXX2	240 VAC	SPST-NO-DM	5.70	5.42	5.13	4.56	3.99
67F613	425HXX2	12 VDC	SPST-NO-DM	5.20	4.94	4.68	4.16	3.64
67F614	425HXX2	24 VDC	SPST-NO-DM	5.20	4.94	4.68	4.16	3.64
67F615	425HXX2	110-125 VDC	SPST-NO-DM	5.90	5.61	5.31	4.72	4.13
67F616	425BXX	12 VAC	DPST-NO	5.20	4.94	4.68	4.16	3.64
67F617	425BXX	24 VAC	DPST-NO	5.20	4.94	4.68	4.16	3.64
67F618	425BXX	120 VAC	DPST-NO	5.20	4.94	4.68	4.16	3.64
67F619	425BXX	208 VAC	DPST-NO	5.70	5.42	5.13	4.56	3.99
67F620	425BXX	240 VAC	DPST-NO	5.70	5.42	5.13	4.56	3.99
67F621	425BXX	12 VDC	DPST-NO	5.20	4.94	4.68	4.16	3.64
67F622	425BXX	24 VDC	DPST-NO	5.20	4.94	4.68	4.16	3.64
67F623	425BXX	110-125 VDC	DPST-NO	5.90	5.61	5.31	4.72	4.13
67F624	425XBX	12 VAC	DPDT	6.90	6.56	6.21	5.52	4.35
67F625	425XBS	24 VAC	DPDT	6.90	6.56	6.21	5.52	4.35
67F626	425XBX	120 VAC	DPDT	6.90	6.56	6.21	5.52	4.35
67F627	425XBX	208 VAC	DPDT	7.55	7.17	6.80	6.04	5.29
67F628	425XBX	240 VAC	DPDT	7.55	7.17	6.80	6.04	5.29
67F629	425XBX	480 VAC	DPDT	8.40	7.98	7.56	6.72	5.88
67F630	425XBX	12 VDC	DPDT	6.90	6.56	6.21	5.52	4.35
67F631	425XBX	24 VDC	DPDT	6.90	6.56	6.21	5.52	4.35
67F632	425XBX	110-125 VDC	DPDT	7.55	7.17	6.80	6.04	5.29
67F633	425XBX90*	24 VAC	DPDT	8.90	8.46	8.01	7.12	6.23
67F634	425XBX90*	120 VAC	DPDT	8.90	8.46	8.01	7.12	6.23
67F635	425XBX90*	208 VAC	DPDT	9.55	9.07	8.60	7.64	6.69
67F636	425XBX90*	240 VAC	DPDT	9.55	9.07	8.60	7.64	6.69

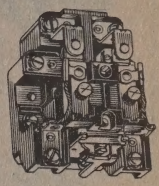
(*) Has SPDT auxially switch extending 7/8" beyond base: 10A, 250 VAC.



425BXX1890

- Full floating Movable contacts
- CSA/UL Listed
- Screw Terminals Standard

425XHX



425XBX

Suitable for all general purpose ON/OFF applications. Continuous duty coils. Resistive Contact Ratings: 30A @28VDC, 120-240VAC; 10A @ 600 VAC. Motor: 1 hp @ 120-240VAC (80%PF). All 2½x2½", 9½ oz., exc. XBX, BX90-2½x3½", 11 oz.

AC COILS, 50/60 HZ. 9.8 VA, Approx.

Voltage	Current (ma)	Res. (Ohms)
12.	820	3.2
24	410	12.
120	85	290
240	43	1200
480	22	4500

DC COILS. 2.0 Watts, Approx.

12	169	71
24	84	288
110-125	18-21	6050

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STANDARD INDUSTRIAL OPEN-TYPE POWER 115VAC RELAYS

Cont. ratings: single-break type. 30 amps. @ 24, 115 or 230VAC or 24VDC; 3 amps @ 115VDC; ¾ amp @ 230VDC. Heavy duty contacts that transfer when energized. Relays insulated according to U.L. requirements. U.L. Listed. Stud terminals. Size: 3 X 4¼". Av. wt., 1 lb.

Stk. No.	Type	Contacts	1-49	50-99	100-249
60F3121	8BXX	DP-NO	29.20	26.28	23.36
60F3123	A8CXX	3P-NO	33.00	29.70	26.40

STANDARD MIDGET OPEN-TYPE 115VAC RELAYS

Contact resistive rating: 6 amps @ 24 or 111VAC or 24VDC; 3 amps @ 230 VAC; 0.5 amps @ 115VDC. Inrush on motor or lamp loads should not exceed 20 amps. Insulation spacing in accordance with U.L. requirements for 300 V. " U.L. listed. 1⅞" x 2¾". Shpg. wt., 1 lb.

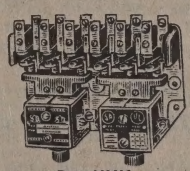
Stk. No.	Type	Contacts	1-49	50-99	100-249
60F3118	B1HXX	SP-NO-DB	12.70	11.43	10.16
60F3119	B1XAX	SPDT*	14.30	12.87	11.44
60F3120	B1XBX	DPDT*	17.60	15.84	14.08

COMPACT POWER RELAYS

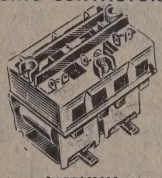
Type 415XBX. Contact arrangement: DPDT, single-break. Mechanical life, 20 million operations. Rating: 15 amperes. Size: Base 1⅞" long by 2¾" wide; Depth 1¾". U.L. Listed. Shipping Weight: 8 oz.

Stock No.	Coil Volts	1-49	50-99	100-249
60F3129	24VDC	9.30	8.37	7.44
60F3130	115VDC			
60F3128	115VAC			

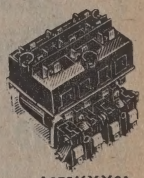
REVERSING CONTACTORS



B175KXX



A275KXX



A275KXX91

Model B175KXX. Control reversal of single phase AC/DC motors. Withstands frequent jogging service, and severe shock/vibrations encountered in hoist service. Two 3-pole solenoid operated contactors mounted on common frame. Mechanically interlocked to prevent simultaneous closure. Double-break silver cadmium oxide contacts: 2 hp at 110-220V. 2-3 phrase; 3 hp at 440-450V., 2-3 phase; 1½ hp at 230 V., 1 hp at 115v. Single phase. 5¼x4⁷⁄₁₆x3" U.L., C.S.A. listed. Shpg. wt., 2½ lbs.

Model B175KXX90 Same as Model B175KXX, plus a pair of SPDT auxiliary contacts for coil interlocking or electrical lockup.

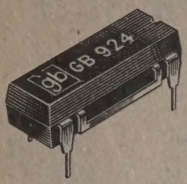
Stk. No.	Type	Coil Vac	1-49	50-99	100-249
67F637	B175KXX90	24	36.30	32.67	29.04
67F638	B175KXX90	115			
67F639	B175KXX90	230			
60F3174	B175KXX	24	31.00	27.90	24.80
60F3175	B175KXX	115			
60F3176	B175KXX	230			

Model A275KXX. Designed for continuous operation in heavy duty service. 6 silver cadmium load contacts. One set of 3-pole, normally open, double break contacts per coil and armature; rated at 120VAC-15A, 240VAC-10A, 480VAC-5A, 1-2-3 phase, 1 HP (motor load). Two mtg. holes, #8 screws. All terms. 0.250" tab type. Size: 2¾₁₆x2⁷⁄₈x3⁷⁄₃₂". Wt. 1 lb.

Model A275KXX91. Same as Model A275KXX, plus pair of DPDT aux. contacts for coil interlocking/electrical lockup.

60F3177	A275KXX	24	19.50	17.55	15.60
60F3178	A275KXX	120			
60F3179	A275KXX	230			
60F3062	A275KXX91	24	23.50	20.75	18.80
60F3063	A275KXX91	120			
60F3064	A275KXX91	230			

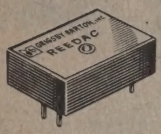
SOLID STATE DIP AC RELAY



GB924 Synchro-Dip. Photo-isolated input (LED coupled) relay provides zero voltage switching in modified TO116 Dual-In-Line package. Input 3-10 VDC, TTL compatible SPST N.O. photo-isolated. Output: 300 mA, 24-240 VAC. 1500 VAC isolation. Use as direct drive on FHP motors and solenoids or to slave larger triac for 0 voltage switching.

Stk. No.	Type	1-9	10-24	25-49	50-99	100-249
62F4025	GB924	17.50	16.60	14.90	11.60	8.75

ZERO VOLTAGE MINIATURE SOLID STATE



All solid state, zero voltage switching relay. SPST N.O. 3-32 VDC T²L compatible input. Steering diode, 2 amps @ VAC 0-60°C output with RC protective network. Four terminals are for PC mounting. Size, 1.50″ L x 1.00″ W x .620″ H.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
62F4026	GB14400-0205-4PC	16.75	15.25	14.05	12.79	11.45

TO 240 VAC, 10 AMP, HYBRID REEDAC™

U.L. listed, random turn-on, 5 VDC TTL compatible reed relay input, SPST N.O. with clamp diode. Output, 10 amps to 240 VAC with RC protection for inductive loads. Screw type terminals convert to quick disconnect.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
62F4027	GB2400-10TS-4-04	12.60	11.50	10.45	9.55	8.70

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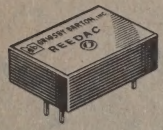
MINIATURE HYBRID REEDAC™



U.L. listed, random turn-on miniature hybrid relay. Reed relay input is 5 VDC, TTL compatible with protective clamp diode. SPST N.O. output is 2 amps to 60°C with derating to 100°C, 24-240 VAC, RC protection on output. Four terminals for printed circuit board mounting.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
62F4028	GB4400-02T5-4-PC	8.85	8.10	7.35	6.65	6.05

TO 240 VAC, 10 AMP SOLID STATE RELAY

Zero voltage, all solid state relay. SPST N.O. photo-isolated (LED) input is 5 VDC TTL compatible. 50 MA maximum input current. Steering diode on input output: 24-240 VAC, 10 amps 0-60C, derated to 100C. Internal RC suppression on output for inductive and reactive loads. Screw type terminals convert to quick disconnect.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
62F4029	GB12400-1005-4-04	21.20	19.20	17.40	15.80	14.35

SOLID STATE ZERO VOLTAGE SWITCHING

SPST N.O., all solid state with photo-isolation input 3-30 VDC TTL compatible. Zero voltage switching output with either 5 or 10 amp option at 120 VAC. 2.25″ L x 1.75″ W x .875″ H.

Stock No.	GB Type	Current	1-9	10-24	25-49	50-99	100-249
62F4030	GB15205	5 amp	17.50	16.00	14.50	13.00	11.50
62F4031	GB15210	10 amp	19.25	17.50	15.95	14.50	12.50

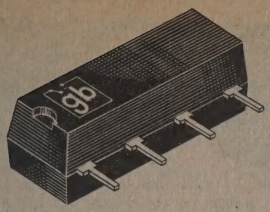
5 AMP OCTAL BASE HYBRID, SPST N.O.

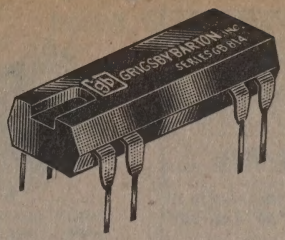
Available for either 120 or 240 VAC output at 5 amps. 5 VDC T²L compatible input with clamp diode; RC protection on output, interchangeable with most electromechanical octal base plug-in relays. 1.406″ L x 1.406″ W x 2.281″ H.

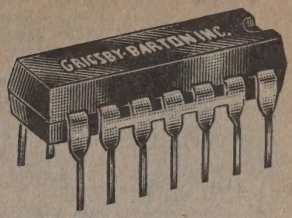
Stock No.	Type	Coil	1-9	10-24	25-49	50-99	100-249
62F4032	GB620	120 VAC	13.00	12.00	11.20	9.80	8.85
62F4033	GB640	240 VAC	14.70	13.70	12.90	11.50	10.55

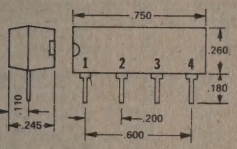
DIP Dry Reed Relays

GRIGSBY-BARTON INC



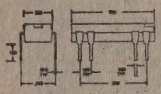






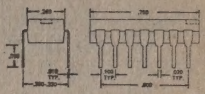
8-PIN TYPE

.260	.750
.010	.100
TYP.	TYP.
.310	.020
	TYP.
	.600



14-PIN TYPE

.260	.750
.010	.100
TYP.	TYP.
.300	.020
	TYP.
.320	.600



Contact Ratings

Type of Relay D.C. Watts Contacts Grisby Barton Type No.	DRY REED Lo. Level to 3WDC SPST and SPDT GB811A, 812A, 822, 832	DRY REED Lo. Level to 10WDC SPST and SPDT GB821A, 831, 841	DRY REED Lo. Level to .1 WDC SPDT Type GB811C	DRY REED Lo. Level to 3WDC SPDT Type GB821C, 831C
Maximum Switching Voltage	28 VDC	100 VDC	28 VDC	28 VDC
Maximum D.C. Current Rating	100 MA	250 MA	100 MA	250 MA
Breakdown Voltage	150 VDC	250 VDC	100 VDC	250 VDC
Initial Contact Resistance	.200 Ohms	.150 Ohms	250 Ohms	200 Ohms
Typical Operate Time	.5 ms	.6 ms	.5 ms	1.0 ms
Typical Release Time	.35 ms	.35 ms	.35 ms	1.5 ms

This family of dual-in-line reed relays offers a complete selection of contact configurations, coil voltages and packaging. Choose from JEDEC TO-116 case size or .275" high commercial version. Forms include dry-reed Form A, 2 Form A and Form C. Coil voltages of 5, 12 and 24 volts interface directly with DTL, TTL and HTL logic without additional buffering. Contact ratings range up to 10 watts DC in Form A and 3 watts DC in Form C. Pin spacing conforms to the standard DIP lead spacing. All models fit standard 14-pin receptacles and can be inserted automatically. 8-pin models are designed for direct printed circuit board mounting where it is desirable to drill only 8 holes. Internal clamp diodes available on all models, for protection of drivers, by suppressing back EMF. New techniques in semi-automatic assembly, transfer-molding and automatic testing provide dependable and environmental protection at a low initial cost.

TYPE GB811A IN TO-116 14-PIN CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F2901	GB811A-2B	1A	5	200	Yes	4.90	4.41	3.92	3.43	2.94
62F2904	GB811A-6B	1A	5	500	Yes	5.05	4.54	4.04	3.53	3.03

TYPE GB811C IN TO-116 14-PIN CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F2909	GB811C-2B	1C	5	150	Yes	11.70	10.70	10.10	9.70	9.30

TYPE GB812A IN TO-116 14-PIN CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F2907	GB812A-2B	2A	5	200	No	6.25	5.65	5.06	4.46	3.87

TYPE GB814A IN TO-116 14-PIN CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F2911	GB814A-2B	1A	5	500	Yes	3.85	3.46	3.08	2.69	2.31

TYPE GB821A IN 14-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F2922	GB821A-3	1A	5-12	500	No	3.30	2.97	2.64	2.31	1.98
62F2923	GB821A-4	1A	5-12	500	Yes	3.60	3.24	2.88	2.52	2.18
62F2926	GB821A-7	1A	24	2,150	No	3.50	3.15	2.80	2.45	2.10
62F2927	GB821A-8	1A	24	2,150	Yes	3.80	3.42	3.04	2.66	2.26

TYPE GB821C IN 14-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F2935	GB821C-2	1C	5	150	Yes	5.80	5.22	4.64	4.06	3.48
62F2937	GB821C-4	1C	12	450	Yes	5.80	5.22	4.64	4.06	3.48
62F2939	GB821C-6	1C	24	1,750	Yes	6.00	5.40	4.80	4.20	3.75

TYPE GB822A IN 14-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F2929	GB822A-2	2A	5	150	Yes	6.25	5.62	5.00	4.37	4.15
62F2931	GB822A-4	2A	12	450	Yes	6.25	5.62	5.00	4.37	4.15
62F2933	GB822A-6	2A	24	1,750	Yes	6.45	5.80	5.16	4.51	4.29

TYPE GB831A IN 8-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F2914	GB831A-3	1A	5-12	500	No	3.30	2.97	2.64	2.31	1.98
62F2915	GB831A-4	1A	5-12	500	Yes	3.60	3.24	2.88	2.52	2.18
62F2918	GB831A-7	1A	24	2,150	No	3.50	3.15	2.80	2.45	2.10
62F2919	GB831A-8	1A	24	2,150	Yes	3.80	3.42	3.04	2.66	2.26

TYPE GB831C IN 8-PIN .275" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F4034	GB831C-2	1C	5	150	Yes	5.80	5.22	4.64	4.06	3.48
62F4035	GB831C-4	1C	12	450	Yes	5.80	5.22	4.64	4.06	3.48
62F4036	GB831C-6	1C	24	1,750	Yes	6.00	5.40	4.80	4.20	3.75

TYPE 832A IN 8-PIN .275" HIGH CASE

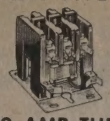
Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F4037	GB832A-2	2A	5	150	Yes	6.25	5.62	5.00	4.37	4.15
62F4038	GB832A-4	2A	12	450	Yes	6.25	5.62	5.00	4.37	4.15
62F4039	GB832A-6	2A	24	1,750	Yes	6.45	5.80	5.16	4.51	4.29

TYPE 841A IN 4-PIN .260" HIGH CASE

Stock No.	Type	Contact Form	VDC Nom	Coil Ohms Nom.	Diode	1-24	25-49	50-99	100-249	250-499
62F4040	GB841A-3	1A	5-12	500	No	3.30	2.97	2.64	2.31	1.98
62F4041	GB841A-4	1A	5-12	500	Yes	3.60	3.24	2.88	2.52	1.98
62F4042	GB841A-7	1A	24	2,150	No	3.50	3.15	2.80	2.45	2.10
62F4043	GB841A-8	1A	24	2,150	Yes	3.80	3.42	3.04	2.66	2.26

Relays and Controls

• NEW TYPE 154 AC POWER CONTACTORS



Interchangeable mounting with low coil wattage and double-break contacts. Non positional, non-corroding structure, low temp. rise and riveted terminal assemblies. Hardware included in boxed units only.

20 AMP THREE POLE - NORMALLY OPEN

Stock No.	Type	Coil V.	Cont. Rating inductive	Resistive	1-24	25-49	50-99
60F2650	154-901	24	Cont. 20A @ 600V.	30 A @ 600V AC Max.	7.20	6.48	5.76
60F2651	154-902	120	Inrush 150A @ 277V.		7.20	6.48	5.76
60F2652	154-903	208/240			7.20	6.48	5.76

25 AMP THREE POLE - NORMALLY OPEN

60F2653	154-904	24	Cont. 25 AMP @ 600V	35A @ 600V AC Max.	9.60	8.64	7.68
60F2654	154-905	120	Inrush 150 AMP @ 277V		9.60	8.64	7.68
60F2655	154-906	208/240			9.60	8.64	7.68

30 AMP THREE POLE - NORMALLY OPEN

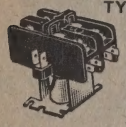
60F2656	154-907	24	Cont. 25A @ 600V	40 AMP C 600V AC Max.	11.00	9.90	8.80
60F2657	154-908	120	Inrush 180A @ 277V		11.00	9.90	8.80
60F2658	154-909	208/240			11.00	9.90	8.80

40 AMP TWO AND THREE POLE - NORMALLY OPEN

60F2659	154-910	24	Cont.		12.00	10.80	9.60
60F2660	154-913	24	40A @ 600V		10.80	9.72	8.64
60F2661	154-911	120	Inrush	50 AMP	12.00	10.80	9.60
60F2662	154-914	120	240 AMP @ 277V	@ 600V	10.80	9.72	8.64
60F2663	154-912	208/240	200 AMP @ 480V	AC Max.	12.00	10.80	9.60
60F2664	154-915	208/240	160 AMP @ 600V		10.80	9.72	8.64

10

TYPE 143 AC POWER CONTACTOR



2PNO double break contacts. Rated for 18 amp., 250 volts continuous or 90 amp inrush. Straight through wiring. No 10 pressure screw power terminals with dual quick connect auxiliary terminals. Female quick-connect wiring, terminals included. Class "B" coils. Size 3¼x2⅜x2½''/Wt. 8 oz. U.L. and CSA listed.

Stock No.	Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2979	143-901	24					
60F2980	143-902	120	6.00	5.40	4.80	4.20	2.74
60F2981	143-903	208-230					

TYPE 129 AC POWER RELAY

Totally enclosed. Screw terminals. Silver alloy contacts rated at 18 amperes continuously at 250 volts AC, resistive or inductive. Horse power rating, 1 H.P. at 125 volts, 2 H.P. at 250 volts. Single screw mounting. Electrical life, 100,000 operations at rated load. Coil: 10 volt-amperes inrush—5 volt-amperes sealed. Size, 2⅜x1⅞x1⅞''. Approx. 7 oz.

Stk.No.	Type	AC Volts	Act.	1-24	25-49	50-99	100-249	250-499
60F2709	129-902	24	SPNO	4.65	4.19	3.72	3.26	2.83
60F2710	129-903	120	SPNO	4.92	4.43	3.94	3.44	3.00
60F2011	129-904	208/230	SPNO	5.22	4.70	4.18	3.65	3.18
60F2713	129-906	24	SPDT*	5.77	5.19	4.62	4.04	3.51
60F2714	129-907	120	SPDT*	6.10	5.49	4.88	4.27	3.71
60F2715	129-908	208/230	SPDT*	6.44	5.80	5.15	4.51	3.92

*Isolated Terminals; all contact term. Wired same polarity.

rPE 129AR AC POWER RELAY

Fits any ½'' knockout. Contacts rated at 250VAC @ 18 amp. continuous. Pre-wired. Color coded 8'' lead wires, U.L. approved. (†) single pole, normally open; (*) single pole, double throw. 2¾x2⅝16x3⅛16''.

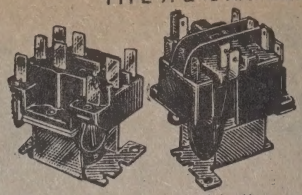
Stk. No.	Mfr. Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2683	129AR-901†	24	7.08	6.37	5.66	4.96	4.31
60F2684	129AR-902†	120	7.25	6.53	5.80	5.08	4.41
60F2686	129AR-904*	24	8.12	7.31	6.50	5.68	4.94
60F2697	129AR-905*	120	8.00	7.20	6.40	5.60	4.87

TYPE 75 AC POWER CONTRACTORS

Protected contacts Coil lead wires, 2PNO action, silver alloy contacts rated at 25 amps, 240 volts AC (per pole resistive; 18 amps, 230 volts AC inductive).1 Horse power per pole, 115/230 volts AC. 2 pole rating—2 horse power, 230 volts AC. Electrical life, 100,000 operations at rated load. Sealed coil. Screw power terminals except (*) which are quick-connect. Over-all dimensions, 2½x2⅛x2¼'' Approx. wt., 7 oz.

Stock No.	Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2722	75-901	24					
60F2723	75-902	115/120					
60F2724	75-903	230/240	4.86	4.37	3.89	3.40	2.86
60F2982	75-904	24					
60F2983	75-905	115/120					
60F2984	75-906	230/240					

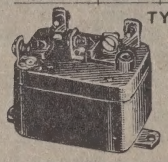
TYPE 91 & 92 A.C. GENERAL PURPOSE



Solenoid action. Quick connect terminals. Enclosed fine silver contacts. Contacts rated at 15 amps, 277 volts Ac max., resistive; 12 amps, (60 amp inrush) 125 volts AC; 6 amps (35 amp inrush, 250 volts inductive. Selective mounting. Electrical life, 100,000 operations at rate load. **Type 91:** coil DPDT characteristics, 22 volt-amperes inrush; 10 volt-amperes sealed. Overall dimensions: 2⅛x1⅞x2⅜''. Approx. wt. 5 oz. **Type 92:** 3PDT. coil 24 volt-amperes inrush; 12 voltamperes sealed. Overall dimensions: 2⅜x2⅜x2¾''. Approx. wt. 6 oz.

Stock No.	Type	AC Volts	1-24	25-49	50-99	100-249	250-499
60F2716	91-901	24	6.15	5.54	4.92	4.31	2.79
60F2717	91-902	115/120	6.32	5.69	5.06	4.42	2.86
60F2718	91-903	208/240	6.65	5.99	5.32	4.66	3.01
60F2719	92-901	24	7.67	6.90	6.14	5.37	3.47
60F2720	92-902	115/120	7.59	6.83	6.07	5.31	3.44
60F2721	92-903	208/240	7.88	7.09	6.30	5.52	3.57

TYPE 84 SCREW TERMINALS



Totally enclosed. Silver alloy contacts rated at 125/250 volts AC; SPNO, 16 amps resistive (continuous); 8 amps (25 amps inrush) inductive. SPDT, 8 amps resistive (18 amps inrush) inductive. 6-32 mounting holes/2.156'' centers. Electrical life, 100,000 operations at rated load. Coil, 4 VA inrush; 3 VA sealed. Overall size, 2⅜x1⅝x1½''. Approx. wt., 5 oz.

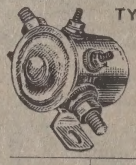
Stk. No.	Type	AC Volts	Action	1-24	25-49	50-99	100-249	250-499
60F2700	84-901	6	SPNO	3.34	3.01	2.67	2.34	2.16
60F2701	84-902	24	SPNO	3.34	3.01	2.67	2.34	2.16
60F2702	84-903	120	SPNO	3.70	3.33	2.96	2.59	2.39
60F2704	84-905	6	SPDT	3.67	3.31	2.94	2.57	2.38
60F2705	84-906	24	SPDT	3.70	3.33	2.96	2.59	2.39
60F2706	84-907	120	SPDT	3.98	3.58	3.18	2.79	2.57

TYPE 84 QUICK CONNECT TERMINALS

Same as above except with female quick-connect wiring terminals.

Stk. No.	Type	AC Volts	Action	1-24	25-49	50-99	100-249	250-499
60F2985	84-912	94	SPNO	3.32	2.99	2.66	2.32	2.15
60F2986	84-913	120	SPNO	3.60	3.29	2.93	2.56	2.33
60F2988	84-916	24	SPDT	3.57	3.21	2.86	2.50	2.31
60F2989	84-917	120	SPDT	3.93	3.54	3.14	2.75	2.54
60F2847	84-922	24	SPNO	3.26	2.93	2.61	2.29	2.11
60F2848	84-923	120	SPNO	3.67	3.30	2.94	2.57	2.38
60F2849	84-926	24	SPDT	3.62	3.26	2.90	2.53	2.34
60F2997	84-927	120	SPDT	3.93	3.54	3.14	2.75	2.54

TYPE 70 D.C. POWER CONTACTORS



Double break copper to copper rotating disc moveable contact. Wiring hardware included. Cont. rating, 80 amps (inrush 300 amps at 6 volts—150 amps at 12 volts DC). 50 amps max. at 24 and 36 volts DC. Bracket mnt.—2.109'' centers. Coil, 9 watts. Copper contacts except (*) which are silver. SPNO: 2½x3½x2½''. SPDT 3⅜x3⅜16x2½''. Approx. wt. 1 lb.

Stk. No.	Type	Volts DC	Action	1-24	25-49	50-99	100-249	250-499
60F2725	70-901	6	SPNO	4.20	3.78	3.36	2.94	1.99
60F2726	70-902	12	SPNO	4.20	3.78	3.36	2.94	2.20
60F2727	70-903	24	SPNO	4.20	3.78	3.36	2.94	2.28
60F2728	70-904	36	SPNO	4.20	3.78	3.36	2.94	2.38
60F2675	70-905*	6	SPNO	7.35	6.62	5.88	5.15	3.92
60F2676	70-906*	12	SPNO	7.35	6.62	5.88	5.15	4.14
60F2677	70-907*	24	SPNO	7.35	6.62	5.88	5.15	4.23
60F2678	70-908*	36	SPNO	7.35	6.62	5.88	5.15	4.65
60F2679	70-909*	6	SPDT	11.00	9.90	8.80	7.70	6.71
60F2680	70-910*	12	SPDT	11.00	9.90	8.80	7.70	6.89
60F2681	70-911*	24	SPDT	11.00	9.90	8.80	7.70	7.17
60F2682	70-912*	36	SPDT	11.00	9.90	8.80	7.70	7.27
60F2692	70-914	12	SPNO	4.20	3.78	3.36	2.94	1.97
60F2693	70-915	24	SPNO	4.20	3.78	3.36	2.94	2.06
60F2694	70-918	12	SPNO	4.20	3.78	3.36	2.94	1.97
60F2695	70-919	24	SPNO	4.20	3.78	3.36	2.94	2.06

Relays

ESSEX/RBM

TYPE MS64 MIN. SENSITIVE RELAY

For application where minimum mounting space and maximum protection to moving parts are important. For printed circuit board mounting, or in mounting bracket version for "solder on" lead wire termination. Molded construction with Snap-on cover. Single pole double throw-enclosed type. Isolated contacts. Size: 1 3/16 x 3/4 x 1 1/8".

PRINTED CIRCUIT

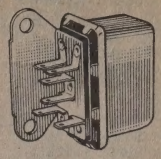
Stock No.	Type	DC Volts	Ohms @25°C	1-24	25-49	50-99	100-249
60F2971	MS64-901	6	400	2.27	2.04	1.82	1.59
60F2972	MS64-902	12	1600	2.42	2.18	1.94	1.69
60F2973	MS64-903	24	6500	2.56	2.30	2.05	1.79

BRACKET SOLDER TERMINALS

60F2975	MS64-911	6	400	2.38	2.14	1.90	1.67
60F2976	MS64-912	12	1600	2.46	2.21	1.97	1.72
60F2977	MS64-913	24	6500	2.69	2.42	2.15	1.88

•NEW TYPE 150 DC POWER RELAYS

- Metal Case
- Isolated Coil
- Totally Enclosed



Side bracket with hardware included in boxed units only. 1/4 in. quick-connect termination. Dimensions: 2 1/4 in. long by 1 1/2 in. wide by 2 in. high. Available in single pole, normally open and single pole, double-throw.

Stock No.	Type	Coil V.	Coil Ohm	Contacts V.	Contacts Amp.	1-24	25-49	50-99
60F2665	150-901	6	18	6	25	3.35	3.02	2.68
60F2666	150-902	12	44	12	25	3.35	3.02	2.68
60F2667	150-903	24	176	24	12	3.35	3.02	2.68
60F2668	150-904	6	18	6	15	3.75	3.38	3.00
60F2669	150-905	12	44	12	15	3.75	3.38	3.00
60F2670	150-906	24	176	24	7.5	3.75	3.38	3.00

AGASTAT TIME DELAYS, RELAYS AND SWITCHES

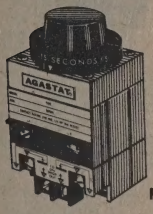


Fig. A

Fig. B

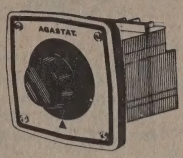


Fig. C

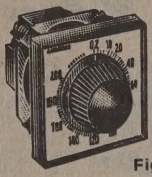


Fig. D

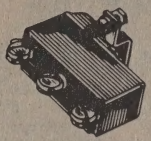
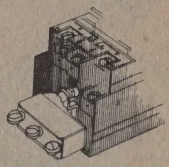


Fig. E



Model 7012

Time delay on pull-in. Timing cycle begins when coil is energized. Coil kept energized throughout delay period preceding DPDT contacts transfer. Coil de-energized: contacts retransfer immediately (25 m-sec). Coil de-energized during time cycle, contacts transferred & timing mech. resets to start position for full time cycle on next energization of coil.

Model 7022

Time delay on drop-out. Coil energized: DPDT contacts transfer & stay in transfer position. Coil de-energized: Time delay begins. Timing cycle contacts stay transferred. End time delay setting: contacts transfer back to de-energized position. Coil re-energized during time cycle; contacts remain transferred, produce full time delay upon next de-energization if coil remains de-energized through time setting.

Auxiliary Switch Kits

SPDT contacts rated 10A/120, 240, 480 VAC. Type "T" provides immediate transfer of contacts for 7022 and two step timing to 100 sec. for both 7012 and 7022 models. Type "L" provides immediate transfer of contacts for 7012 models.

Stk. No.	Model New	Model Old	Fig.	Time Delay Range	AC Volts	NET
57F1550	7012AB	2412AB	A	0.5 to 5 sec.	120	47.00
57F1551	7012AD	2412AD	A	0.5 to 50 sec.	120	47.00
57F1552	7012AH	2412AH	A	3 to 30 min.	120	56.50
57F1553	7012BB	2412BB	A	0.5 to 5 sec.	240	47.00
57F1554	7012BD	2412BD	A	0.5 to 50 sec.	240	47.00
57F1555	7012BH	2412BH	A	3 to 30 min.	240	47.00
57F1556	7022AB	2422AB	A	0.5 to 5 sec.	240	56.50
57F1557	7022AD	2422AD	A	0.5 to 50 sec.	120	47.00
57F1558	7022AH	2422AH	A	3 to 30 min.	120	47.00
57F1559	7022BB	2422BB	A	0.5 to 5 sec.	120	56.00
57F1560	7022BD	2422BD	A	0.5 to 50 sec.	240	47.00
57F1561	7022BH	2422BH	A	3 to 30 min.	240	47.00
57F1581	7012AC	2412AC	A	1.5 to 15 sec.	240	56.00
57F1582	7022AC	2422AC	A	1.5 to 15 sec.	120	47.00
57F1583	7012AE	2412AE	A	20 to 200 sec.	120	47.00
57F1584	7022AE	2422AE	A	20 to 200 sec.	120	47.00
57F1585	7012AF	2412AF	A	1 to 10 min.	120	47.00
57F1586	7022AF	2422AF	A	1 to 10 min.	120	51.00
57F1566	.....	GZ	C	Relay enclosure w/bottom knockouts	120	51.00
57F1564	.....	T	E	Aux. switch kit (see text) 30 sec.	. . .	6.50
57F1565		L	E	Aux. switch kit (see text) 30 sec.	. . .	8.00
57F1900	.....	X	D	Panel Mtg. Access. kit	. . .	7.00

VERSA-DIAL TIMER

Field converts from "on-delay" to "off-delay". "On-delay", application of volt. starts delay, end of delay NC contacts break and NO contacts make. "Off-delay", apply coil volt., NC contacts instantly break and NO contacts make. Volt. off delay begins, end of delay switch resets. Contacts: 10 amp. @ 120 VAC. Repeat acc. ±2%. Wt. 1 lb.

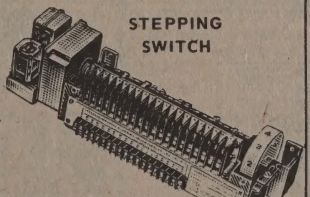
Stk. No.	Model	Fig.	Time Delay	Coil Volts	1-2	3-Up
57F1901	VEDOA	B	0.2 sec. to 60 sec.	24DC	32.00	28.00
57F1902	VEDOB	B	20 sec. to 200 sec.	24DC		
57F1903	VEDAA	B	0.2 sec. to 60 sec.	120AC		
57F1904	VEDAB	B	20 sec. to 200 sec.	120AC		

SERIES 3700 SOLID STATE TIMING RELAY

Operating voltage: 120V/25-400 HZ. Operating temp. range: 0°C to 70°C. Adjust.: knob adjust internal potentiometer. Mtng: polystyrene case with octal base. * Delay on energization; † Delay on de-energization; ‡ Delay on energization—switch transfer.

Stk. No.	Type	Time Range	1-4	5-Up
57F1300	3712B11B*	.5 to 15 sec.	28.00	25.20
57F1301	3712B11D*	2.0 to 60 sec.	28.00	25.20
57F1302	3712B11F*	6.0 to 180 sec.	28.00	25.20
57F1303	3712B11G*	10.1 to 300 sec.	28.00	25.20
57F1304	3722B12B†	.5 to 15 sec.	32.00	28.80
57F1305	3722B12D†	2.0 to 60 sec.	32.00	28.80
57F1306	3722B12F†	6.0 to 180 sec.	32.00	28.80
57F1307	3722B12G†	10.0 to 300 sec.	32.00	28.80
57F1308	3732B11C‡	1.0 to 30 sec.	32.00	28.80
57F1309	3732B11E‡	4.0 to 120 sec.	32.00	28.80
57F1310	3732B11G‡	10.0 to 300 sec.	32.00	28.80

STEPPING SWITCH



Controls twenty isolated loads thru 12 and 24 steps, from single or sequential multiple input signals. Program easily set up for changes using plug in pins in quickly removable drum. Features direct drive AC stepper, plug-in drive relay, ball bearing drum support and 15 amp SPDT load switches. 12 step, single input.

99F1502. 2962AA20B EACH 155.00
Model 2968AA20B. Same as 2962AA20B, except has 18 steps.
99F1503. EACH 170.00
Model 2962AB20B. Same as 2962AA20B, but with multiple sequential input.
FF91504. EACH 170.00
Model 2968AB20B. Same as 2962AB20B, but with 18 steps.
99F1505. EACH 185.00
Model 2974AA20B. Same as 2962AA20B, but with 24 steps.
57F1905 EACH 190.00
Model 2974AB20B Same as 2962AB20B, but with 24 steps.
57F1906 EACH 205.00

Relays and Coaxial Switches

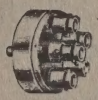
INTERMATIC LOW-COST TIME DELAY RELAYS

Stock No.	Type SS-	Range (Secs.)	Input Voltage	Each 1-24	25-49	50-99	100-249
35F3850	6262-II	1-15	120 VAC	9.95	9.49	8.98	8.49
35F3851	6263-II	1-15	24 VDC				
35F3854	6262-Y	1-30	120 VAC				
35F3855	6263-Y	1-30	24 VDC				
35F3852	6262-JJ	1-60	120 VAC				
35F3853	6263-JJ	1-60	24 VDC				
35F3856	8662-II	1-15	120 VAC	11.95	11.35	10.75	10.15
35F3857	8663-II	1-15	24 VDC				
35F3860	8662-Y	1-30	120 VAC				
35F3861	8663-Y	1-30	24 VDC				
35F3858	8662-JJ	1-60	120 VAC				
35F3859	8663-JJ	1-60	24 VDC				

Intermatic meets many of your time delay relay needs at much lower cost. This series is designed for all variable on-delay and off-delay timing requirements. Offer high accuracy and stability. Fit standard octal socket. Repeatability accuracy is ±5%. Fully protected against voltage transients and polarity changes. Output switching: SPDT, 3 amps. **Series SS-6,** on-delay; **SS-8,** off-delay. Wt. ½ lb.

AMPHENOL COAXIAL SWITCHES—MANUAL AND SOLENOID OPERATED

315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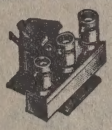
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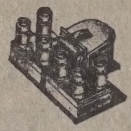
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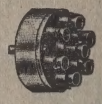
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Popular selection of coaxial switches for a wide variety of commercial and industrial applications. Require only 20 millisecond maximum operate and release time. Mechanical life exceeds 1,000,000 Hz. Silver plated for complete shielding. Gold over silver plated contacts; 100 watt RF power rating. Vacuum impregnated coils withstand adverse environmental conditions including high humidity. Rated for continuous duty from −65°C to +85°C. Terminations are all shorting except those indicated *. In Volts column, ** indicates that the marked switches are either rotary manual (57F-1108) or lever manual (57F1104 and 57F1106). Available in a wide range of function designs. All types have BNC plug.

Stock No.	Type No.	Freq. MC	Volts	Func.	Plug	1-4	5-9	10-24	25-49
57F1100	315-10002-3*	1000	26DC	SPDT	BNC	25.62	21.35	18.30	16.23
57F1104	318-10381-0*	2750	**	SPDT	BNC	32.03	26.69	22.88	20.28
57F1106	321-11062-0*	1000	**	DPDT	BNC	43.47	36.23	31.05	27.53
57F1107	321-11064-3*	1000	26DC	DPDT	BNC	40.95	34.13	29.25	25.94
57F1108	322-11431-0*	2750	**	SP4T	BNC	70.35	58.63	50.25	44.56
57F1109	323-11506-3	900	26DC	SP4T	BNC	57.75	48.13	41.25	36.58
57F1110	324-11442-0*	900	26DC	SP6T	BNC	75.60	63.00	54.00	47.88
57F1141	316-10102-8	2750	115AC	SPDT	BNC	33.60	28.00	24.00	21.28
57F1142	323-11651-3	1250	26DC	SP4T	BNC	57.75	48.13	41.25	36.58
57F1143	325-11641-3	500	26DC	SP6T	BNC	73.92	61.60	52.80	46.82
57F1144	327-10582-3	1000	26DC	Trans.	BNC	41.48	34.56	29.63	26.27

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AMPERITE THERMOSTATIC DELAY RELAYS

OCTAL BASE TUBE SHELL

Delay Seconds	Stock No.	6.3 NO	Stock No.	26V NO	Stock No.	115V NO	Stock No.	115V NC	NET
2	24F2300	6 NO2	24F2314	26 NO2	24F2328	115 NO2	24F2342	115 C2	2.35
3	24F2301	6 NO3	24F2315	26 NO3	24F2329	115 NO3	24F2343	115 C3	
5	24F2302	6 NO5	24F2316	26 NO5	24F2330	115 NO5	24F2344	115 C5	
8	.....	.....	24F2363	26 NO8	.....	.....	.....	.....	
10	24F2303	6 NO10	24F2317	26 NO10	24F2331	115 NO10	24F2345	115 C10	
15	24F2304	6 NO15	24F2318	26 NO15	24F2332	115 NO15	24F2346	115 C15	
20	24F2305	6 NO20	24F2319	26 NO20	24F2333	115 NO20	24F2347	115 C20	
30	24F2306	6 NO30	24F2320	26 NO30	24F2334	115 NO30	24F2348	115 C30	
45	24F2307	6 NO45	24F2321	26 NO45	24F2335	115 NO45	24F2349	115 C45	
60	24F2308	6 NO60	24F2322	26 NO60	24F2336	115 NO60	24F2350	115 C60	
75	24F2309	6 NO75	24F2323	26 NO75	24F2337	115 NO75	24F2351	115 C75	
90	24F2310	6 NO90	24F2324	26 NO90	24F2338	115 NO90	.....	.....	
120	24F2311	6 NO120	24F2325	26 NO120	24F2339	115 NO120	24F2353	115 C120	
150	.....	.....	24F2326	26 NO150	24F2340	115 NO150	24F2354	115 C150	
180	24F2313	6 NO180	24F2327	26 NO180	24F2341	115 NO180	24F2355	115 C180	

Hermetically sealed-heater actuated relays for AC or DC operation. SPST—Normally open (NO); Normally closed (C). Draw 2 W. Contact rating—115v at 3A AC and 220v at 1A AC. Breakdown voltage: delays 2-5 sec. between contacts 250 V; heater to contacts 500 V. Compensated for 55°C to 70°C ambient. Diameter, 1¼". Height, less prongs, 2¾". Min. 9 pin. ¾x2½". U.L. approved through 115V. Shpg. wt. 4 oz.

MINIATURE 9 PIN TUBE SHELL

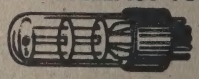
2	24F2370	6 NO2T	24F2381	26 NO2T	24F2392	115 NO2T	24F2403	115 C2T	2.35
3	24F2371	6 NO3T	24F2382	26 NO3T	24F2393	115 NO3T	24F2404	115 C3T	
5	24F2372	6 NO5T	24F2383	26 NO5T	24F2394	115 NO5T	24F2405	115 C5T	
10	24F2373	6 NO10T	24F2384	26 NO10T	24F2395	115 NO10T	24F2406	115 C10T	
15	24F2374	6 NO15T	24F2385	26 NO15T	24F2396	115 NO15T	24F2407	115 C15T	
20	24F2375	6 NO20T	24F2386	26 NO20T	24F2397	115 NO20T	24F2408	115 C20T	
30	24F2376	6 NO30T	24F2387	26 NO30T	24F2398	115 NO30T	24F2409	115 C30T	
45	24F2377	6 NO45T	24F2388	26 NO45T	24F2399	115 NO45T	24F2410	115 C45T	
60	24F2378	6 NO60T	24F2389	26 NO60T	24F2400	115 NO60T	24F2411	115 C60T	
90	24F2379	6 NO90T	24F2390	26 NO90T	24F2401	115 NO90T	24F2412	115 C90T	
120	24F2380	6 NO120T	24F2391	26 NO120T	24F2402	115 NO120T	24F2413	115 C120T	
30	24F2361	6 F30	Flasher	.....	.....	.....	.....	.....	

24F2414. Type 26C5T. Normally closed. Delay 5 sec. 26 V. NET.....2.35

OCTAL BASE TUBE SHELL

Delay Seconds	Stock No.	2.5 V	Stock No.	6.3 V	Stock No.	26.0 V.	NET
2	.....	.....	.....	.....	24F2362	26C2	2.35
30	24F2356	2NO30	.....	.....	.....	.....	
20	.....	.....	24F2357	6C20	.....	.....	
30	.....	.....	.....	.....	24F2358	26C30	

AMPERITE BALLAST TUBES



Rugged units provide low-cost automatic voltage and current regulation. As supply voltage increases, ballast tube resistance increases. Regulating action is based on high temperature coefficient of resistance element and heat dissipation qualities of glass-filled tube. Shpg. wt. 8 oz.

No.	Type	No.	Type	NET
24F744	1HM4	24F724	4A1	1.76
24F735	1HT4	24F718	4H4C	
24F717	3-4	24F719	6-4	
24F716	3-14	24F722	6H6	
24F739	3-16	24F742	6TF4	
24F727	3HTF4	24F733	8-4	
24F725	3TF4A	24F2364	22-4	
24F738	3TF4	24F734	9-7	
24F726	3TFV4	24F723	10-4C	
24F729	3TK2	24F743	3A10	
24F732	3V4	.....	.....	

Relay Mounting System

RDI/SNAPTRACK™

The SNAPTRACK mounting system provides a low cost, convenient method for installing plug-in relays, timers and tubes in control equipment. Socket assemblies snap into position along continuous sections of Snaptrack—an extruded PVC non-conductive mounting track. Track can be installed with rivets or screws. Socket assemblies consist of a socket mounted to a G-10 epoxy glass PC board with either UL grade PP barrier type screw terminal blocks, or ¼" quick-connect tabs. Terminal points numbered. Screws are in raised poistion and feature captive wire clamps which eliminate need for bending of, or attaching hook or ring terminals to wires. Optional wired-in 120 or 240 volt neon lamp is available to indicate power at coil terminals.

STANDARD SIZE # 8-32 TERM. SCREWS - FOR TK 2 SNAPTRACK

Stock No.	Type No.	Fig.	Description	Lgth. In.	1-9	10-24	25-49	50-99
29F1200	8 BR	A	8-pin Octal	2	2.50	2.25	2.00	1.75
29F1201	8 BR1	A	8-pin Octal w/ lamp	2	3.50	3.15	2.80	2.45
29F1202	11BR	B	11-pin Round	3	3.70	3.35	2.95	2.60
29F1203	11BR1	B	11-pin Round w/ lamp	3	4.70	4.25	3.75	3.30
29F1204	8BS	C	8-pin KUP style	2	3.70	3.35	2.95	2.60
29F1205	11BS	D	11-pin KUP style	3	4.20	3.80	3.35	2.95
29F1206	11BS1	D	11-pin KUP w/ lamp	3	5.20	4.70	4.15	3.65

STANDARD DBL. ¼" QUICK-CONNECT—FOR TK2 SNAPTRACK

29F267	8QS	D	8-pin KUP style	2	3.00	2.70	2.40	2.10
29F268	11QS	D	11-pin KUP style	3	3.60	3.25	2.90	2.50
29F1209	8QR	E	8-pin Octal	2	2.20	2.00	1.75	1.55
29F269	8QR1	E	8-pin Octal w/ lamp	2	3.20	2.90	2.55	2.25
29F1210	11QR	E	11-pin Round	3	3.00	2.70	2.40	2.10
29F270	11QR1	E	11-pin Round w/ lamp	3	4.00	3.60	3.20	2.80

MINIATURE- # 4-40 SCREWS-FOR TK2 SNAPTRACK

29F1273	208BR	A	8-pin Octal	2	2.70	2.45	2.15	1.90
29F271	208BR1	A	8-pin Octal w/ lamp	2	3.70	3.35	2.95	2.60
29F1274	211BR	F	11-pin Round	2⅛	3.70	3.35	2.95	2.60
29F1275	211BR1	F	11-pin Round w/ lamp	2⅛	4.70	4.25	3.75	3.30
29F1272	218BR	G	8-pin Octal (slim)	1½	2.70	2.45	2.15	1.90
29F272	218BR1	G	8-pin slim w/ lamp	1½	3.70	3.35	2.95	2.60
29F273	228BR	...	Two 8-pin Octal	3	4.90	4.40	3.90	3.45
29F274	204BS	H	Miniature 4PDT	2½	5.70	5.15	4.55	4.00
29F275	204BS1	H	Miniature w/ lamp	2½	6.70	6.05	5.35	4.70
29F276	206BS	H	Miniature 6PDT	3¾	7.50	6.75	6.00	5.25
29F1276	211BS	D	11-pin KUP style	2⅛	4.20	3.80	3.35	2.95
29F1277	211BS1	D	11-pin KUP w/ lamp	2⅛	5.20	4.70	4.15	3.65
29F1207	214BS	J	KHP style	2½	4.90	4.40	3.90	3.45
29F1208	214BS1	J	KHP style w/ lamp	2½	5.90	5.30	4.70	4.15
29F277	414BS	K	LSP style, 1 coil	2½	6.60	5.95	5.30	4.60
29F278	414BS1	K	LSP, 1 coil w/ lamp	2½	7.60	6.85	6.10	5.30
29F279	416BS	K	LSP style, 2 coil	2.825	6.80	6.10	5.45	4.75
29F280	416BS1	K	LSP, 2 coil w/ lamp	2.825	7.80	7.00	6.25	5.45

COMPACT - # 4-40 SCREWS - FOR 2TK2 SNAPTRACK

29F281	318BR	G	8-pin Octal	1½	2.70	2.45	2.15	1 90
29F282	311BR	F	11-pin Round	2⅛	3.70	3.35	2.95	2.60
29F283	312BS	K	KHP—2NO, 2 SPDT	2⅛	4.70	4.25	3.75	3.30
29F284	314BS	K	KHP style, 4 pole	2½	4.90	4.40	3.90	3.45

SNAPTRACK MOUNTING TRACK (FIG L)

For 3" Wide Sockets		For 2¾" Wide Sockets		Lgth.	
Stock No.	Type No.	Stock No.	Type No.	In.	NET
29F1211	TK2-2	29F285	2TK2-2	2	.10
29F1212	TK2-3	29F286	2TK2-3	3	.15
29F1213	TK2-6	29F287	2TK2-6	6	.30
29F1214	TK2-12	20F288	2TK2-12	12	.60
29F1215	TK2-24	29F289	2TK2-24	24	1.20
29F1216	TK2-48	29F290	2TK2-48	48	2.40

PC EDGE CONNECTOR ASSEMBLY—KLUGE BOARD (FIG. M)

Solves single and two-card termination problems. Converts 22-pin single and double-sided card to simple screw terminal wiring. KB22 Optional 22-pin "Kluge" board is used for prototyping circuits; holes drilled for 14-pin DIP devices; fits 22PCB. Connector assembly is 3x5x3½". Kluge board is 4½" wide, 5" high. Guide depth 2½". No. 4-40 terminal screws.

Stock No.	Type No.	No. of Pins Out	Edge Connector Style	1-9	10-24	25-49
29F291	22PCB	22	For notched boards	11.90	10.70	9.50
29F292	22PC	22	For square boards.	11.90	10.70	9.50
29F293	44PCB	44	For notched boards.	16.00	14.40	12.80
29F294	KB22	22	Kluge Board	14.00	12.60	11.20

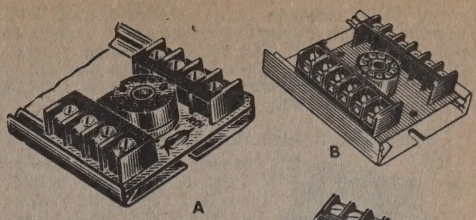
MOLDED STYLE FOR MOUNTING SINGLE RELAYS (FIG. N)

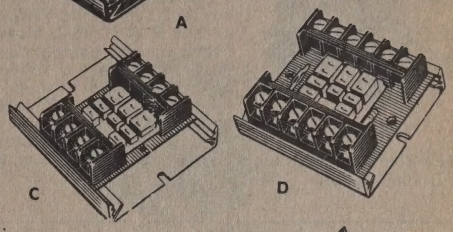
Stock No.	Type No.	Description	Lgth. In.	1-9	10-24	25-49	50-99
29F295	SM8	8-pin Octal	1⅜	1.60	1.44	1.28	1.12
29F296	SM11	11-pin Round	2 7/16	3.50	3.15	2.80	2.45

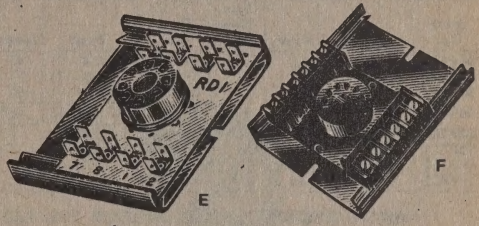
RELAY AND TIMER BAILS

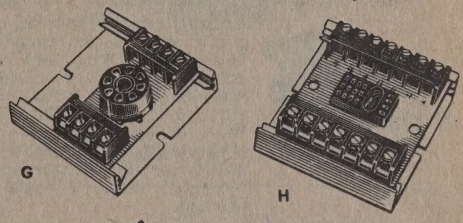
Prevents relays and timers from vibrating out of the sockets.

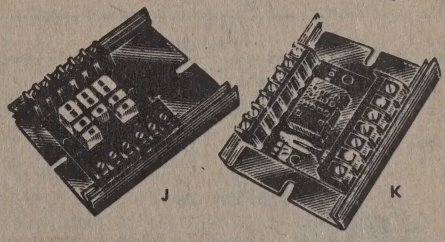
Stock No.	Type No.	Bail Fits	Pkg. of 10
29F1217	RB1	General Purpose Relays	5.00
29F297	RB4	Miniature Relays	.80
29F1218	TB1	Timers	6.00

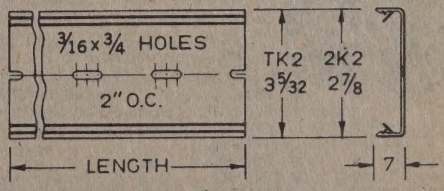


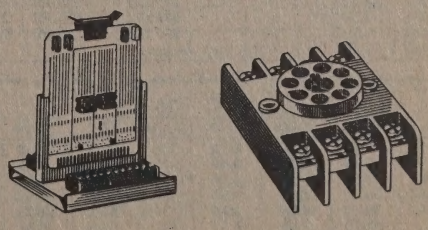












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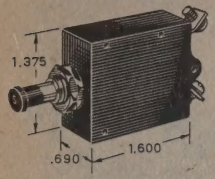
Circuit Breakers

Thermal Circuit Breakers contain a trip-free mechanism which allows the contacts to open on overload even if the breaker is manually held in the reset (ON) position. Pushbutton reset models have a white band around the button which becomes visible on trip. Trip times shown for each model are at 200% of load. •Denotes U/L. *Does not meet MS.

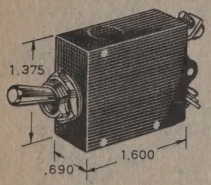
BIMETALLIC & FAST TRIP—MODELS 109, 110, 111



Models 109 and 110 must trip between 101%-135% of rating @ 25°C; will interrupt 3000 A @ 250 VAC (to 400 Hz) or 5000 A @ 50 VDC. Model 111 has heater wire for fast trip; must trip between 101%-135% of rating @ 25°C; and will interrupt over 100 A @ 250 VAC (to 400 Hz) or 150 A @ 32 VDC. Model 110 has 8-32 screw terminals situated parallel to each other. Models 109 and 111 terminals are 90° to each other, as shown. Mounting: ⅜-24 bushing nut.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
56F716	109-205-101	5		57F259	109-240-101	40	
56F717	109-507-101	7.5		56F724	109-250-101	50	8-20
56F718	109-210-101	10		57F260	109-260-101	60	
56F719	109-215-101	15	8-20	57F261	110-205-102	5	8-20
56F220	109-220-101	20		56F734	111-201-101	1	
56F721	109-225-101	25		56F735	111-202-101	2	.55-1.7
56F722	109-230-101	30		56F736	111-203-101	3	
56F723	109-235-101	35		56F737	111-204 101	4	

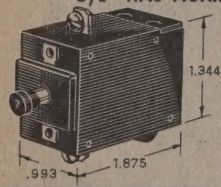
SWITCH/CIRCUIT BREAKER—MODELS 112, 548



Models 112 and 548 offer the combination of toggle switch/circuit breaker in a single package. Each must trip between 101%-135% of rating @ 25°C.; will interrupt 3000 A @ 250 VAC (to 400 Hz) or 5000 A @50 VDC. Mounting: 15/32-32 flatted bushing. Termination: 8-32 screw terminals. Model 112 has steel toggle with rate marking on end. Model 548 has silver toggle with no marking.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
56F725	112-205-101	5		56F731	112-230-101	30	
56F726	112-507-101	7.5		56F732	112-235-101	35	8-20
56F727	112-210-101	10	8-20	56F742	112-240-101	40	
56F728	112-215-101	15		56F733	112-250-101	50	
56F729	112-220-101	20		57F262	548-205-106	5	8-20
56F730	112-225-101	25		57F263	548-210-106	10	

U/L—HAS AUXILIARY SWITCH—MODEL 114



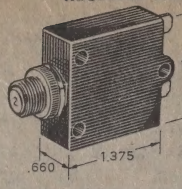
Model 114 is U/L recognized and has a SPDT auxiliary switch rated 5 A @ 125 VAC or 1 A @ 50 VDC. Switch throws as breaker trips. Must trip between 101%-135% or rating @ 25°C. Will interrupt 200 A @ 250 VAC (to 400 Hz) or 300 A @ 32 VDC. Termination: Aux. Sw., 3 receptacles for #53 taper pins; Breaker, 6-32 screw terminals.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
57F264	114-201-101	1•		57F270	114-209-101	9•	
57F265	114-202-101	2•		57F271	114-210-101	10•	
57F266	114-203-101	3•	13-30	57F272	114-215-101	15•	13-30
57F267	114-205-101	5•		57F273	114-220-101	20•	
57F268	114-206-101	6•		57F274	114-225-101	25•	
57F269	114-207-101	7•					

PRICE CHART

Type	1-9	10-24	25-99	Type	1-9	10-24	25-99
109	4.40	3.67	3.18	375	1.70	1.42	1.23
110	4.55	3.79	3.29	431	3.85	3.21	2.78
111	9.50	7.91	6.86	435	2.75	2.29	1.99
112	4.70	3.92	3.39	436	8.40	7.00	6.07
548	5.70	4.75	4.12	437	74.70	62.23	53.93
114	10.90	9.08	7.87	492	8.85	7.37	6.39
374	2.80	2.33	2.02	507	8.10	6.75	5.85

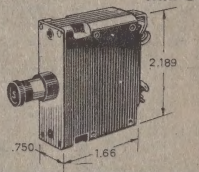
RECESSED BUTTON—MODELS 374, 375, 431, 435



Models 374 and 375 are U/L recognized and C.S.A. listed. Models 431 and 435 are not. Red band on reset button becomes visible on trip. Must trip between 101%-145% of rating @ 25°C. Maximum rating: 250 VAC (to 400 Hz) and 32 VDC. Models 374 and 431 interrupt over 1000% of load; Models 374, 435 over 1000 A. Termination: 374, 375 have Q.C. terminals; 431, 435 have 6/32 screw terminals.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
56F870	374-201-101	1•		57F281	431-201-101	1	
56F871	374-202-101	2•	9-40	57F282	431-202-101	2	9-40
56F872	374-203-101	3•		57F283	431-203-101	3	
56F873	374-204-101	4•		57F284	431-204-101	4	
56F874	375-205-101	5•		57F285	435-205-101	5	
57F275	375-206-101	6•		57F286	435-206-101	6	
56F875	375-207-101	7•		57F287	435-207-101	7	
57F276	375-208-101	8		57F288	435-208-101	8	
56F876	375-210-101	10•	5.8-30	57F289	435-210-101	10	5.8-30
57F277	375-212-101	12		57F290	435-212-101	12	
56F877	375-215-101	15•		57F291	435-215-101	15	
56F878	375-220-101	20•		57F292	435-220-101	20	
57F278	375-225-101	25		57F293	435-225-101	25	
57F279	375-230-101	30		57F294	435-230-101	30	
57F280	375-235-101	35		57F295	435-235-101	35	

MIL-C-5809—MODEL 436

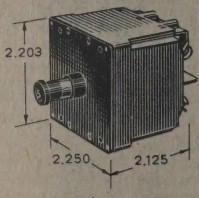


Model 436 exceeds requirements of MIL-C-5809 and MS-25017 (ASG). Must trip between 116%-138% of rating @ 25°C. Will interrupt 6000 A @ 28 VDC or over 3500 A @ 120 VAC (to 400 Hz). Mounting: 6-32 screws. Termination: 8-32 screw terminals.

Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
57F296	436-205-101	5		57F301	436-225-101	25	
57F297	436-507-101	7.5		57F302	436-230-101	30*	
57F298	436-210-101	10		57F303	436-235-101	35	
57F299	436-215-101	15	15-55	57F304	436-240-101	40*	15-55
57F300	436-220-101	20		57F305	436-250-101	50	

MIL-C-5809—3 PHASE BREAKER—MODEL 437

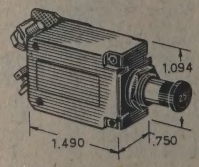
Model 437 3-phase, magnet-assist breaker exceeds MIL-C-5809 and MS-21984. An overload in any of the circuits trips all poles. Must trip between 106%-138% of rating @ 25°C. Will interrupt over 2500 A @ 120 VAC, single phase; or over 1000 A @ 208 VAC, 3-phase. Mounting: 6-32 screws. Termination: 8-32 screw terminals.



Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
57F306	437-205-101	5		57F308	437-210-101	10	
57F307	437-507-101	7.5	15-75	57F309	437-215-101	15	15-75

MIL-C-5809—MODELS 492, 507

Model 492 has glass melamine barrier on one side of housing and is not MS. Model 507 has no barrier but is MS—exceeding MIL-C-5809 and MS-25244. Both models must trip between 116%-138% of rating @ 25°C, and will interrupt 6000 A @ 28 VDC or over 3500 A @ 120 VAC (to 400 Hz). Mounting: 15-32 bushing. Termination: 8-32 screw terminals.



Stock No.	Type	Amps	Trip Time Sec.	Stock No.	Type	Amps	Trip Time Sec.
57F310	492-205-102	5		56F710	507-210-101	10	
57F311	492-507-102	7.5		56F711	507-215-101	15	
57F312	492-210-102	10	15-55	56F712	507-220-101	20	15-55
57F313	492-215-102	15		56F713	507-225-101	25	
57F314	492-220-102	20		57F317	507-230-101	30*	
57F315	492-225-102	25		56F714	507-235-101	35	
57F316	492-235-102	35		57F318	507-240-101	40*	
56F708	507-205-101	5		56F715	507-250-101	50*	
56F709	507-507-101	7.5	15-55				

11

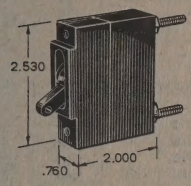
MAGNETIC HYDRAULIC CIRCUIT BREAKERS

Wood Electric Magnetic Hydraulic Standard and Mini-Mag models are U/L recognized (except type 256). All types contain a trip-free mechanism which allows the contacts to open on overload even if the handle is held in the reset (ON) position. Must trip value is 101%-125% of rating @ 25°C. Standard models are temperature stable from −49°C to +85°C; Mini-Mag types, from −40°C to 85°C. All models mount with 6-32 screws. Standard models terminate to 10-32 studs; Mini-mag models, to .032 x .250 quick-connect terminals.

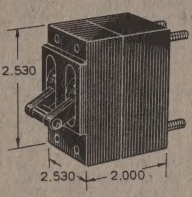
Auxiliary Switch Models—130 and 508 have an SPDT auxiliary switch rated 5 A @ 125 VAC or 1 A @ 50 VDC. Thrown as breaker trips; has solder terminals. Trip times @ 200% of load. **See price chart at bottom.**

INTERRUPTION CAPACITIES

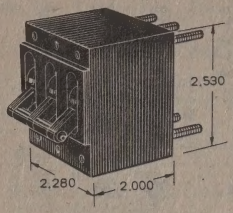
Frequency	Max. Volts	Capacity in Amps
DC	32	3000
DC	50	2000
60 Hz	125	2000
60 Hz	250	1000
400 Hz	125	1500
400 Hz	250	1000



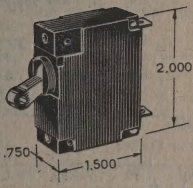
1-POLE MODELS
122
124
130
131



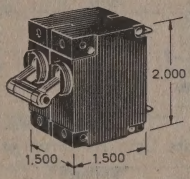
2-POLE MODELS
190
195



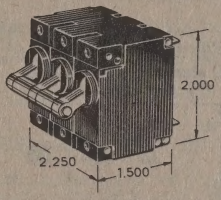
3-POLE MODELS
220
256



MINI-MAG 1-POLE MODELS
508
511
512



MINI-MAG 2-POLE MODEL
518



MINI-MAG 3-POLE MODEL
525

STANDARD TYPES

Stock No.	Type	Amps	Trip Time @ 200% of Load
56F762	122-201-101	1	3-10 sec. 60 Hz
56F763	122-202-101	2	
56F764	122-203-101	3	
56F765	122-204-101	4	
56F766	122-205-101	5	
56F767	122-207-101	7	
56F768	122-210-101	10	
56F769	122-215-101	15	
56F770	122-220-101	20	
56F771	122-225-101	25	
56F772	122-230-101	30	
56F773	122-235-101	35	
56F774	122-240-101	40	
56F775	122-250-101	50	
57F220	124-205-101	5	.25-0.8 sec. 60 Hz
57F221	124-210-101	10	
57F222	124-215-101	15	
57F223	130-201-101	1	.009-.04 sec. DC
57F224	130-202-101	2	
57F225	130-203-101	3	
57F226	130-205-101	5	
57F227	130-207-101	7	
57F228	130-210-101	10	
57F229	130-215-101	15	
57F230	130-220-101	20	
57F231	130-225-101	25	
57F232	130-230-101	30	
57F233	130-235-101	35	
57F234	130-240-101	40	
57F235	130-250-101	50	
57F236	131-210-101	10	2.5-8.0 sec. DC
56F790	190-201-101	1	3-10 sec. 60 Hz
56F791	190-202-101	2	
56F792	190-203-101	3	3-10 sec. 60 Hz
56F793	190-204-101	4	
56F794	190-205-101	5	
56F795	190-207-101	7	
56F796	190-210-101	10	
56F797	190-215-101	15	
56F798	190-220-101	20	
56F799	190-225-101	25	
56F810	190-230-101	30	
56F811	190-235-101	35	
56F812	190-240-101	40	
56F813	190-250-101	50	
57F237	195-215-101	15	.25-0.8 sec. 60 Hz
57F238	195-220-101	20	
57F239	195-230-101	30	
57F240	195-250-101	50	
56F828	220-201-101	1	3-10 sec. 60 Hz
56F829	220-202-101	2	
56F830	220-203-101	3	
56F831	220-204-101	4	
56F832	220-205-101	5	
56F833	220-207-101	7	
56F834	220-210-101	10	
56F835	220-215-101	15	
56F836	220-220-101	20	
56F837	220-225-101	25	
56F838	220-230-101	30	
56F839	220-235-101	35	
56F840	220-240-101	40	
56F841	220-250-101	50	
57F241	256-205-101	5	2.3-8.5 sec. 400 Hz
57F242	256-210-101	10	
57F243	256-215-101	15	
57F244	256-230-101	30	

Make Newark your one-stop source for industrial electronic components. Low prices, complete stocks, same-day shipment.

MINI-MAG TYPES

Stock No.	Type	Amps	Trip Time @ 200% of Load
57F245	508-205-101	.5	2.3-20 sec. 60 Hz
57F246	511-050-101*	0.5	2.3-20 sec. 60 Hz
56F805	511-201-101	1	
56F806	511-202-101	2	
56F807	511-203-101	3	
56F808	511-204-101	4	
56F809	511-205-101	5	
56F879	511-207-101	7	
56F880	511-210-101	10	
56F881	511-215-101	15	
56F882	511-220-101	20	
56F883	511-225-101	25	
56F884	511-230-101	30	
57F247	512-050-101*	0.5	.16-1.6 sec. 60 Hz
57F248	512-201-101	1	
57F249	512-202-101	2	
57F250	512-203-101	3	
57F251	512-204-101	4	
57F252	512-205-101	5	
57F253	512-207-101	7	
57F254	512-210-101	10	
57F255	512-215-101	15	
57F256	512-220-101	20	
57F257	512-225-101	25	
57F258	512-230-101	30	
56F885	518-050-101*	0.5	2.3-20 sec. 60 Hz
56F886	518-201-101	1	
56F887	518-202-101	2	
56F888	518-203-101	3	
56F889	518-204-101	4	
56F890	518-205-101	5	
56F891	518-207-101	7	
56F892	518-210-101	10	
56F893	518-215-101	15	
56F894	518-220-101	20	
56F895	518-225-101	25	
56F896	518-230-101	30	
56F988	525-050-101*	0.5	2.3-20 sec. 60 Hz
56F989	525-201-101	1	
56F990	525-202-101	2	
56F991	525-203-101	3	
56F992	525-204-101	4	
56F993	525-205-101	5	
56F994	525-207-101	7	
56F995	525-210-101	10	
56F996	525-215-101	15	
56F997	525-220-101	20	
56F998	525-225-101	25	
56F999	525-230-101	30	

PRICE CHART

Type	1-9	10-24	25-99	Type	1-9	10-24	25-99
122	7.20	6.00	5.20	511*	7.15	5.96	5.16
124	7.20	6.00	5.20	511	5.40	4.50	3.90
130	9.40	7.83	6.79	512*	7.15	5.96	5.16
131	7.20	6.00	5.20	512	5.40	4.50	3.90
190	18.65	15.54	13.47	518*	17.50	14.53	12.64
195	18.65	15.54	13.47	518	14.00	11.66	10.11
220	28.70	23.91	20.72	525*	27.35	22.78	19.75
256	37.65	31.36	27.18	525	22.10	18.41	15.96
508	6.45	5.37	4.66				

LITTELFUSE

Fuses and Accessories

3AG SLO-BLO FUSES

For circuits with high inductive surge.

Stk. No.	Type	Amps	1-99	100-499	500-999
27F680	313.010	1/100	.40	.33	.26
27F681	313.031	1/32			
27F682	313.062	1/16			
27F683	313.100	1/10			
27F915	313.125	1/8			
27F684	313.150	15/100			
27F666	313.175	1/75			
27F916	313.187	3/16			
27F685	313.200	2/10			
27F686	313.250	1/4			
27F687	313.300	3/10	.30	.25	.20
27F917	313.375	3/8			
27F688	313.400	4/10			
27F689	313.500	1/2			
27F690	313.600	6/10			
27F699	313.700	7/10			
27F918	313.750	3/4			
27F691	313.800	8/10			
27F692	313001	1			
27F693	3131.25	1 1/4			
27F705	31301.5	1 1/2			
27F919	31301.6	1 6/10	.28	.24	.19
27F694	313002	2			
27F695	31302.5	2 1/2			
27F920	313003	3			
27F706	31303.2	3 2/10	.23	.19	.15
27F696	313004	4			
27F697	313005	5			

3AG LITTELFUSES—32 VOLT OR LESS

Straight type fuse element positioned to center of fuse. Wt., pkg. of 100 14 oz.

27F724	311005.	5			
27F725	31107.5	7 1/2			
27F726	311010.	10	.07	.06	.05
27F728	311015.	15			
27F730	311025.	25			
27F731	311030.	30			

3AG 32 VOLT SLO-BLO LITTELFUSES

Withstands 110% rated load indefinitely. 135% up to 1 hour. 200% for 5 to 60 sec.

27F700	3136.25	6 1/4			
27F701	313008.	8			
27F702	313010.	10	.23	.19	.15
27F703	313015.	15			
27F704	313020.	20			

3AG AND 3AB U.L. APPROVED

Type 3AG. For low time-lag use. Max. volt 250 volt except *125 volt. 1¼x¼"

Stk. No.	Type	A	1-99	100-499	500-999
27F650	312.062	1/16			
27F651	312.125	1/8			
27F663	312.175	.175	.23	.19	.15
27F664	312.187	3/16			
27F652	312.250	1/4			
27F667	312.300	.3			
27F653	312.375	3/8	.13	.11	.09
27F654	312.500	1/2			
27F655	312.750	3/4			
27F656	312001	1			
27F657	31201.5	1 1/2	.10	.08	.06
27F658	312002.	2			
27F659	312003.	3			
27F660	312004.	4	.12	.10	.08
27F661	312005.	5			
27F662	312006.	6	.16	.14	.11
27F665	312008.	8*			

Type 3AB. Medium time lag

27F670	314008.	8	.16	.14	.11
27F671	314010	10			
27F672	314012.	12			
27F673	314015.	15	.19	.16	.12
27F674	314020.	20			

SFE ¼" AUTOMOBILE FUSES

¼" D. Wt.; pkg. of 100, 14 oz.

Stk. No.	Type 307-	A	Lgth. inch	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F710	004	4	5/8			
27F711	006	6	3/4			
27F716	07.5	7.5	7/8			
27F712	009	9	7/8	.07	.06	.05
27F713	014	14	1 1/16			
27F714	020	20	1 1/4			
27F715	030	30	1 7/16			

8AG FUSE MOUNTINGS

Screw* Lugt

Stk. No.	Type	Fig	Description	Base Dimensions	1-99	100-499	500-999
27F759	383002	C	Meter-back mtg.	1⅛"Lx1"W x 1 1/16"T	.45	.38	.30
27F761	383001	D	Panel mtg.	L x ½"W x 3/16"T	.68	.57	.45
27F751	371001	A	Panel Mtg. *	2 7/32"L x .709/.722 Max. Dia.	.67	.56	.45
27F781	372001	B	Finger-K	2 7/32"L x .709/.722 Max.Dia.	.67	.56	.45
27F755	387001	D	Sgl. Fuset	½" L x 1⅜"W x 3/16"T	.25	.21	.17
27F757	387002	...	Dbl. Fuse Mtg.	1⅛" L x 1⅜"W x 3/16"T	.42	.35	.28

STANDARD FUSE POST FOR 3AG

27F720	342012	G	miniature	2 3/32"L x .690/.680" Max. Dia.	.47	.39	.31
27F780	342005	H	dustproof	1 45/64"L x .690/.680" Max. Dia.	.65	.55	.44
27F779	342004	H	miniature	1 45/64"L x .690/.680" Max.Dia.	.47	.39	.31
27F668	342014	I	miniature	2 1/64"L x .690/.680" Max.Dia.	.47	.39	.31
27F669	342022	J	miniature	1 5/32"L x .690/.680" Max.Dia.	.47	.39	.31
28F150	342028	K	Quick-connect	1 45/64"L x .690/.680"Max.Dia.	.55	.46	.36
28F151	342038	L	Quick-connect	1 31/32"L x .690/.680"Max.Dia.	.55	.46	.36
28F152	342048	M	Quick-connect	1 5/32"L x .690/.680" Max. Dia.	.55	.46	.36
28F153	342058	...	Quick-connect	2 3/64"L x .690/.680" Max. Dia.	.55	.46	.36

MIL-F-19207A FUSE POST

Stk. No.	Type	MIL. #	Description	1-99	100-499	500-999
27F643	FHN-20G	342025	3AG Min.	1.45	1.21	.96
27F644	FHN-20G	340256A	3AG Min. RF Shield	5.66	4.72	3.78
27F645	FHN-26G-2	342024	3AG Min.	1.40	1.17	.93
27F646	FHN-31G-2	372003	8AG Min.	2.81	2.34	1.87
27F647	FHN-19W	442008	4AG Waterproof	3.39	2.83	2.26
27F648	FHN-26W	342021	3AG Waterproof	3.39	2.83	2.26

INDICATING FUSE POST FOR 3AG

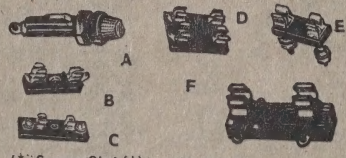
Indication Fuse Posts. Lgt., 2⅜" Front of panel: 13/16" Mtg. hole D. Wt., 3 oz.

Stk. No.	Type	Fig.	Voltage Range	Knob Color	Design Lamp Current	1-99 Each	100-499 Each	500-999 Each
27F790	344006A	E	2.5-7V	Amber	.20 Amp	3.28	2.74	2.19
27F791	344012A	E	7-16V	Amber	.08 Amp	3.28	2.74	2.19
27F783	344024A	E	16-32V	Amber	.04 Amp	3.28	2.74	2.19
27F784	344125A	F	100-125V	Clear	.002 Amp	2.03	1.69	1.35
27F785	344250A	F	200-250V	Clear	.002 Amp	2.03	1.69	1.35

MIL VERSION OF SERIES 344 (Mil-F-19207A)

Stk. No.	Type	MIL. #	Voltage Range	Knob Color	1-99	100-499	500-999
28F154	FHL-17G-02	349250	90-300V	Clear	2.40	2.00	1.60
28F155	FHL-18G-1-02	349012	12-22V	Amber	3.73	3.11	2.49
28F156	FHL-18G-2-02	349023	23-33V	Amber	3.73	3.11	2.49
28F157	FHL-18G-2.3	349034	34-45V	Amber	3.73	3.11	2.49
28F158	FHL-18G2-4	349046	46-60V	Amber	3.73	3.11	2.49
28F159	FHL-18G-5-02	349061	61-80V	Amber	3.73	3.11	2.49
28F160	FHL-18G-2-6	349081	81-90V	Amber	3.73	3.11	2.49

POSTS AND MOUNTS FOR 3AG, 3AB



(*) Screw Slot (†) Lug terminal

Stk. No.		Fig.	Descrip.	1-99	100-499	500-999
27F760	353001	E	Pnl. mtg.	.68	.57	.45
27F750	341001	...	Pnl. mtg.*	.67	.56	.45
27F752	342001	A	Fngr. knob	.67	.56	.45
27F754	357001	B	Pnl. mtg.†	.25	.21	.17
27F756	356001	C	Sngl. fuse*	.43	.36	.29
27F758	357002	D	Dbl. mtg.	.42	.35	.28
27F769	356002	...	Fuse mt.	.89	.74	.59
27F1070	350218	F	1 pole	.25	.21	.164

IN-LINE FUSE RETAINER

Furnished with SFE 9, 14, or 20 amp fuses. Also for 3AG or 3AB fuses.

Stk. No.	Type	1-99 Ea.	100-499 per 100	500-999 per 100
27F792	155009A			
27F793	155014A	.47	.39	.31
27F766	155020A			

UNIVERSAL IN—LINE FUSE RETAINER

Supplied with 15" loop of wire, 3 spring lengths, For fuses SFE7½,9,14,20,3AG. 27F1071. Type: 150145. 1-99:.47 100-499: .39 500-999: .31

3AG PIGTAIL LITTLE FUSES

1½" pigtails, No. 20 tinned copper wire.

125 VOLTS SLO-BLO

Stk. No.	Type	Amps	1-99	100-499	500-999
27F928	315.100	1/10			
27F734	315.250	1/4			
27F735	315.300	.3			
27F727	315.500	.5	.35	.30	.24
27F930	315.600	.6			
27F932	315001	1.0			
27F934	31501.5	1.5			
27F935	31501.6	1.6	.34	.28	.22
27F936	315002	2.0			
27F937	315003	3.0			
27F940	315004	4.0	.30	.25	.20
27F941	315005	5.0			

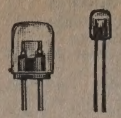
250 VOLTS

27F739	318.125	.125	.35	.30	.24
27F943	318001	1.0	.17	.14	.112
27F945	318002	2.0	.17	.14	.112
27F946	318003	3.0	.17	.14	.112
27F948	318005	5.0	.174	.15	.12
27F740	318.250	.25	.23	.19	.15
27F741	318.375	.375	.23	.19	.15
27F742	318.500	.500	.23	.19	.15
27F743	318.750	.750	.23	.19	.15

Fuses and Accessories

LITTELFUSE

SUBMINIATURE MICROFUSES



Only .250" dia. x .348" long exclusive of leads. Ideal for printed circuits. Features low resistance and high reliability in ultra-fast blowing characteristics. Series 279000 has 1 inch leads for wiring into circuit. Short circuit interrupting capacity 125 volts 10,000 amps DC.

Series 273000 has .170 inch leads for plugging into subminiature fuse holder. Blowing specifications: 110% life; 200% 0-10 seconds. Transparent glass cap. Rated at 125 V.

273000 Plug-in-Type		279000 Pigtail Type			1-99	100-499	500-999
Stk. No	Type	Stk. No.	Type	Amps.	Ea.	Ea	Ea.
28F060	273.002	28F083	279.002	1/500			
28F061	273.005	28F084	279.005	1/200	1.13	.94	.75
28F062	273.010	28F085	279.010	1/100			
28F063	273.015	28F086	279.015	1/64			
28F064	273.031	28F087	279.031	1/32			
28F065	273.050	28F088	279.050	1/20			
28F066	273.062	28F089	279.062	1/16			
28F067	273.100	28F090	279.100	1/10			
28F068	273.125	28F091	279.125	1/8			
28F069	273.200	28F092	279.200	2/10			
28F070	273.250	28F093	279.250	1/4			
28F071	273.300	28F094	279.300	3/10			
28F072	273.400	28F095	279.400	4/10			
28F073	273.500	28F096	279.500	1/2			
28F074	273.600	28F097	279.600	6/10	.94	.79	.63
28F075	273.700	28F098	279.700	7/10			
28F125	273.750	28F126	279.750	3/4			
28F076	273.800	28F099	279.800	8/10			
28F077	273.001	28F100	279001	1			
28F078	27301.5	28F101	27901.5	1½			
28F079	273002	28F102	279002	2			
28F080	273003	28F103	279003	3			
28F081	273004	28F104	279004	4			
28F082	273005	28F105	279005	5			

SUB-MINIATURE PICOFUSES

- **Incredibly Small—Less than ¼" Long**

Series 275. For circuits of 125 volts or less where short-circuit currents as high as 300 amperes occurs. A unique concept in fusing for computers, microelectronic and aero-space circuitry. High accuracy in blowing time at 300% or higher is ideal for sequential switching, or in circuits requiring redundancy. Blow time 4 hours min. at 100% at rating; 5 sec. max. at 200%. Ceramic body 7/32" x 5/44" dia.; tin-coated copper leads .025 dia. Picofuses can be encapsulated. 275 series has axial leads 1 1/16" long for diode clip or in-circuit mounting.

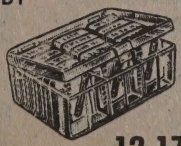
Stk. No.	Type	Amps.	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F128	275.125	1/8			
28F129	275.250	¼	.52	.43	.34
28F130	275.375	3/8			
28F131	275.500	½			
28F132	275.750	¾			
28F133	275001	1			
28F134	27501.5	1.5	.46	.38	.30
28F135	275002	2			
28F136	275003	3			
28F137	275004	4			
28F138	275005	5			

SERIES 276

Same as 275 (000) Series but with radial leads 1½" long.

Stk. No.	Type	Amps.	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F1072	276.125	1/8	.52	.43	.344
27F1073	276.250	1/4	.52	.43	.344
27F1074	276.500	1/2	.52	.43	.344
27F1075	276001	1	.46	.38	.304
27F1076	276002	2	.46	.38	.304
27F1077	276005	5	.46	.38	.304

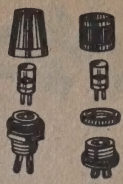
INDUSTRIAL FUSE CADDY



Type 094037. Specifically designed and stocked for almost universal use. Has any number of industrial or laboratory applications. Contains 3AG, Reg., Slo Blow Fuses. Has 15 boxes of fuses, 5 fuses per box. Case is clear plastic for quick and accurate fuse selection. Has three spare compartments. Size: 1⅞" x 3 x 4¼". Shipping weight 2 lbs.

27F677. NET **12.17**

MICROFUSE HOLDER



281006 282002

Type 281006. Front panel mount microfuse holder. Body and cap are molded of black phenolic. Heavy duty terminals are electrotin plated brass. Rated at 5 amperes, 125 volts max.

27F1078. 1-99... .85 100-499... .71 500-999... .564

Type 282002. Rear panel mount RF shielded microfuse holder. Housing and knob are aluminum. Body is molded of black phenolic. Rated at 5 amperes, 125 volts max.

27F1079. 1-99... 1.36 100-499... 1.13 500-999... .904

INDICATING MICROFUSE HOLDER

Type 284000. Indicator lamp glows when the fuse is blown. Knob molded from transparent material. Positive 'O' ring seal. High dielectric material.

Stk. No.	Type	Desc.	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F107	284004	6 volt range	2.29	1.91	1.53
28F108	284005	12 volt range	2.29	1.91	1.53
28F109	284006	24 volt range	2.29	1.91	1.53
28F110	284003	125 volt range	1.70	1.42	1.13

SUBMINIATURE MICROFUSE HOLDER

Type 281001. Subminiature holder ideal for use in printed circuit board mounting. Mounts in .090" hole; solid terminal ⅜" behind panel. With Spring nut. Avg. Shpg. wt., 3 oz.

28F106. NET EA. 1-99...32 100-499...27 500-999...21

8AG INSTRUMENT LITTELFUSES

361000 Series. Protects delicate voltmeters, microammeters, milliammeters, etc. 1 x ¼". 100, 10 oz. Max. voltage 250. Except 125 V.

Stk. No	Type 361-	Amps	For O/V VM	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F614	.002	1/500	250	1.43	1.19	.95
27F600	.005	1/200	1000 Up	.62	.52	.41
27F601	.010	1/100	1000	.53	.44	.35
27F602	.031	1/32	500-1000	.45	.38	.30
27F603	.062	1/16	100-500	.30	.25	.20
27F604	.125	1/8	20-100	.23	.19	.15
27F605	.250	1/4	10-20			
27F606	.375	3/8	5-10	.13	.11	.09
27F607	.500	1/2	3-5			
27F608	.750	3/4	.....			
27F609	1.00	1	.....			
27F610	1.50	1,1/2	.....			
27F611	2.00	2	.....	.10	.08	.06
27F612	3.00	3	.....			
27F615	4.00	4	.....			
27F613	5.00	5	.....			

8 AG FUSES

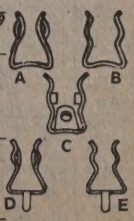
1/4" diameter x 1" long. Used in situation where space limitations prevent use of 3AG fuses.

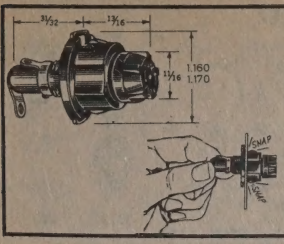
Stk. No.	Type	Amps.	1-99	100-499	500-999
27F1080	362001	1	.10	.08	.06
27F1081	362002	2	.10	.08	.06
27F1082	362003	3	.10	.08	.06
27F1083	362005	5	.07	.06	.05

LITTELFUSE CLIPS

Fits SFE, 3AG, 8AG, and 3AB fuses. Spring brass except (*) Beryllium copper. Shpg. wt., per 100, 5 lbs.

Stk. No.	Type	Fig.	For	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F772	101001	A	3AG	.04	.03	.02
27F773	101002	B	3AG	.04	.03	.02
27F1084	101003	C	3AG	.05	.04	.03
27F1085	102068	D	3AG	.05	.04	.03
27F1086	102069	E	3AG	.05	.04	.03
27F774	105002	B	5AG	.06	.05	.04
27F1087	121001*	A	3AG	.07	.06	.05
27F1088	121002*	B	3AG	.08	.07	.05
27F775	123002*	B	4AG	.12	.10	.08
27F776	127002	B	9/16"	.05		.03





NEW! BUSS SNAP-LOCK FUSEHOLDERS

Snap-lock rear panel mounted fuseholders can be used in panels .025 and .085 inch thick. All take ¼x1¼" fuses, except HJM-00 which takes ¼x1" fuses. HTA-00 extends 1" behind panel.
HLD-00, Visual Indicating fuseholder. HKP-00, Standard - ¼-1¼".
HJM-00, Standard - ¼x1".

Stk. No.	Type	Each	Stk. No.	Type	Each
27F850	HTA-00	.47	27F852	HKP-00	.47
27F851	HLD-00	.53	27F853	HJM-00	.47

FNM SLOW-BLOWING FUSES

Dual elements, fibre tube, slow blowing fuses avoid needless blows from starting currents or surges. Fuse link operates only on very high overloads, or short circuits. 1 13/32"x1 1/2" Shp. wt. 1.5 lbs. per 100.

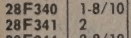
Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F863	½	250	.40	.34	.30
27F864	1	250			
27F865	1 6/10	250			
27F866	2	250			
27F872	2½	250			
27F867	3 2/10	250			
27F868	4	250			
27F869	5	250			
27F873	6-¼	250			
27F874	8	250			
27F870	10	250			
27F875	12	125			
27F876	15	125			

FNA SIGNAL FUSES
DUAL-ELEMENT SLOW BLOWING

Avoids needless blows from starting currents or surges. Has silver indicating pin which extends from fuse when fuse opens. Can be used in BUSS HPC-C indicating fuseholder or pin can be used to actuate a signal by using fuses in BUSS signal fuse block. Carry 110%, open at 135% in 1 hr. Size: 13/32x1½".

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F329	2/10	250	.75	.62	.56
28F330	3/10	250			
28F331	4/10	250			
28F332	½	250			
28F333	6/10	250			
28F334	8/10	250			
28F335	1	125			
28F336	1⅛	125			
28F338	1-4/10	125			
28F339	16/10	125			
28F340	1-8/10	125			
28F341	2	125			
28F344	2-8/10	125			
28F345	3	125			
28F346	3-2/10	125			
28F349	4½	125			
28F350	5	125			
28F356	10	125			

TYPE ABC CERAMIC BODY FUSES



Can take 25,000 amps. @ 125 v. without exploding. Carry 110%, open at 135% of rating. Size: ¼x1¼".

Stk. No.	Amps	Volts	Each 1-99	100-499	500-999
27F952	2	250	.19	.16	.14
27F953	3	250			
27F954	5	250	.16	.14	.13
27F955	6	250			
27F956	8	250			
27F957	10	250			
27F958	12	250	.19	.16	.14
27F959	15	250			
27F960	20	250			
27F961	25	125	.25	.21	.19
27F962	30	125			

MDL FUSETRON
DUAL-ELEMENT FUSES

Fuses with a long time lag. Avoid needless blows from starting currents or surges. At 200% load the approximate blowing time is 25 seconds. Size: ¼x1¼. Wt., 1 lb. per 100.

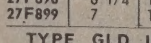
Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F822	1/100	250	.40	.33	.30
27F823	1/32	250			
27F824	1/16	250	.30	.25	.22
27F825	1/10	250			
28F045	1/8	250			
27F826	15/100	250			
27F827	2/10	250			
28F046	¼	250			
27F828	3/10	250			
27F829	4/10	250			
27F830	½	250			
27F831	6/10	250			
27F832	8/10	250			
27F833	1	250			
27F834	1¼	125	.28	.24	.21
27F835	1 6/10	125			
27F836	2	125			
27F837	2½	125			
27F838	2 8/16	125			
27F839	3 2/10	125			
27F840	4	32			
27F841	5	32			
27F842	6 1/4	32			
27F843	8	32	.23	.19	.17
27F844	10	32			
28F047	15	32			
27F845	20	32			
27F846	25	32			
27F847	30	32			

TYPE MDX FUSES

These fuses have the same specifications as Type MDL. The only main difference being that at a load of 200% the fuse blows in approximately 12 sec. .93 lbs./100. Size: ¼x1¼.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F890	1¼	250	.32	.27	.24
27F891	1½	250			
27F892	1 6/10	250			
27F893	2	250			
27F894	3	125	.23	.19	.17
27F895	3 2/10	125			
27F896	4	125			
27F897	5	125			
27F898	6 1/4	125	.26	.22	.20
27F899	7	125			

TYPE GLD INDICATING FUSES



Fiber tube; silver plated indicating pin extends from end of fuse when fuse is blown. If desired, indicating pin can be used to activate a signal light by using fuses in an HKA fuseholder. Carry 110% of rated current, open at 135% in 1 hour. Size, ¼x1¼"; shpg. wt., 86 lbs. per 100.

Stk. No.	Amps.	Volts	1-19 Ea.	20-99 Ea.	100-199 Ea.
27F964	¾	125	.56	.47	.42
27F965	1	125	.43	.36	.32
27F966	2	125			
27F967	3	125			
27F968	5	125			

BUSS GBA VISUAL INDICATING FUSES

Physically and electrically identical to type GLD fuses listed above, except indicating pin is red-tipped for direct visual indication of opened element. Use with BUSS HLD fuseholder. Size: ¼x1¼.

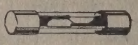
Stk. No.	Amp.	Voltage	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F309	125	¾	.62	.52	.47
28F310	125	1	.45	.38	.34
28F311	125	1½			
28F312	125	2			
28F313	125	3			
28F314	125	5			

TYPE AGX FAST-ACTING FUSES

Provides high speed action necessary to protect sensitive instruments or delicate apparatus. 1/16 to 2 ampere sizes have straight through element. U.L. approved. Size: ¼x1". Shpg. wt. .76 lbs. per 100.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F973	1/500	250	1.43	1.19	1.07
27F974	1/200	250	.62	.52	.47
27F975	1/100	250	.53	.44	.40
27F976	1/32	250	.45	.38	.34
27F977	1/16	250	.30	.25	.22
27F978	1/10	250	.23	.19	.17
27F979	1/8	250	.23	.19	.17
27F980	3/16	250	.23	.19	.17
27F981	¼	250	.14	.12	.11
27F982	2/10	250	.23	.19	.17
27F983	3/8	250	.14	.12	.11
27F984	4/10	250	.14	.12	.11
27F985	½	250	.14	.12	.11
27F986	3/4	125	.14	.12	.11
27F987	1	125	.096	.085	.075
27F988	1½	125	.096	.085	.075
27F989	2	125	.096	.085	.075
27F049	5	125	.075	.065	.055

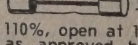
TYPE AGC FUSES



Formerly called 3AG. Test specifications - carry 110%, open at 135% within 1 hour. Approved by Underwriter's Laboratories. Size ¼x1¼". Shpg. wt., .91 lbs. per 100.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
28F050	1/32	250	.45	.38	.34
28F051	1/16	250	.23	.19	.17
28F052	⅛	250	.23	.19	.17
28F053	¼	250	.14	.12	.11
28F054	⅜	250			
28F055	½	250			
28F056	¾	250			
28F057	1	250	.096	.085	.075
28F058	1½	250			
28F059	2	250			
27F880	3	250			
27F881	4	32			
27F882	5	32	.075	.065	.055
27F883	6	32			
27F884	7½	32			
27F885	10	32			
27F886	15	32			
28F048	20	32			
27F887	25	32			
27F888	30	32			

TYPE MTH FUSES



Formerly called 3AG. Test Specifications: carry 110%, open at 135% within 1 hour. Listed as approved by Underwriters Laboratores. Size: 1¼"x¼". Shpg. wt., .91 lbs. per 100.

Stk. No.	Amps.	Volts	1-99 Ea.	100-499 Ea.	500-999 Ea.
27F877	4	250	.11	.095	.085
27F878	5	250			
27F879	6	250			

11

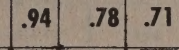
Fuses and Accessories

FUSETRON DUAL-ELEMENT FUSES

Type FRN. Long time lag prevents opening on starting currents or other harmless overloads. U/L listed for motor protection up to 250 volts.

Stk. No.	Amps.	Sizes	1-99	100-499	500-999
28F250	1	½x2"			
28F251	1¼	½x2"			
28F252	1-6/10	½x2"			
28F253	2	½x2"			
28F254	2½	½x2"			
28F255	3-2/10	½x2"	.54	.46	.41
28F256	4	½x2"			
28F257	5	½x2"			
28F258	6¼	½x2"			
28F259	8	½x2"			
28F260	10	½x2"			
28F262	15	½x2"			
28F263	17½	½x2"			
28F264	20	½x2"	.51	.43	.39
28F265	25	½x2"			
28F266	30	½x2"			
28F267	35	¾x3"			
28F268	40	¾x3"			
28F270	50	¾x3"	.94	.78	.71
28F271	60	¾x3"			
28F275	100	1x5⅞"	2.14	1.78	1.60

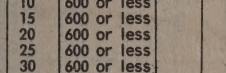
HIGH INTERRUPTING CAPACITY FUSES



Type KTK. 13/32" x 1½". Glass fiber melamine tube with sand filler surrounding silver fuse element. For use on circuits capable of delivering currents as high as 100,000 amps at voltages of 600 or less. Test spec.—carry 110%, open at 135% in 1 hour or less. U.L. listed.

Stk. No.	Amps	Voltage	1-99	100-499	500-999
28F190	1/10	600 or less			
28F193	¼	600 or less			
28F194	3/10	600 or less			
28F195	½	600 or less			
28F196	¾	600 or less			
28F197	1	600 or less			
28F198	1½	600 or less			
28F199	2	600 or less	1.12	.94	.84
28F200	3	600 or less			
28F201	4	600 or less			
28F202	5	600 or less			
28F203	6	600 or less			
28F204	8	600 or less			
28F205	10	600 or less			
28F206	15	600 or less			
28F207	20	600 or less			
28F208	25	600 or less			
28F209	30	600 or less			

LAMP INDICATING FUSEHOLDERS



Coilspring for contant pressure. Transparent knob permits indicating light to be seen. All are for ¼x1¼" fuses, except HJL is ¼x1 in. Shpg. wt. 2 oz. HKL recognized by UL for 15 amp, 250 volt rating.

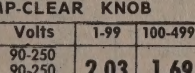
NEON LAMP-CLEAR KNOB

Stk. No.	Type	Volts	1-99	100-499
28F450	HJL	90-250	2.03	1.69
27F813	HKL	90-250		
27F814	HKL-X	90-250		

INCANDESCENT LAMP HKX, HKR & HKT-AMBER KNOB, HKU-RED KNOB

27F812	HKR	22-33	3.28	2.74
28F451	HKT	13-22		
28F452	HKU	4-6		
28F453	HKX	22-33		

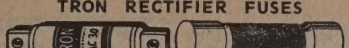
VISUAL INDICATING FUSEHOLDER



Has bayonet type transparent knob to permit indicating pin on open GBA fuse to be easily seen. Solder terminals. Locking keys obtainable without charge—1/16" long for panels up to ⅛" thick or ⅛" long for panels ⅛ to 5/16" thick. Body is molded phenolic. Takes all GBA fuses.

Stk. No.	Type	1-99 Each	100-499 Each	500-999 Each
28F293	HLD	.53	.44	.40

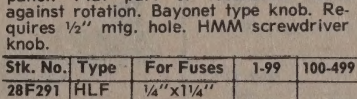
TRON RECTIFIER FUSES



For protection of solid state devices. Carry 100% rating 600V or less; open within 1 second of 250V rating. KAA & KAW—13/32x1½"; KAB—9/16x2; KAC—27/8x9/16".

Stock No.	Symbol & Amps	Volts	1-99
28F210	KAA 1	130	
28F211	KAA 2	130	
28F213	KAA 4	130	
28F214	KAA 5	130	
28F217	KAA 8	130	
28F219	KAA 10	130	1.08
28F221	KAA 15	130	
28F222	KAA 20	130	
28F223	KAA 25	130	
28F224	KAA 30	130	
28F225	KAB 1	250	
28F227	KAB 3	250	
28F229	KAB 5	250	
28F230	KAB 6	250	
28F231	KAB 7	250	
28F232	KAB 8	250	1.22
28F234	KAB 10	250	
28F235	KAB 12	250	
28F236	KAB 15	250	
28F238	KAB 20	250	
28F239	KAB 25	250	
28F240	KAB 30	250	
28F244	KAW 5	130	
28F245	KAW 7	130	
28F246	KAW 10	130	1.08
28F247	KAW 15	130	
28F248	KAW 20	130	
28F249	KAW 30	130	
28F424	KAC 1	600	
28F425	KAC 2	600	
28F426	KAC 3	600	
28F427	KAC4	600	
28F428	KAC 5	600	
28F429	KAC 6	600	
28F430	KAC 7	600	
28F431	KAC 8	600	1.63
28F432	KAC 9	600	
28F433	KAC 10	600	
28F434	KAC 12	600	
28F435	KAC 15	600	
28F436	KAC 17½	600	
28F437	KAC 20	600	
28F438	KAC 25	600	
28F439	KAC 30	600	

PANEL MOUNTED FUSEHOLDER

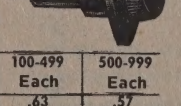


HMM HLF

Holder 1-25/32" long, 1" behind front of panel. Flat part of fuseholder locks against rotation. Bayonet type knob. Requires ½" mtg. hole. HMM screwdriver knob.

Stk. No.	Type	For Fuses	1-99	100-499
28F291	HLF	¼"x1¼"	.47	.39
28F454	HTA	¼"x1¼"		
27F810	HMB	¼"x1¼"		
27F811	HMM	¼"x1¼"		

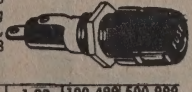
PANEL MOUNTED HOLDER



Type HPC. Screw type knob. For 13/32 x 1½" fuse. Mounts on panels with flange outside. U.L. listed for 30 amp. 600V.

Stock No.	1-99 Each	100-499 Each	500-999 Each
27F818	.75	.63	.57

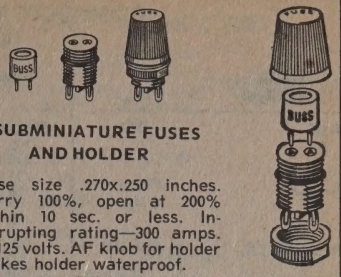
PANEL MOUNTED HOLDERS



For panels up to 5/16" thick. Carrying cap.: HJM and HKP, 15 amps, HCM, 18 amps.

Stk. No.	Type	For Fuses	1-99 Each	100-499 Each	500-999 Each
27F819	HJM	¼x1"	.47	.39	.35
27F820	HKP	¼x1¼"	.47	.39	.35
27F821	HCM	9/32x1¼"	.70	.58	.52
		¼x1¼"			

Convert HKP holders to indicating type. 28F035. Type 5487 Trans. knob ..... .28

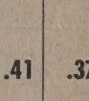


SUBMINIATURE FUSES AND HOLDER

Fuse size .270x.250 inches. Carry 100%, open at 200% within 10 sec. or less. Interrupting rating—300 amps. at 125 volts. AF knob for holder makes holder waterproof.

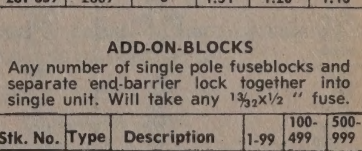
Stk. No.	GMW-Amp.	1-99 Each	100-499 Each	500-999 Each
28F362	1/100			
28F363	1/64	.88	.74	.67
28F364	1/32			
28F366	1/10			
28F368	1/4			
28F371	1/2			
28F373	3/4			
28F374	1			
28F375	1-1/2	.68	.57	.51
28F376	2			
28F377	3			
28F379	5			
28F381	HWA-AF	.86	.72	.65
28F380	HWA	.75	.63	.56

BUSS GMT FUSES—HLT HOLDER



Permits multiple mounting of fuses in limited space. Colored indicator spring when released makes contact with alarm terminal which can activate signal circuit. Size: ¼x1 15/32".

Stk. No.	Amps	Color	1-99	100-499	500-999
28F315	18/100	Yellow			
28F316	¼	Violet			
28F317	½	Red			
28F318	65/100	Black			
28F319	¾	Brown			
28F320	1	Gray			
28F321	1½	White	.49	.41	.37
28F322	2	Orange			
28F323	3	Blue			
28F324	5	Green			
28F325	7½	Blk-White			
28F326	10	Red-White			
28F360	HLT holder Fits all GMT		.53	.44	.40



2807 3742 4520

INDUSTRIAL FUSE BLOCKS

Takes all 13/32x1½" fuses. Barriers prevent arc-over. Type 2807—55/64x3"; 2808—1 5/8x3"; 2809—2 3/8x3". For KTK Series.

Stk. No.	Type	No. Poles	1-99	100-499	500-999
28F357	2807	1	.68	.57	.51
28F368	2808	2	1.12	.93	.84
28F359	2809	3	1.51	1.26	1.13

ADD-ON-BLOCKS

Any number of single pole fuseblocks and separate end-barrier lock together into single unit. Will take any 13/32x½" fuse.

Stk. No.	Type	Description	1-99	100-499	500-999
28F288	3742	End-Burner	.14	.12	.10
28F289	3743	One-pole Block	1.01	.85	.79

FUSE BLOCKS

Molded Bakelite. One mounting hole. Countersunk for No. 6 flat head screws.

Stk. No.	Type	Fuse Size	1-99	100-499	500-999
28F040	4520	¼x1	.25	.21	.19
28F041	4405	¼x1¼	.25	.21	.19
28F042	4421	13/32x1½	.50	.42	.38

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PC Card Edge Connectors

HOW TO ORDER

00 — 6XXX — XXX — XXX — XXX

Series — No. of Contacts — Contact Code — Variation Code

For Example: 00-6307-050-309-001 is a Series 6307 connector with 100 contacts in double row, odd and even; tail length .645"; for mounting in .128" hole. Polarization must be specified separately.

SERIES 6307 (.100") AND 6064 (.125")

Discrete connectors have bifurcated bellow contacts with .025" sq. wire wrapping posts. Series 6307 has contacts on .100x.200" centers; each contact accepts up to three levels of wrapped wire. Series 6064 has contacts on .125x.250" centers. Current rating: 3 amps max. Contact material: phosphor bronze per QQ-W-401A; 10 microinches minimum gold plate over 30-150 microinches nickel. Insulator: diallyl phthalate.

SERIES 6307 ORDERING CODES—NUMBER OF CONTACTS

Single row: 25 **(025,)** 30 **(030),** 36 **(036),** 48 **(048)** or 50 **(050).**
Double row: 50 **(050),** 60 **(060),** 72 **(072),** 86 **(086),** 100 **(100).**

CONTACT CODE—309—Tail length .645"

VARIATION CODE

Code	Mounting	Contacts in
001	.128" dia. hole	Odd and even row
002	4-40 molded-in insert	Odd and even row
003	.128" dia. hole	Odd row
004	4-40 molded-in insert	Odd row
005	.128" dia. hole	Even row
006	4-40 molded-in insert	Even row

SERIES 6064 ORDERING CODES—NUMBER OF CONTACTS

Single row: **036, 040, 050.** Double row: **072, 080, 100.**

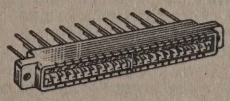
CONTACT CODE

060—Tail length .655" **061**—Tail length .560"

VARIATION CODE

Code	Mounting	Contacts in
001	.128" dia. hole	Odd and even rows
002	.156" dia. hole	Odd and even rows
003	4-40 molded insert	Odd and even rows
004	.128" dia. hole	Odd row
005	.156" dia. hole	Odd row
006	4-40 molded insert	Odd row
007	.128" dia. hole	Even row
008	.156" dia. hole	Even row
009	4-40 molded insert	Even row

SERIES 6019 .156"



Features 22 single-readout or 44 dual-readout contacts. Solderless wrap contact termination. Exclusive contact design permits maximum deflection without taking a set; provides uniform insertion and withdrawal characteristics. For 1/16" PC card. Current rating: 5 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10-20 microinches gold plate over 30-150 microinches nickel plate. Insulator material: diallyl phthalate, glass-filled, per MIL-M-14F, Type SDG. Military specification: MIL-C-21097.

NUMBER OF CONTACTS

22 single-readout contacts **(022)**; or 44 dual-readout **(044).**

CONTACT CODE

Single-Readout Bifurcated Contacts:
955—Type 60 6019 02 13 with .045" square tail, .971" long
Dual-Readout Bifurcated Contacts:
956—Type 60 6019 03 13 with .045" square tail, .971" long
978—Type 60 6019 03 23 with .045" square tail, .500" long
985—Type 60 6019 03 33 with .045" square tail, .831" long

VARIATION CODE

001—22 single-readout contacts; tails in pos. "A" to "Z"
002—22 single-readout contacts; tails in pos. "1" to "22"
003—22 single-readout contacts; tails 1-B-3-D-5 etc.
004—22 single-readout contacts; tails A-2-C-4-E-6 etc.
005—44 dual-readout contacts
Polarization must be specified separately.

SERIES 6007 .156" CONNECTORS

MIL-C-21097 (QPL) approved. Ribbon-type contacts with bifurcated nose. For .062" PC card. Rated 5 amps. Contact material: same as Series 6019. Insulator: diallyl phthalate, glass-filled. Withdrawal force: 2-16 ounces.

NUMBER OF CONTACTS

Single-readout: **006, 010, 012, 015, 018** or **022.**
Dual-readout: **012, 020, 024, 030, 036** or **044.**

CONTACT CODE

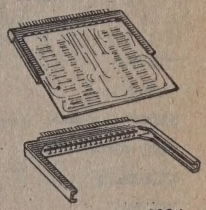
Single-Readout Contacts			Dual-Readout Contacts		
Code	Type	Terminals	Code	Type	Terminals
457	60 6007 06 53	Wire hole (2 term.)	449	60 6007 19 13	Taper tab
			450	60 6007 19 23	Wire hole
936	60 6007 06 43	Solderless wrap	451	60 6007 19 33	PC tab
			452	60 6007 18 13	Solderless
938	60 6007 06 33	PC tab	453	60 6007 18 23	PC tab
939	60 6007 06 13	Taper tab	454	60 6007 18 33	Solderless
940	60 6007 06 23	Wire hole (1 term.)	941	60 6007 05 13	Switching
			067	60 6007 10 13	Solderless

VARIATION CODE

012—.128" dia. mounting holes **018**—#4-40 insert
013—.117" I.D. floating eyelets
Polarization: Order polarizing key 60 6007 4828 separately.

SERIES 6022 AND 6024 .156" CONNECTORS

6022



6024

Extended card guides facilitate PC card insertion, minimize effects of vibration. For 1/16" PC card. #4-40 threaded insert. Current rating: 5 amps max. Contact material: phosphor bronze per QQ-B-750, Composition A (contact number 989 is beryllium copper). Contat plating: 10-20 microinches gold plate over 30-150 microinches nickel plate. Insulator: glass-filled polycarbonate; series 6022 (gray) conforms to BuWeps OS-12531 specifications. Series 6022 also available in nylon, 30% short fiber, glass-filled (black).

SERIES 6022 ORDERING CODES—NUMBER OF CONTACTS

22 single-readout **(022)**; or 44 dual-readout **(044).**

CONTACT CODE

Single-Readout Contacts			Dual-Readout Contacts		
Code	Type	Terminals	Code	Type	Terminals
936	60 6007 06 43	Solderless wire wrap	449	60 6007 10 13	Wire wrap
			450	60 6007 19 23	Wire hole
938	60 6007 06 33	PC tab	451	60 6007 19 33	PC tab
939	60 6007 06 13	.078" taper tab	452	60 6007 18 13	Wire wrap
			453	60 6007 18 23	PC tab
940	60 6007 06 23	Wire hole	454	60 6007 18 33	PC tab
			941	60 6007 05 13	Switching

VARIATION CODE

Insulator Mat'l		
Polycarbonate	Nylon	Contact Type and Position
001	006	44 dual-readout contacts in all positions
002	007	22 single-readout; on numbered side only
003	008	22 single-readout; on lettered side only
004	009	22 single-readout; staggered (1-B-3-D etc.)
005	010	22 single-readout; staggered (A-2-C-4 etc.)

Polarization: must be specified separately.

SERIES 6024 ORDERING CODES—NUMBER OF CONTACTS

18 single-readout **(018)** or 36 dual-readout **(036).**

CONTACT CODE—Same as Series 6022 above.

VARIATION CODE

001—Dual-readout contacts
002—Single-readout; tails in positions "1" to "18"
003—Single-readout; tails in positions "A" to "V"
004—Single-readout; tails in positions 1-B-3 etc.
005—Single-readout; tails in positions A-2-C etc.

POLARIZATION (order inserts separately)

B-Type: 60 6002 31 24. Fits at right of contact positions.
C-Type: 60 6007 33 14. Fits between opposing contacts.

12

PC Varicon™ Connectors

00 — XXXX — XXX — XXX — XXX

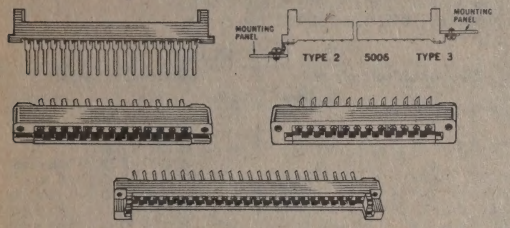
series — No. of Contacts — Contact Code — Variation Code

HOW TO ORDER

The complete 15-digit Elco number consists of the Series number, followed by codes for number and type of contacts, and variation (see below).

For Example: 00-5006-015-146-001 is a Series 5006 connector with 15 contacts, .078″ base taper tab, mounting type 1 for 1/16″ card.

SERIES 5006/5007/5009 .200″ CONNECTORS

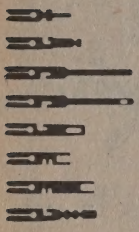


Available in a wide range of contact terminations, for 1/16″ or 3/32″ PC card. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Comp. A; 10 microinches gold plate over 30-100 microinches nickel plate. Other plating available. Insulator: diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. Insulation resistance: 25,000 meg. min. Mil. spec.: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps) par. 3.5.5.

NUMBER OF CONTACTS

12 to 26 (codes **012** thru **026**).

CONTACT CODE



141—PC termination for 1/8″ card
146—.078″ base taper tab
156—Wire wrapping (.026x.062x.600″)
158—Wire wrapping with wire hole (.026x.062x.600″)
163—.098″ base taper tab; wire hole
165—Forked tail solder term. for bus line conntction (.056x.125″ slot)
166—Dual solder termination for 2 wires or bus line (.056x.125″ slot)
189—Solder termination for 3 wires

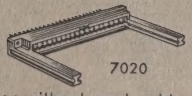
VARIATION CODE

Series	Mtg. Type	Code Number For 1/16″ Card	Code Number For 3/32″ Card
5006	1	001	002
5006	2	003	004
5006	3	005	006
5007	1*	001	002
5007	2†	003	004
5009	.....	001	002

*has card guides; bottom mount to chassis. †without card guides; top or bottom mount to chassis.

SERIES 7001/7008/7020 .100″ CONNECTORS

7001, 7008


7020

Series 7001 and 7008 are available with or without card guides, for 1/16″ or 3/32″ card. Series 7020 available only with 51 contacts and card guides, for 1/16″ cards (Variation 001). Current rating: 10 amps. Contact and insulator material: same as Series 5006/5007/5009 above. Mil. spec.: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps) par. 3.5.5.

NUMBER OF CONTACTS

017, 023, 029, 035, 041 or 047 (Series 7020, **051** only).

CONTACT CODE

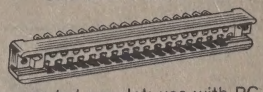
Same as Series 5006/5007/5009 above.

VARIATION CODE

Code	Card Slot	Card Guides	Code	Card Slot	Card Guides
001	1/16″	Yes	003	3/32″	Yes
002	1/16″	No	004	3/32″	No

Series 7020 available with Variation 001 only. Polarization is described separately by contact position.

SERIES 7024 .100″ CONNECTORS



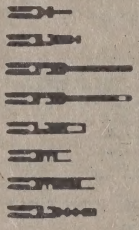
Guide Sockets Facilitate Mating, Ensure Correct Alignment

Open-ended car slot; use with PC card of any width. Wide range of contact terminations. MIL-C-21097 Qualified Products List (QPL)-approved. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate over 30-100 microinches nickel plate. Insulator material: diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. Military specifications: MIL-C-21097, MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (Para. 3.5.5), MIL-STD-454.

NUMBER OF CONTACTS

17 (**017**), 23 (**023**), 29 (**029**), 35 (**035**) or 41 (**041**).

CONTACT CODE

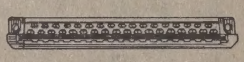


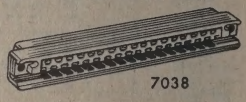
141—PC termination for 1/8″ card
146—.078″ base taper tab
156—Wire wrapping (.026x.062x.600″)
158—Wire wrapping with wire hole (.026x.062x.600″)
163—.098″ base taper tab; wire hole
165—Forked tail solder term. for bus line connection (.056x.125″ slot)
166—Dual solder termination for 2 wires or bus line (.056x.125″ slot)
189—Solder termination for 3 wires

VARIATION CODE

001—For 1/16″ thick PC card
002—For 3/32″ thick PC card
110—For 1/16″ card (for conformance to MIL-C-21097B)
111—For 3/32″ card (for conformance to MIL-C-21097B)
Polarization must be specified separately.

SERIES 7015 AND 7038 .100″ CONNECTORS


7015

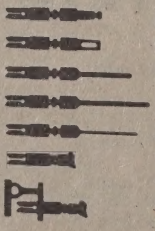

7038

Varilok™ contacts are insertable and removable. Series 7015 has contacts that lock in position by spring lances. Series 7038 has guide sockets for easy mating and correct alignment (optional on 7015). Open-ended card slot; no notching needed. Current rating: 8.5 amps. Contact and insulator material, and Military specifications: same as Series 7024 above.

NUMBER OF CONTACTS

017, 023, 029, 035, 041, 047 (Series 7015 avail. with **059**).

CONTACT CODE



216—60 8017 04 13. .078″ taper tab
217—60 8017 05 13. Wire hole
218—60 8017 06 13. Solderless wrap tail, .024x.050x.567″
750—60 8017 06 23. Solderless, .024x.050x.760″
296—60 8017 06 33. Solderless, .024x.026x.580″
***000**—60 8017 03 13. Wire crimp (contacts loose)
***000**—60 8017 03 23.Wire crimp (contacts on reel)
*Order separately by part number

VARIATION CODE

Series 7015		Series 7038	
001	1/16″ card with guides	001	1/16″ card
002	1/16″ card without guides	002	3/32″ card
003	3/32″ card with guides		
004	3/32″ card without guides		

Polarization must be specified separately.

Contact Your Newark Representative for Complete Pricing

PC Varicon™ Connectors

HOW TO ORDER

02 — XXX — XXX — 5 — 200

No. of Contacts — Contact Code

The complete 12-digit number includes codes for no. of contacts and contact type (see listings below).

For Example: 02-010-147-5-200 is a Series 7000 connector with ten type 60 7001 15 13 contacts on lower tier.

HOW TO ORDER

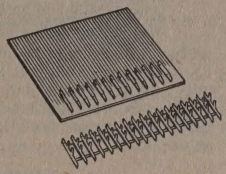
00-70XX-XXX-000-XXX

Series — No. of Contacts — Variation

The complete 15-digit number includes Series (7021, 7022 or 7023) plus codes for number and type of contacts.

For Example: 00-7021-023-000-001 is a Series 7021 connector with 23 contacts, for 1/16" card thickness.

SERIES 5001 .200" CONNECTORS

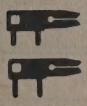


For Series 5000 receptacles. Consists of contacts staked (and soldered, if desired) directly to PC card. Requires no insulator. Contacts are supplied on disposable plastic strips. Staking and strip removing equipment is available. For 1/16" or 3/32" PC card. MIL-C-21097 Qualified Products List (QPL)-approved. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate, over 30-150 microinches nickel plate. Military spec.: MIL-C-21097, MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-STD-454, MIL-E-19600 (BuWeps) par. 3.5.5.

NUMBER OF CONTACTS

1 to 63 (code **001** thru **063**).

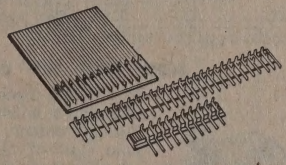
CONTACT CODE



013—For 1/16" thick card. Type 60 5001 19 13 contacts spaced .200", with wire hole (maximum of 63 contacts per strip)

014—For 3/32" thick card. Type 60 5001 19 23 contacts spaced .200", with wire hole (maximum of 63 contacts per strip)

SERIES 7000 .100" CONNECTORS



Plug consists only of contacts staked and soldered to PC card; no other insulator needed. Contacts are supplied imbedded in vinyl strips, correctly spaced and ready for insertion and staking into PC card. Complete set of plug contacts supplied on two disposable plastic strips, one for upper-tier contacts and the other for lower-tier contacts. For 1/16" or 3/32" PC card. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate over 30-150 microinches nickel plate. Military specifications: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps), par. 3.5.5. **Upper-tier and lower-tier contacts on separate strips.**

NUMBER OF CONTACTS

1 to 63 (codes **001** thru **063**).

CONTACT CODE

147—For 1/16" thick card. Lower tier contacts, type 60 7001 15 13

135—For 1/16" thick card. Lower tier contacts with wire hole, type 60 7001 04 13

137—For 1/16" thick card. Upper tier contacts with wire hole, type 60 7001 05 13

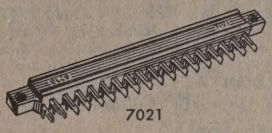
144—For 1/16" thick card. Lower tier contacts with wire hole, type 60 7001 11 13

136—For 3/32" thick card. Lower tier contacts with wire hole, type 60 7001 04 23

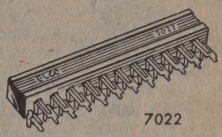
138—For 3/32" thick card. Upper tier contacts with wire hole, type 60 7001 05 23

148—For 3/32" thick card. Lower tier contacts, type 60 7001 15 23

SERIES 7021 AND 7022 .100" CONNECTORS



7021



7022

Type 7021 mates with series 7000 receptacles without card guides; 7022 mates with series 7000 receptacles with guides. Insulator maintains exact spacing between contacts; rigidity reduces PC card wrap. Reduces cost of card punching operation (fewer holes are needed), and contact staking operation (one operation instead of two). Reduces assembly time (no plastic strip to remove). Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate over 30-150 microinches nickel plate. Insulator: diallyl phthalate, glass-filled, flame resistant per MIL-M-14F, type SDGF. Mil spec.: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps) par. 3.5.5.

NUMBER OF CONTACTS

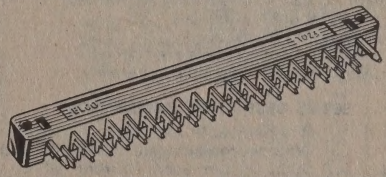
17 (code **017**), 23 (**023**), 29 (**029**), 35 (**035**), 41 (**041**) or 47 (**047**) for Series 7001, 7008 receptacles. 16 (**016**), 22 (**022**), 28 (**028**), 34 (**034**), 40 (**040**) or 46 (**046**) for Series 7009 receptacle. (Number "1" contact omitted.

VARIATION CODE

001—For 1/16" module card thickness

002—For 3/32" module card thickness

SERIES 7023 .100" CONNECTORS



Mates with 7024 and 7038 series. MIL-C-21097 Qualified Products List (QPL)-approved. Guide pins facilitate mating, ensure correct alignment. Insulator maintains exact spacing between contacts; insulator rigidity reduces PC card warp. Reduces cost of card punching operation (fewer holes are needed) and of contact staking operation (one operation instead of two). Reduces assembly time (no plastic strip to remove). For 1/16" or 3/32" PC card, as indicated. Current rating: 10 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plate over 30-150 microinches nickel plate. Insulator material: diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, type SDGF. Military specifications: MIL-C-21097, MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (Par. 3.5.5), MIL-STD-454.

NUMBER OF CONTACTS

17 (**017**), 23 (**023**), 29 (**029**), 35 (**035**), 41 (**041**) or 47 (**047**).

VARIATION CODE

001—For 1/16" PC card

002—For 3/32" PC card

110—For 1/16" PC card; conforms to MIL-C-21097

111—For 3/32" PC card; conforms to MIL-C-21097

Contact Your Newark Representative For Complete Pricing Information

12

PC 2-Piece Metal-to-Metal Connectors

HOW TO ORDER

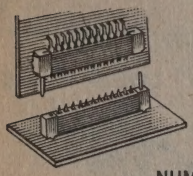
00 — 8XXX — XXX — XXX — XXX

Series / No. of Contacts / Contact Code / Variation Code

The complete 15-digit Elco number consists of the Series number, followed by codes for no. of contacts, contact type, and variation.

For Example: 00-8129-006-610-002 is a Series 8129 connector with six type 60 8106 02 4k contacts, upright brackets, without keying.

SERIES 8129 .100" CONNECTORS



Hermaphroditic design, for parallel or perpendicular PC card mounting. Guide pins facilitate mating. Suitable for cable-to-cable applications. Intermateable with Series 8229. Current rating: 5 amps. Contact and insulator material: same as Series 8229 (below). Military spec.: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps), Par. 3.5.5.

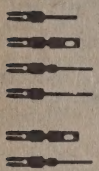
NUMBER OF CONTACTS

6 (006), 9 (009), 10 (010), 12 (012) or 15 (015).

CONTACT CODE

Use with Variant 001 or 005
610—contact type 60 8106 02 43

Use with Variant 002 or 006
603—contact type 60 8101 02 23
612—contact type 60 8106 03 23



Use with Variant 003 or 007
603—contact type 60 8101 02 23
605—contact type 60 8101 04 13
610—contact type 60 8106 02 43
612—contact type 60 8106 02 23

Use with Variant 004 or 008
605—contact type 60 8101 04 13
610—contact type 60 8106 02 43

VARIATION CODE

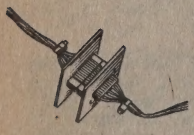
WITHOUT KEYING

001—with side mounting brackets for recessed or flush mounting to edge of PC card (contact tails are formed)
002—with upright mounting brackets
003—without mounting brackets
004—with side mounting brackets for recessed or flush mounting to edge of PC card (contact tails not formed)

WITH KEYING*

005—with side mounting bracket for recessed or flush mounting to edge of PC card (contact tails not formed)
006 with upright mounting brackets
007—without mounting brackets
008—same as 005, but contact tails are formed
*Polarization must be specified separately.

SERIES 8229 .100" CONNECTORS



Intermateable with Series 8129 (above). Mini-Varilok contacts are insertable and removable by the user. Current rating; 3 amps. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10 microinches gold plating over 30 microinches nickel plating. Insulator material; diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, type SDGF. Military specifications: applicable portions of MIL-C-28731 and MIL-C-8384. A separate 15-digit Elco number must be specified for each mating part.

NUMBER OF CONTACTS

6 (006), 9 (009), 10 (010), 12 (012) or 15 (015).

CONTACT CODE

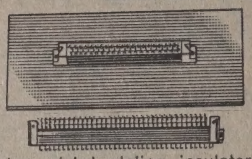
000—Contacts must be ordered separately by part number:
60 8216 0313 (loose contacts—crimp)
60 8216 0323 (3000 contacts on reel—crimp)
491-608216 0413 (wrappable—.025 sq.)

VARIATION CODE

Without Keying	With Keying Pin*	With Keying Hole*	Description
001	005	008	With side mounting brackets
002	006	009	With upright mounting brackets
003	007	010	Without mounting brackets

*Polarization must be specified separately.

SERIES 8219 .050" CONNECTORS



Miniature 2-piece metal-to-metal PC connectors, intermateable with Series 8221. Current rating: 5 amps max. Contact material and plating: phosphor bronze per QQ-B-750, Comp. A; 10 microinches gold plating over 30 microinches nickel plating insulator; diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, type SDGF. Guidance hardware: left hand guides are gold color metal; right hand guides are silver color metal. Military specifications: applicable portions of MIL-C-55302. Connectors are supplied with mounting screws or eyelets, as applicable.

NUMBER OF CONTACTS

18 (018), 30 (030), 36 (036), 42 (042), 54 (054), or 72 (072).

CONTACT CODE

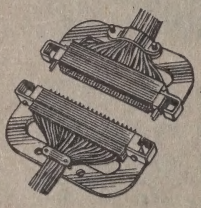
For Variation #001 and #011			For Variation #002 and #012			For Variation #005 and #015		
Code No.	Contact Tail	"X" Dim.	Code No.	Contact Tail		Code No.	Contact Tail	"Y" Dim.
722	Wire hole	.187"	000	PC solder		722	Wire hole	.157"
721	PC solder	.250"		tails		721	PC solder	.219"
736	PC solder	.281"		(formed)		736	PC solder	.250"
737	PC solder	.562"	722	Wire hole		737	PC solder	.531"
753	PC solder	.125"		tail (un-		753	PC solder	.093"
771	PC solder	.484"		formed)		771	PC solder	.453"

VARIATION CODE

Without Keying	With Keying Pin*	With Keying Holes	Description
001	011	021	Receptacle
002	012	022	Plug, perpendicular bd. mtg., odd positions
.....	013	023	Plug, perpendicular bd. mtg., even positions
005	015	025	Plug, parallel board mounting

*Polarization must be specified separately.

SERIES 8221 .050" CONNECTORS



Miniature 2-piece metal-to-metal connectors, intermateable with Series 8219 (above). Mini-Varilok contacts are insertable and removable. Current rating: 3 amps. Contact material: phosphor bronze per QQ-B-750, Comp. A; 10-20 microinches gold plating over 30-100 microinches nickel. Insulator: diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. Guidance hardware: left hand guides are gold color metal; right hand, silver color. Military spec.: applicable portions of MIL-C-55302. A support pin for panel mount connectors must be ordered separately.

NUMBER OF CONTACTS

18 (018), 30 (030), 36 (036), 42 (042), 54 (054), 72 (072).

CONTACT CODE

000—Contacts must be ordered separately by part number:
60 8216 0313 (loose contacts—crimp)
60 8216 0323 (3000 contacts on reel—crimp)
491-60 8216 0413 (wrappable—.025 sq.)

VARIATION CODE

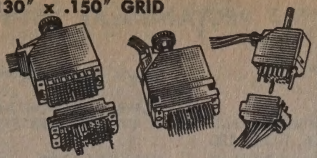
Without Keying	With Keying Pin*	With Keying Hole*	Description
001	011	021	Receptacle
002	012	022	Plug, perpendicular board mounting
005	015	025	Plug, parallel board mounting
003	013	023	Receptacle with small clamp assembly
004	014	024	Plug (Var 005) with small clamp assy.
006	016	026	Receptacle with large clamp assembly
007	017	027	Plug (Var 005) with large clamp assy.
008	018	028	Receptacle with self-locking tie
009	019	029	Plug (Var 005) with self-locking tie

*Polarization must be specified separately.

Contact Your Newark Representative for Full Pricing Information

Rectangular Rack-and-Panel Connectors

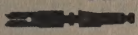
SERIES 8016 WITH .130″ x .150″ GRID



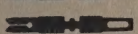
NUMBER OF CONTACTS

020, 038, 056, 090, or 120.

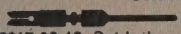
CONTACT CODE



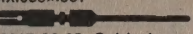
*216—60 8017 04 13 .078″ taper tab



*217—60 8017 05 13 Solder/.098″ tab

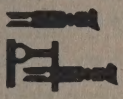


*218—60 8017 06 13. Solderless wrap tail, .024x.050x.567″



*750—60 8017 06 23. Solderless wrap tail, .024x.050x.760″

296—60 8017 60 33. Solderless wrap tail, .024x.026x.580″



†000—60 8017 03 13 Crimp (loose)

†000—60 8017 03 23 Crimp (1800 reel)

Insertable removable Varilok™ contacts. Guide pins and sockets ensure correct alignment. Polarizing hardware can be reset by user (36 possible positions per pair). Optional cover with top or side cable entry and clamp. Current rating: 8.5 amps max. Contact material: phosphor bronze per QQ-B-750, Comp. A; 10 microinches gold plate over 30-100 microinches nickel. Insulator: diallyl phthalate, glass-filled, flame resistant per MIL-M-14F, type SDGF; or polycarbonate thermoplastic. *terminations should be insulated. †Must be ordered separately. Cover: metal.

20 CONTACTS

Type Connector	Variation Code: Polycarbonate	Variation Code: Diallyl	Cover & Cable Entrance	Actuating Screw	Locking Nut
Plug	001	701	None	Yes	No
	002	703	None	No	Yes
	903	803	Top*	Yes	No
	904	804	Side*	Yes	No
	905	805	Top*	No	Yes
	906	806	Side*	No	Yes
Receptacle	007	707	None	No	Yes
	008	708	None	Yes	No
	909	809	Top*	Yes	No
	910	810	Side*	Yes	No
	911	811	Top*	No	Yes
	912	812	Side*	No	Yes
Plug	013	713	None	No	No
	914	814	Top*	No	No
	915	815	Side*	No	No
Receptavle	016	716	None	No	No
	911	818	Top*	No	No
	918	818	Side*	No	No

*Use cover only with crimp contacts.

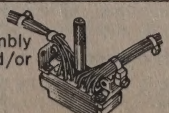
90 OR 120 CONTACTS

Plug	001	701	None	Yes	No
	002	702	None	No	Yes
	903	803	Top	Yes	No
	904	804	Side	Yes	No
	905	805	Top	No	Yes
	906	806	Side	No	Yes
Receptacle	007	707	None	No	Yes
	008	708	None	Yes	No
	909	809	Top	Yes	No
	910	810	Side	Yes	No
	911	811	Top	No	Yes
	912	812	Side	No	Yes

38 OR 56 CONTACTS

Type Connector	Variation Code: Polycarbonate Std Clamp	Variation Code: Polycarbonate Large Clamp	Variation Code: Diallyl Std Clamp	Variation Code: Diallyl Large Clamp	Cover & Cable Entrance	Acutating Screw	Locking Nut
Plug	001	.....	701	.....	None	Yes	No
	002	.....	702	.....	None	No	Yes
	903	919	803	819	Top	Yes	No
	904	920	804	820	Side	Yes	No
	905	921	805	821	Top	No	Yes
	906	922	806	Side	Side	No	Yes
Receptacle	007	.....	707	.....	None	No	Yes
	008	.....	708	.....	None	Yes	No
	909	923	809	823	Top	Yes	No
	910	924	810	824	Side	Yes	No
	911	925	811	825	Top	No	Yes
	912	926	812	826	Side	No	Yes
Plug	013	.....	713	.....	None	No	No
	914	927	814	827	Top	No	No
	915	928	815	828	Side	No	No
Receptacle	016	.....	716	.....	None	No	No
	917	929	817	829	Top	No	No
	918	930	818	830	Side	No	No

CABLE STRAIN RELIEF CLAMP



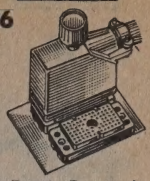
Adjustable for large or small cable bundles. Versatile clamp assembly permits mounting in various directions: can mount on plug and/or receptacle. Available for sizes 38 and 56.

30-8026-9601—For plug and cable-to-cable applications

30-8026-9602—For receptacle applications

See Preceding Page for Ordering Information

SERIES 8026



Economical subminiature high-density connectors. Mini-Varilok™ crimp/removable contacts available loose or on reels. Keyed, shrouded insulator. Jackscrews facilitate mating, lock connectors together. Current rating: 3 amps. Contacts: phosphor bronze per QQ-B-750, Comp. A; 10 microinches gold plate over 30-100 microinches nickel. Insulator: .100″ spacing, diallyl phthalate, glass-filled; .125″ spacing, polycarbonate. Cover: metal, except *polycarbonate.

NUMBER OF CONTACTS

.100″ Spacing: **033, 075** or **117**

.125″ Spacing: **055** or **079**

CONTACT CODE

Order separately by part no.:

000-60 8261 0323. Crimp (3000 reel)

000-60 8216 0313. Crimp (loose)

491-60 8216 0413 Wrappable (.025 sq.)

VARIATION CODE—*33 CONTACT SIZE

Insulator Body	Code	Actuating Screw	Fixed Nut	Polar. Pins	Cover
Male (Exposed (Contacts)	701	Yes	No	Yes	No
	702	Yes	No	No	No
	703	No	Yes	Yes	No
	704	No	Yes	No	No
	725	Yes	No	Yes	Yes
	726	Yes	No	No	Yes
	727	No	Yes	Yes	Yes
	728	No	Yes	No	Yes
	733	No	No	Yes	No
	734	No	No	No	No
	745	No	No	Yes	Yes
	746	No	No	No	Yes
Female (Recessed Contacts)	801	No	Yes	Yes	No
	802	No	Yes	No	No
	803	Yes	No	Yes	No
	804	Yes	No	No	No
	825	No	Yes	Yes	Yes
	826	No	Yes	No	Yes
	827	Yes	No	Yes	Yes
	828	Yes	No	No	Yes
	833	No	No	Yes	No
	834	No	No	No	No
	845	No	No	Yes	Yes
	846	No	No	No	Yes

SIZES 55, 75, 79 AND 117 MALE INSULATOR (Exposed Contacts)

Sizes 55 and 79 available only with female.

Variation Code: W/O Cover	Cover, Small Clamp	Cover, Large Clamp	Cable Entry	Actuating Screw	Fixed Nut	Polarizing Hdwe.
701	.....	.....	No	Yes	No	Yes
702	.....	.....	No	Yes	No	No
703	.....	.....	No	No	Yes	Yes
704	.....	.....	No	No	Yes	No
733	.....	.....	No	No	No	Yes
734	.....	.....	No	No	No	No
.....	705	713	Top	Yes	No	Yes
.....	706	714	Side	Yes	No	Yes
.....	707	715	Top	Yes	No	No
.....	708	716	Side	Yes	No	No
.....	709	717	Top	No	Yes	Yes
.....	710	718	Side	No	Yes	Yes
.....	711	719	Top	No	Yes	No
.....	712	720	Side	No	Yes	No
.....	735	739	Top	No	No	Yes
.....	736	740	Side	No	No	Yes
.....	737	741	Top	No	No	No
.....	738	742	Side	No	No	No

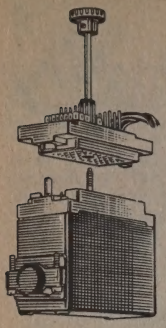
FEMALE (Recessed Contacts)

801	.....	.....	No	No	Yes	Yes
802	.....	.....	No	No	Yes	No
803	.....	.....	No	Yes	No	Yes
804	.....	.....	No	Yes	No	No
833	.....	.....	No	No	No	Yes
834	.....	.....	No	No	No	No
.....	805	813	Top	No	Yes	Yes
.....	806	814	Side	No	Yes	Yes
.....	807	815	Top	No	Yes	No
.....	808	816	Side	No	Yes	No
.....	809	817	Top	Yes	No	Yes
.....	810	818	Side	Yes	No	Yes
.....	811	819	Top	Yes	No	No
.....	812	820	Side	Yes	No	No
.....	835	839	Top	No	No	Yes
.....	836	840	Side	No	No	Yes
.....	837	841	Top	No	No	No
.....	838	842	Side	No	No	No

12

Rack-and-Panel Connectors

SERIES 8017 RECTANGULAR WITH .150" OFFSET GRID



- **75, 100 or 130 Contacts**
- **Crimp, Solder/Taper Tab, Solderless Wrap and Taper Tab Terminations**
- **Removable VARILOK™ Contacts**

Rectangular rack-and-panel connectors with .150" offset grid, available with 75, 100 or 130 contacts. Polarizing hardware can be set to any of six positions at the factory; can also be reset by the user (36 possible polarizing position combinations per pair). Guide pins and sockets ensure correct alignment when mating. Optional cover, with top or side cable entrance and clamp. Available with or without actuating screw or nut. U.L. approved. Insertable/removable VARILOK™ contacts. Choice of terminations: .078" taper tab (216), solder/.098" taper tab (217), solderless wrap tail in choice of three sizes (218, 750 and 296), or crimp (to be ordered separately). Current rating: 8.5 amps maximum. Contact material: phosphor bronze per QQ-B-750, Composition A. Contact plating: 10 microinches gold plate over 30-150 microinches nickel plate. Cover material and finish: Steel with black wrinkle finish. Clamp material and finish: Zinc (fixed clamp) or steel (movable clamp) with black wrinkle finish. To Order, complete the 15-digit assembly as shown at right.

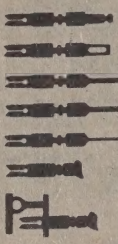
ORDERING CODE

Complete a 15-digit assembly number for each mating part, plug and receptacle:

00 — 8017 — XXX — XXX — XXX

NUMBER OF CONTACTS
75 (**075**), 100 (**100**) or 150 (**150**)

CONTACT CODE
For factory-installed contacts, use 3-digit code no. For loose contacts, use code no. 000 and order contacts separately by part no. (crimp contacts can only be ordered separately)



216—60 8017 04 13—.078" taper tab
217—60 8017 05 13—Solder/.098" tab
218—60 8017 06 13—Solderless wrap, .024x.050x.567"
750—60 8017 06 23—Solderless wrap, .024x.050x.760"
296—60 8017 06 33—Solderless wrap, .024x.026x.580"
000—60 8017 03 13—Crimp (loose)
000—60 8017 03 23—Crimp (1800 reel)

VARIATION CODE

Description	Code	Cover and Cable Entry	Actuating Screw	Fixed Screw
PLUG	001	None	Yes	No
	002	None	No	Yes
	003	Top	Yes	No
	004	Side	Yes	No
	005	Top	No	Yes
	006	Side	No	Yes

Description	Code	Cover and Cable Entry	Actuating Screw	Fixed Screw
RECEPTACLE	007	None	Yes	No
	008	None	No	Yes
	009	Top	Yes	No
	010	Side	Yes	No
	011	Top	No	Yes
	012	Side	No	Yes

STANDARD VARICON™ RACK-AND-PANEL CONNECTORS

Current rating: 9 amps maximum. Contact resistance: 0.007 ohm maximum. Contact material: nickel-silver, per specification ASTM B-122, Alloy #8. Insulator material: general purpose phenolic, per MIL-P-10420. Insulation resistance: 25,000 megohms, minimum. Dielectric withstanding voltage: sea level, 2000 volts rms: 3.4" mercury, 1000 volts rms (at 52% relative humidity). Withdrawal force: 2-16 ounces per contact. Hardware plating: 200 microinches copper under 100 microinches bright nickel. Ruggedized units differ from normal assembly by the use of thicker end sections (.202" thick as opposed to regular .140"); recommended for connectors with 12 or more contacts per tier. Covers are coated with blue-black vinyl. Standard Varicon connectors, Series 01, are covered under component recognition program of Underwriters' Laboratories, Inc.

ORDERING CODE

PRODUCT LINE 01 — **01 — X X XX — X XX — X XX — XXX**

END SECTION
1 Plug **2** Plug, Ruggedized
3 Receptacle **4** Receptacle, Ruggedized

NUMBER OF TIERS
1 or **2**

NUMBER OF CONTACTS
02, 04, 06, etc.

INSULATOR MATERIAL
1 General-purpose phenolic
2 Mica-filled phenolic

HARDWARE
00 Plain, without hardware
02 Cover, top cable hole, no clamp
03 Cover, end cable hole, no clamp
04 Cover, top cable hole with clamp
05 Cover, end cable hole with clamp
06 Recessed housing, .125x.171" mtg. hole
07 Cover with actuating screw
11 Standard bracket, .125x.187" mtg. holes
17 Bracket assembly for actuating screw

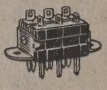
GUIDE PINS
0 No guide pin or holes
1 One pin **2** Two pins
3 One hole **4** Two holes
Polarization must be specified separately

CONTACT VARIATIONS
On "end section" 1 and 2, the "04" contact is used as standard; on "end section" 3 and 4, "01" contact is standard
01 Nickel-silver **04** Nickel-silver

SPECIAL VARIATIONS
000 No special variation (also see variation 002)
001 Standard assembly with printed numbering system
002 Reverse assembly (standard on receptacle w/o hardware)
003 Reverse assembly with printed numbering system

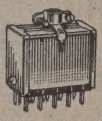
HARDWARE

00 Single-Tier Receptacle



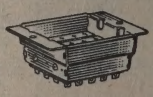
11 Single-Tier Plug

11 Ruggedized 2-Tier Receptacle



04 Single-Tier Plug

06 Single-Tier Plug

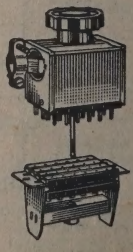


06 Double-Tier Receptacle

11 Single-Tier Plug with Guide Pin

11 Double-Tier Receptacle, Two Guide Holes

07 Ruggedized 2-Tier Plug



17 Ruggedized 2-Tier Receptacle

RIGHT-ANGLE CONNECTORS

Two-wire Varicon connectors make it possible to run wire or cables parallel to panels, conserving space. Can be inserted in mating connectors side-by-side, or in any skip rotation.
01-1102-120-001 Plug (shown)
01-3102-120-001 Receptacle

Varipak™ PC Card Enclosures & Accessories

SERIES 9016 VARIPAK PC CARD ENCLOSURES

ORDERING CODE 03 — 9016 — XX — XX — XX

Assembly Code No.		Nominal PC Card Width	Enclosure Width	
Single Unit	Double Unit		Single Unit	Double Unit
01	20	3.625	4.343	8.178
02	21	4.500	5.218	10.468
03	22	6.250	6.968	13.968
04	23	8.000	8.718	17.468
05	24	3.625	4.343	8.718
06	25	4.500	5.218	10.468
07	26	6.250	6.968	13.968
08	27	8.000	8.718	17.468
09	28	3.625	4.343	8.718
10	29	4.500	5.218	10.468
11	30	6.250	6.968	13.968
12	31	8.000	8.718	17.468
13	32	3.625	4.343	8.718
14	33	4.500	5.218	10.468
15	34	6.250	6.968	13.968
16	35	8.000	8.718	17.468

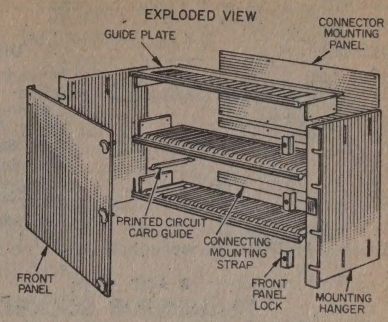
CONNECTOR MOUNTING

00—No Connector mounting parts.
01—Blank connector panel.
02—Blank connector mounting straps.
03—Connector mounting straps with 82 (.128" dia.) holes on .200" centers.
04—Blank panel and blank connector mounting straps (for double tier models only).
05—Blank panel and connector mounting straps with 82 (.128" dia.) holes on .200" centers (for double tier models only).

ACCESSORIES

00—None.
01—Marker strip.
02—Front door panel.
03—Marker strip and front door panel.
04—Reinforcement bar.
05—Reinforcement bar and front door panel.

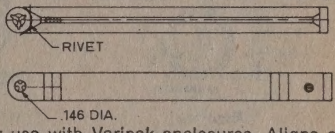
Front door panels for single tier units are available only for assemblies 02, 06, 10 and 14.



COMPLETE PACKAGE

Designed to fit standard 19" rack. The components necessary to build a complete assembly can be ordered under one composite number, as shown at left. Card guides must be ordered separately (below). Shipped unassembled. Unit holds up to 41 guides per row on .400" ctrs.

PRINTED CIRCUIT CARD GUIDES



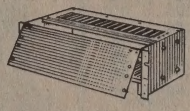
For use with Varipak enclosures. Aligns card with connector; holds card in place. Rugged polycarbonate rated 280-300° F. Wide beveled lead-in edge for easy card alignment. Guides are easily assembled and removed, without damaging either the guide or the enclosure. Guide float allows for tolerance accumulation between guide and connector.

Note: One snap-in rivet is normally supplied with each card guide. However, to fasten guides to center guide plate (double-tier model) a special two-piece snap-together rivet is required. To order, change the guide part number prefix from "33" to "63" and order the special rivet separately (33 9016 20 53).

Part Number	Nom. Card Thickness	Will Fit Assemblies
33 9016 12 01 01	1/16"	01, 02, 03,
33 9016 12 01 02	3/32"	04, 20, 21,
33 9016 12 01 03	1/8"	22 or 23
33 9016 12 01 04	1/16"	05, 06, 07,
33 9016 12 01 05	3/32"	08, 24, 25,
33 9016 12 01 06	1/8"	26 or 27
33 9016 12 01 07	1/16"	09, 10, 11,
33 9016 12 01 08	3/32"	12, 28, 29,
33 9016 12 01 09	1/8"	30 or 31
33 9016 12 01 10	1/16"	13, 14, 15,
33 9016 12 01 11	3/32"	16, 32, 33,
33 9016 12 01 12	1/8"	34 or 35

VARIPAK ACCESSORIES

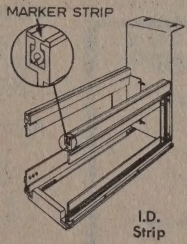
HINGED FRONT PANEL. Made of 6061-T4 aluminum with clear anodize finish; other finishes available. Single-tier model hinged at the bottom; opens from the top and is held by two slot-head fasteners. Available for assemblies 02, 06, 10 and 14.


Hinged Front Panel

DOUBLE TIER HINGED FRONT PANEL. Hinged to open from left or right side; 3 wing-head fasteners.

Part No.	Fits Assemblies
33 9016 22 09	20, 24, 28, 32
33 9016 22 10	21, 25, 29, 33
33 9016 22 11	22, 26, 30, 34
33 9016 22 12	23, 27, 31, 35

REINFORCEMENT BAR—63 9016 75 04. Provides additional support for heavy PC cards. Extruded aluminum, 16¾" long. Clear chromate finish; other finishes available. Slides into leading edge (front) of guide plate. Provision for ID labels.



I.D. Strip

I.D. MARKER STRIP—63 9016 24 02. White matte surface to print PC rack positions. Made of extruded flexible polyvinyl. 16¾" long.

VARIPAK CONNECTOR MOUNTING AND GUIDE PLATES

MOUNTING PANELS

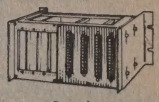
For mounting PC connectors of various sizes in one unit. Made of 6061-T4 aluminum with clear chromate finish; other finishes available. Panel is shipped blank; also available with connector cutouts made per customer's specifications.

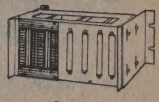
Part Number	Will Fit Assemblies
63 9016 11 01 01	01, 05, 09, 13, 20, 24, 28, 32
63 9016 11 01 02	02, 06, 10, 14, 21, 25, 29, 33
63 9016 11 01 03	03, 07, 11, 15, 22, 26, 30, 34
63 9016 11 01 04	04, 08, 12, 16, 23, 27, 31, 35

END GUIDE PLATES

Supports card guides, connector mounting straps or panels. Extruded 6023-T6 aluminum; clear chromate finish. 82 card guide mounting holes on .200" centers. Complete unit requires two end guide plates (double-tier unit also needs center guide plate).

Part Number	Will Fit Assemblies
33 9016 13 01 01	01, 02, 03, 04, 20, 21, 22, 23
33 9016 12 01 02	05, 06, 07, 08, 24, 25, 26, 27
33 9016 13 01 03	09, 10, 11, 12, 28, 29, 30, 31
33 9016 13 01 04	13, 14, 15, 16, 32, 33, 34, 35


Panel


Strap

MOUNTING STRAPS

For mounting PC connectors. Made of 6061-T6 aluminum with clear chromate finish; other finishes available. Straps are bolted to guide plates. Single-tier unit requires one pair of end straps. Double-tier unit needs one pair of end straps plus one pair of center straps. Available with or without mtg. holes.

63 9016 23 01 01—End strap without connector mounting holes; available in six sizes

63 9016 50 01—End strap with 82 mounting holes

63 9016 50 02—Center strap with 82 connector mount-holes (for double-tier unit only)

Guide Plate

Contact Your Newark Representative for Complete Pricing

Transistor and DIP Sockets

TERMINOLOGY

To simplify the tables, the following symbols are used to describe part materials and platings:

SYMBOL	DESCRIPTION
BC	Beryllium Copper
BR	Brass
CP	Cadmium Plating
DAP	Diallyl Phthalate
GF	Gold Flash
MICA	Mica Filled Phenolic
PH	Phosphor Bronze
SP	Silver Plating
TLP	Tin-Lead Plating

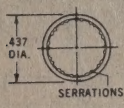
Example: PHSPTD—Phosphor bronze, silver plated, tin dipped

3 AND 4-PIN TRANSISTOR SOCKETS

3301/3303/3304

3305

3307/3308



Mtg. Ring

0799

Type No.	Pins	Insulator	Contacts	Mounting Type	1-99	100-249
05 3324	3	MICA	BCSPGF	Mtg. Ring†	.60	.54
05 3301	4	MICA	BCSPGF	Flat Saddle	.51	.46
05 3303	4	MICA	BCSPGF	PC Solder	.36	.32
05 3304	4	MICA	BCSPGF	Mtg. Ring†	.36	.32
05 3305	4	MICA	BCSPGF	PC Solder	.27	.24
05 3307	4	MICA	BCSPGF	Mtg. Ring†	.36	.32
05 3308	4	DAP	BCSPGF	PC Solder	.31	.28
05 0799	3*	MICA	BCSPGFTD	Retainer†	.40	.36
05 0803	4	MICA	BCSPGF			
65 0004 7105 00 001 Retainer for 05 0799, 05 0803					.03	.028
65 0004 7202 00 001 Mounting Ring (BRCP)					.05	.046

*In-line sockets. †Order mtg. ring or retainer separately.

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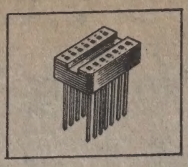
SERIES 8358 DIP RECEPTACLES



Universal receptacles for all standard dual in-line package (DIP) integrated circuits with 14 pins. Extra-low profile: type 8358 is .255" high. Current rating: 2 amps maximum. Contact material; phosphor bronze per QQ-B-750, Composition A. Contact plating; gold, 10-20 microinches, over 30-150 microinches nickel. Insulator material: diallyl phthalate, glass-filled. When ordering, use the complete number as shown below.

HOW TO ORDER

00 — 8358 — 014 — 383 — XXX

SERIES
8358—Fixed contacts

NUMBER OF CONTACTS
014—14 contacts only

CONTACT CODE
383—60 8358 04 13—for wire wrap

VARIATION CODE
001—Black 002—White

PRINTED CIRCUIT CONTACTS

For board-to-board applications. Contacts supplied on disposable plastic carrier strips. Current rating: 10 amps. Contact resistance: 0.006 ohm, maximum. Contact material and plating: phosphor bronze per QQ-B-750, Composition A; 10-20 microinches gold plate over 30-150 microinches nickel. Withdrawal force: 2-16 ounces per contact. Mil. Spec.: MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 (BuWeps) Par. 3.5.5.

HOW TO ORDER

02 — XXX — XXX — X — XXX — XXX

NUMBER OF CONTACTS

CONTACT CODE NO.
Contact types shown on following page

PATTERN

(1) .125

(2) .125

(3)

(5)

(6) 45°

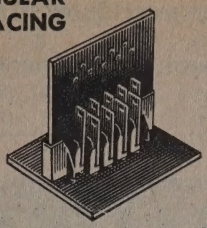
CONTACT SPACING (see following page)

SPECIAL VARIATIONS

Printed Circuit Contacts are Shown on Following Page

PC Contacts (Board-to-Board Applications)

SERIES 5203 PERPENDICULAR CARDS—.200″ PAD SPACING



Module Card Contacts
Pattern 5—.200″ Spacing
Contact Type

Lower Tier

135 1/16″ Card
136 3/32″ Card
144 1/16″ Card
147 1/16″ Card
148 3/32″ Card
228 1/16″ Card

Upper Tier

137 1/16″ Card
138 3/32″ Card

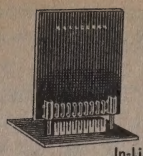
Pattern 1—.200″ Spacing
Contact Type

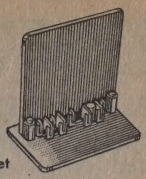
113 1/16″ Card
120 1/16″ Card
114 3/32″ Card
121 3/32″ Card
115 1/8″ Card
122 1/8″ Card

CARD GUIDES

Left Hand Side	Right Hand Side
62 5201 40 22 (1/16″)	62 5201 40 12 (1/16″)
62 5201 41 22 (3/32″)	62 5201 41 12 (3/32″)

SERIES 5204 PERPENDICULAR CARDS—.100″ PAD SPACING





MODULE CARD CONTACTS:

for In-Line Pattern
331 1/32″ Card
332 1/16″ Card
for Offset Pattern
332 1/16″ Card, Lower Tier
372 1/16″ Card, Upper Tier
331 1/32″ Card, Lower Tier
371 1/32″ Card, Upper Tier

BASE CARD CONTACTS:

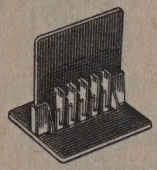
322 1/32″ Card
323 1/16″ Card
324 1/16″ Card
325 3/32″ Card
327 3/32″ Card
328 3/32″ Card

SPACING CODE
100—In-line pattern
200—Offset pattern*
*Lower and upper contacts ordered separately.

PATTERN
3—In-line 9—Offset
SPACING CODE
.100″—.200″
VARIATION
000—009
Guide socket, guide pin, polarizing sleeve available

SERIES 5208 PERPENDICULAR CARDS—.200″ PAD SPACING

BASE CARD—CONTACTS:



113 1/16″ Card
120 1/16″ Card
114 3/32″ Card
121 3/32″ Card
115 1/8″ Card
122 1/8″ Card

Pattern 3—.200″ Spacing

MODULE CARD—CONTACTS

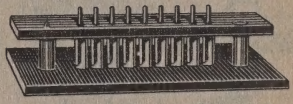
013 1/16″ Card
014 3/32″ Card

Pattern 5—.200″ Spacing

GUIDES

Size	Left	Right
1/16″	62 5201 40 22	62 5201 40 12
3/32″	62 5201 41 22	62 5201 41 12

SERIES 5304 PARALLEL CARDS



.203″ Between Cards

HOW TO ORDER

62 5204 30 18—Polarizing Sleeve
60 8202 40 12—Guide Pin for 1/16″ card
60 8202 40 02—Guide Pin for 1/32″ card
62 5304 40 12—Guide Socket for 1/16″ card
62 5304 40 02—Guide Socket for 1/32″ card

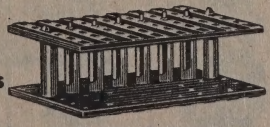
CONTACTS: 1/16″ Thick Card

323
324

PATTERN 6—.100″ SPACING 1/32″ Thick Card

322

SERIES 5301 PARALLEL CARDS .438″ Between Cards



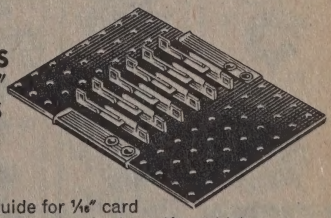
HOW TO ORDER

GUIDE PIN: 62 5301 41 12 (1/16″ card); 62 5301 41 22 (3/32″ card); 62 5301 41 32 (1/4″ card)
GUIDE SOCKET: 62 5301 40 12 (1/16″ card); 62 5301 40 22 (3/32″ card); 62 5301 40 32 (1/8″ card)
CONTACTS: Available on four spacings; each spacing has a corresponding maximum number of contacts (fewer contacts can be ordered)

PATTERN 6—.125″, .150″, .156″ or .200″ SPACING

1/16″ Thick Card	3/32″ Thick Card	1/8″ Thick Card
113	114	115
120	121	122

SERIES 5201 TANDEM CARDS .125/.150/.200″ PAD SPACINGS



HOW TO ORDER

62 5101 40 12—Card Guide for 1/16″ card
90 2168 00 14 01—Rivet (two required per 1/16″ guide)
62 5101 41 12—Card Guide for 3/32″ card
90 2168 00 14 02—Rivet (two required per 3/32″ guide)
CONTACTS: Available on three spacings.

PATTERN 5—.125″, .150″ or .200″ SPACING

CONTACT TYPE

111 1/16″ Card
112 3/32″ Card

12

See Ordering Information on Preceding Page

BUNKER RAMO AMPHENOL "MS" Connector Insert Contact Arrangements

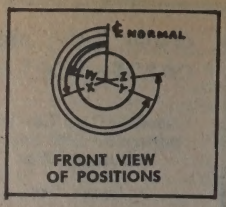
Each insert is available with all male or female contacts. Contacts are non-rotating with all solder cups aligned for maximum wiring speed. Contact sizes correspond in number coding to wire sizes. Meet MIL-C-5015.

CURRENT RATING:

Contact Size	20	16	12	8	4	0
Amperes	10	23	41	73	135	245

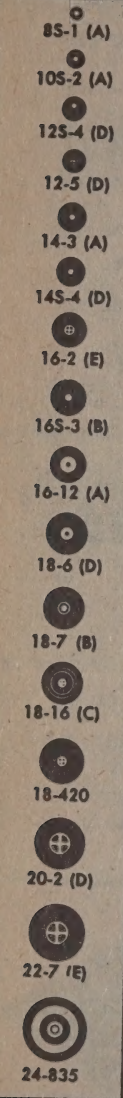
ALTERNATE INSERT POSITIONS—

(H) W, X, Y, or Z (L) X or Y (N) W or Z
(J) W, X, or Y (M) X (P) W or Y
(K) W, Y, or Z

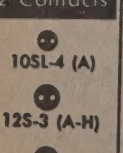


FRONT VIEW OF POSITIONS

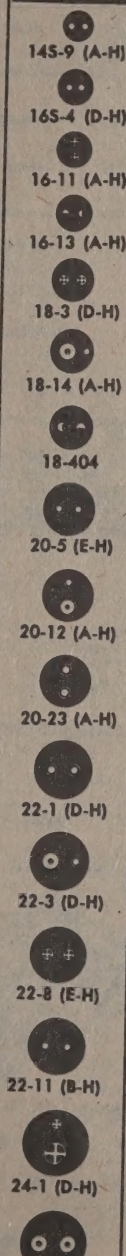
1 Contact



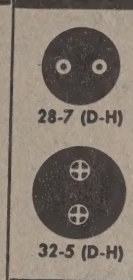
2 Contacts



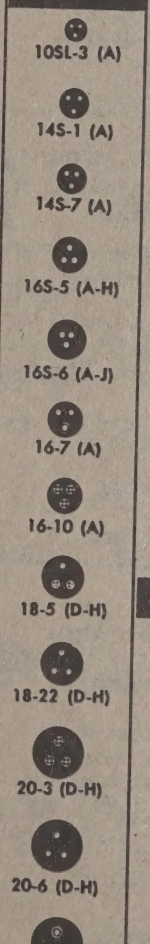
2 Contacts (Con't.)



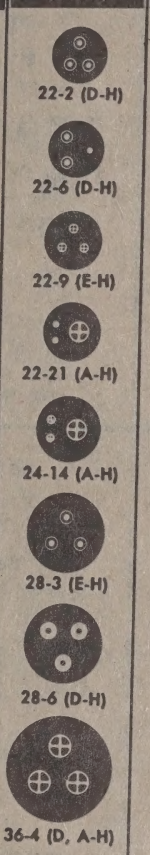
2 Contacts (Con't.)



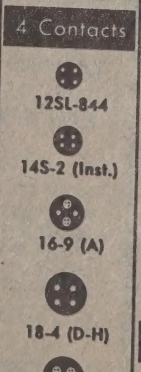
3 Contacts



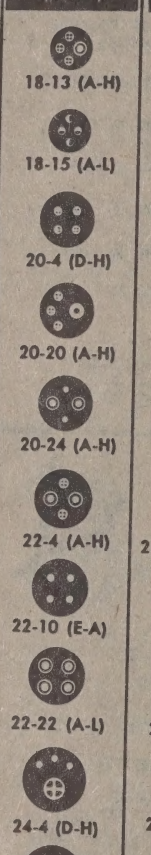
3 Contacts (Con't.)



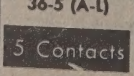
4 Contacts



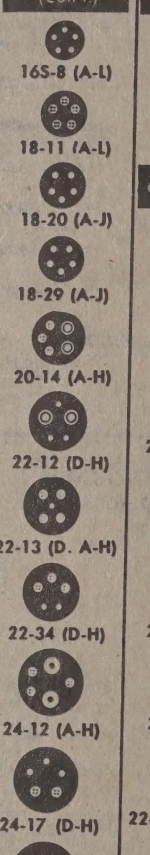
4 Contacts (Con't.)



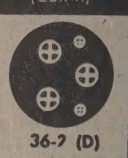
5 Contacts



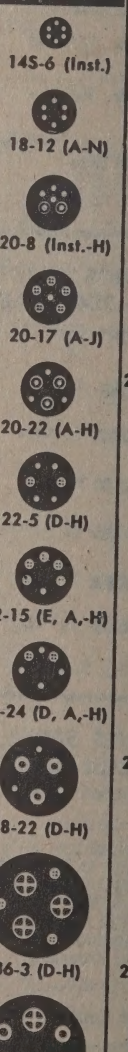
5 Contacts (Con't.)



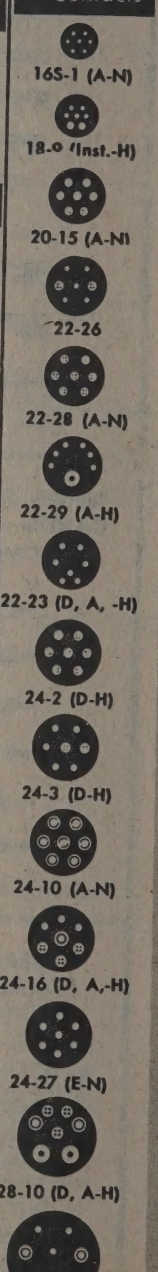
5 Contacts (Con't.)



6 Contacts



7 Contacts



12

"MS" Connector Insert Contact Arrangements BUNKER RAMO AMPHENOL

Service—Limiting Operating Voltages @ Sea Level	Inst.	A	D	E	B	C
DC	250	700	1250	1750	2450	4200
AC (rms)	200	500	900	1250	1750	3000

CODE OF WIRE SIZES

8 Contacts

18-8 (A-N)

20-7 (D, A-H)

20-9 (D, A-H)

22-18 (A-H)

22-23 (D, A-P)

22-36 (D, A-P)

22-404

24-6 (D, A-H)

32-15 (D-H)

9 Contacts

20-16 (A-H)

20-18 (A-H)

22-16 (A-H)

22-21 (A-H)

22-17 (D, A-H)

9 Contacts (Con't.)

22-20 (A-H)

22-27 (D, A-K)

24-11 (A-H)

28-1 (D, A-H)

28-4 (D, E-H)

32-3 (D-H)

10 Contacts

18-1 (A, Inst.)

18-19 (A)

24-21 (D)

28-19 (A, B, D)

11 Contacts

20-33 (A)

24-20 (D-H)

11 Contacts (Con't.)

28-14 (D-H)

12 Contacts

24-19

28-8 (A, D, E-H)

28-9 (D-H)

28-18 (Inst., A, C, D-H)

32-101 (D-H)

13 Contacts

20-11 (Inst.)

14 Contacts

20-27 (Inst., A-H)

22-19 (A-H)

28-2 (D-H)

14 Contacts (Con't.)

28-20 (A-H)

32-4 (A, D-H)

32-9 (D-H)

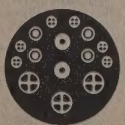
32-102 (A, C, D-H)

15 Contacts

28-17 (A, B, D-H)

32-12(A, D, -H)

36-405

36-407

40-5 (A-H)

16 Contacts

24-5 (A-H)

24-7 (A-H)

36-14 (D-J)

17 Contacts

20-29 (A-N)

36-13 (A, E-H)

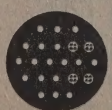
19 Contacts

22-14 (A-H)

20 Contacts

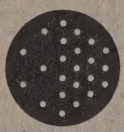
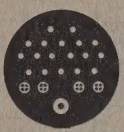
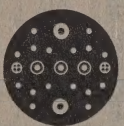
28-16 (A-H)

22 Contacts

28-11 (A-H)

36-1 (D-H)

23 Contacts

32-6 (A-H)

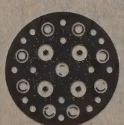
32-13 (D-H)

40-2 (B, D-H)

40-3 (D-H)

40-4 (D-H)

24 Contacts

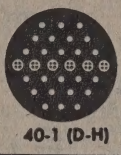
24-28 (Inst.-H)

26 Contacts

28-12 (A-J)

29 Contacts

40-10 (A-H)

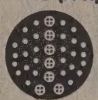
30 Contacts

32-8 (A-H)

40-1 (D-H)

31 Contacts

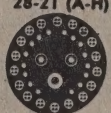
36-9 (A-H)

35 Contacts

28-15 (A-H)

32-7 (Inst, A-H)

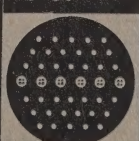
36-15 (A, D-H)

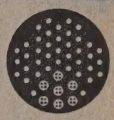
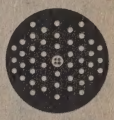
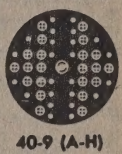
37 Contacts

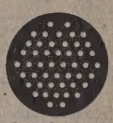
28-21 (A-H)

36-406 (A)

29 Contacts

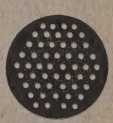
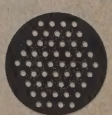
40-10 (A-H)

42 Contacts

44-1 (D-H)

47 Contacts

36-7 (A-H)

36-8 (A-H)

40-9 (A-H)

48 Contacts

36-10 (A-H)

52 Contacts

32-414 (A)

36-403 (A)

36-404 (A)

12

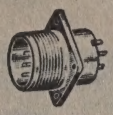
BUNKER RAMO AMPHENOL MS Receptacles and Mating Plugs

Meet current MIL-C-5015 specifications; interchangeable with units made to meet previous specs. **Finish:** Cadmium-plated aluminum with olive drab chromate conversion coating; non-reflective, corrosion-resistant. **Inserts:** Molded diallyl phthalate; offers dimensional stability, high insulation resistance, high arc resistance. **Contacts:** Non-rotating, silver-plated; pre-tinned solder pockets. Coupling Rings: Made from solid aluminum bar stock.

Type 3100A: Wall recp. w/mtg. flange; w/AN3057 cable clamp.
Type 3101A: Cable recp. For detachable splice in cable.
Type 3102A: Box recp. Mounts on chassis or panel.
Type 3106A: Straight plug with solid back shell.
Type 3106B: Same as 3106A but with split back shell.
Type 3108A: Angle plug. Solid back shell.
Type 3108B: Same as 3108A but with split back shell.

3100A

3101A


3102A

3106A

3106B

3108A

3108B

RECEPTACLES

Shell Style Insert	MS3100A EACH		MS3101A EACH		MS3102A EACH	
	1-9	10-49	1-9	10-49	1-9	10-49
10S-2P	2.94	2.27	2.39	1.86	1.10	.85
10S-2S	2.97	2.30	2.44	1.89	1.14	.89
10SL-3P	1.86	1.44	2.76	2.14	1.43	1.10
10SL-4P	1.84	1.43	2.61	2.02	1.43	1.10
10SL-4S	...	...	...	...	...	...
12S-3P	2.01	1.56	2.35	1.81	1.08	.84
12S-3S	2.05	1.59	2.39	1.86	1.14	.89
12S-4P	2.07	1.60	2.44	1.89	1.17	.90
12S-4S	2.07	1.60	2.44	1.89	1.17	.90
12S-6P	6.39	4.94	6.75	5.23	5.45	4.22
12S-6S	6.80	5.25	7.13	5.51	5.84	4.53
12SL-844P	....	....	....	....	2.59	2.01
12-5P	2.44	1.89	2.69	2.08	1.51	1.17
12-5S	2.61	2.02	2.92	2.25	1.73	1.33
14S-1P	2.14	1.65	2.61	2.02	1.40	1.08
14S-1S	2.18	1.68	2.66	2.05	1.43	1.10
14S-2P	2.11	1.63	2.59	2.01	1.37	1.07
14S-2S	2.29	1.77	2.72	2.10	1.51	1.17
14S-4P	2.03	1.57	2.48	1.91	1.27	.98
14S-4S	2.07	1.60	2.57	1.99	1.36	1.05
14S-5P	2.35	1.81	2.82	2.18	1.60	1.23
14S-5S	2.44	1.89	2.92	2.25	1.71	1.32
14S-6S	2.48	1.91	2.97	2.30	1.75	1.35
14S-6P	2.44	1.89	2.92	2.25	1.71	1.32
14S-7S	2.18	1.68	2.66	2.05	1.43	1.10
14S-7P	2.14	1.65	2.61	2.02	1.40	1.08
14S-9S	2.05	1.59	2.54	1.98	1.30	1.00
14S-9P	2.03	1.57	2.48	1.91	1.27	.98
14S-10S	2.54	1.98	3.00	2.32	1.79	1.39
14S-10P	2.35	1.81	2.82	2.18	1.60	1.23
16S-1S	3.00	2.32	3.22	2.48	2.01	1.56
16S-1P	2.69	2.08	2.94	2.27	1.73	1.33
16S-4S	2.48	1.91	2.69	2.08	1.49	1.16
16S-4P	2.39	1.86	2.61	2.02	1.40	1.08
16S-5P	2.57	1.99	2.76	2.14	1.58	1.21
16S-5S	2.61	2.02	2.87	2.21	1.64	1.27
16S-8P	2.66	2.05	2.89	2.24	1.68	1.31
16S-8S	2.72	2.10	2.97	2.30	1.75	1.35
16-9P	3.00	2.32	3.09	2.38	1.84	1.43
16-9S	3.35	2.59	3.48	2.68	2.24	1.74
16-10P	2.92	2.25	3.00	2.32	1.75	1.35
16-10S	3.24	2.51	3.33	2.57	2.07	1.60
16-11P	2.69	2.08	2.82	2.18	1.58	1.21
16-11S	3.05	2.35	3.15	2.44	1.90	1.47
16-13P	6.60	5.11	6.71	5.19	5.45	4.22
16-13S	7.64	5.90	7.72	5.97	6.47	5.00
18-1P	3.35	2.59	3.78	2.92	2.33	1.79
18-1S	3.65	2.82	4.08	3.15	2.59	2.01
18-3P	2.67	2.06	3.09	2.38	1.64	1.27
18-3S	3.30	2.56	3.74	2.88	2.27	1.75
18-4P	2.69	2.08	3.12	2.42	1.68	1.31
18-4S	2.94	2.27	3.33	2.57	1.86	1.44
18-5P	2.59	2.01	3.00	2.32	1.51	1.17
18-5S	2.94	2.27	3.33	2.57	1.86	1.44
18-8P	3.35	2.59	3.78	2.92	2.33	1.79
18-8S	3.59	2.76	3.96	3.07	2.54	1.98
18-9P	3.20	2.47	3.59	2.76	2.11	1.63
18-9S	3.46	2.67	3.83	2.97	2.38	1.84
18-10P	3.24	2.51	3.65	2.82	2.18	1.68
18-10S	3.59	2.76	3.96	3.07	2.54	1.98
18-11P	3.24	2.51	3.65	2.82	2.18	1.68
18-11S	3.35	2.59	3.78	2.92	2.33	1.79

MATING PLUGS

Shell Style Insert	3106A EACH		3106B EACH		3108A EACH		3108B EACH	
	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49
10S-2S	2.59	2.01	...	...	...	...	...	...
10S-2P	2.57	1.99	.....	.....	.....	.....	.....	.....
10SL-3S	2.24	1.74	....	.....	3.96	3.07	2.07	1.60
10SL-3P	.....	.....	....	.....	....	....	.....	.....
10SL-4S	2.18	1.68	....	....	....	.....	.....	....
12S-3S	1.94	1.50	....	....	4.54	3.50	2.48	1.91
12S-3P	1.86	1.44	....	....	4.49	3.47	2.44	1.89
12S-4S	1.95	1.51	....	....	4.55	3.52	2.54	1.98
12S-4P	1.95	1.51	....	....	4.55	3.52	2.54	1.98
12S-6S	6.70	5.16	....	....	9.29	7.17	7.24	5.58
12S-6P	6.26	4.84	....	....	8.87	6.86	6.83	5.27
12SL-844S	4.82	3.73	....	....	7.24	5.58	....	....
12-5S	2.66	2.05	....	....	4.64	3.59	2.82	2.18
12-5P	2.46	1.90	....	....	4.44	3.45	2.61	2.02
14S-1S	2.18	1.68	2.61	2.02	4.44	3.45	2.44	1.89
14S-1P	2.14	1.65	2.59	2.01	4.42	3.41	2.39	1.86
14S-2S	2.29	1.77	2.69	2.08	4.54	3.50	2.54	1.98
14S-2P	2.11	1.63	2.57	1.99	4.40	3.40	2.38	1.84
14S-4S	2.07	1.60	2.54	1.98	4.38	3.38	2.35	1.81
14S-4P	2.03	1.57	2.46	1.90	4.32	3.34	2.29	1.77
14S-5P	2.35	1.81	2.76	2.14	4.62	3.56	2.59	2.01
14S-5S	2.44	1.89	2.89	2.24	4.72	3.65	2.67	2.06
14S-6P	2.44	1.89	2.89	2.24	4.72	3.65	2.67	2.06
14S-6S	2.48	1.91	2.94	2.27	4.77	3.68	2.72	2.10
14S-7P	2.14	1.65	2.59	2.01	4.42	3.41	2.39	1.86
14S-7S	2.18	1.68	2.61	2.02	4.44	3.45	2.44	1.89
14S-9P	2.03	1.57	2.46	1.90	4.32	3.34	2.29	1.77
14S-9S	2.05	1.59	2.48	1.91	4.34	3.35	2.33	1.79
14S-10P	2.35	1.81	2.76	2.14	4.62	3.56	2.59	2.01
14S-10S	2.54	1.98	2.97	2.30	4.82	3.73	2.76	2.14
16S-1P	2.44	1.89	3.12	2.42	5.68	4.38	2.92	2.25
16S-1S	2.69	2.08	3.37	2.60	5.96	4.61	3.20	2.47
16S-4P	2.11	1.63	2.82	2.18	5.38	4.15	2.59	2.01
16S-4S	2.24	1.74	2.92	2.25	5.45	4.22	2.67	2.06
16S-5S	2.35	1.81	3.02	2.33	5.58	4.32	2.82	2.18
16S-5P	2.29	1.77	2.97	2.30	5.53	4.27	2.72	2.10
16S-8S	2.46	1.90	3.15	2.44	5.69	4.41	2.94	2.27
16S-8P	2.38	1.84	3.05	2.35	5.61	4.34	2.87	2.21
16-9S	3.22	2.48	....	....	5.84	4.53	3.89	3.00
16-9P	2.87	2.21	....	....	5.51	4.26	3.53	2.74
16-10S	3.09	2.38	....	....	5.71	4.42	3.78	2.92
16-10P	2.72	2.10	....	....	5.40	4.18	3.46	2.67
16-11S	2.92	2.25	....	....	5.56	4.31	3.59	2.76
16-11P	2.57	1.99	....	....	5.21	4.03	3.24	2.51
16-13S	7.46	5.78	....	....	10.12	7.83	8.18	6.32
16-13P	6.45	4.99	....	....	9.14	7.05	7.13	5.51
18-1S	3.52	2.72	4.11	3.19	6.80	5.25	4.27	3.30
18-1P	3.22	2.48	3.83	2.97	6.50	5.01	3.96	3.07
18-3S	3.15	2.44	3.78	2.92	6.45	4.99	3.91	3.02
18-3P	2.54	1.98	3.15	2.44	5.83	4.50	3.30	2.56
18-4S	2.76	2.14	3.37	2.60	6.11	4.72	3.55	2.75
18-4P	2.57	1.99	3.20	2.47	5.84	4.53	3.33	2.57
18-5S	2.76	2.14	3.37	2.60	6.11	4.72	3.55	2.75
18-5P	2.44	1.89	3.05	2.35	5.71	4.42	3.22	2.48
18-8S	3.46	2.67	4.08	3.15	6.75	5.23	4.21	3.25
18-8P	3.22	2.48	3.83	2.97	6.50	5.01	3.96	3.07
18-9S	3.25	2.52	3.89	3.00	6.58	5.09	4.08	3.15
18-9P	3.02	2.33	3.65	2.82	6.32	4.89	3.80	2.94
18-10S	3.46	2.67	4.08	3.15	6.75	5.23	4.21	3.25
18-10P	3.09	2.38	3.74	2.88	6.39	4.94	3.96	2.98
18-11S	3.22	2.48	3.83	2.97	6.50	5.01	3.96	3.07
18-11P	3.09	2.38	3.74	2.88	6.39	4.94	3.86	2.98

12

Type "MS" Connectors

BUNKER RAMO AMPHENOL

CALL, WRITE OR WIRE YOUR NEAREST NEWARK FACILITY FOR PRICES ON HIGHER QUANTITIES

RECEPTACLES

Shell Style Insert	MS3100A EACH 1-9	MS3100A EACH 10-49	MS3101A EACH 1-9	MS3101A EACH 10-49	MS3102A EACH 1-9	MS3102A EACH 10-49
18-12P	3.02	2.33	3.46	2.67	1.95	1.57
18-12S	3.24	2.51	3.65	2.82	2.18	1.68
18-13P	3.25	2.52	3.67	2.83	2.24	1.74
18-16P	2.94	2.27	3.33	2.57	1.86	1.44
18-16S	3.46	2.67	3.83	2.97	2.38	1.84
18-18P	3.65	2.82	4.08	3.15	2.59	2.01
18-18S	3.67	2.83	4.10	3.18	2.61	2.02
18-19P	4.54	3.50	4.97	3.83	3.52	2.72
18-19S	3.74	2.88	4.11	3.19	2.66	2.05
18-20P	2.92	2.25	3.30	2.56	1.84	1.43
18-20S	3.09	2.38	3.50	2.72	2.03	1.57
18-22P	2.67	2.06	3.09	2.38	1.64	1.27
18-22S	2.92	2.25	3.30	2.56	1.84	1.43
18-29P	2.94	2.27	3.33	2.57	1.86	1.44
18-29S	2.94	2.27	3.33	2.57	1.86	1.44
20-3P	3.22	2.48	3.46	2.67	1.95	1.51
20-3S	4.21	3.25	4.42	3.41	2.97	2.30
20-4P	3.37	2.60	3.63	2.80	2.14	1.65
20-4S	3.86	2.98	4.10	3.18	2.61	2.02
20-5P	3.33	2.57	3.55	2.75	2.07	1.60
20-5S	3.63	2.80	3.83	2.97	2.38	1.84
20-6P	3.05	2.35	3.24	2.51	1.79	1.39
20-6S	3.09	2.38	3.30	2.56	1.84	1.43
20-7P	3.37	2.60	3.63	2.80	2.14	1.65
20-7S	3.67	2.83	3.89	3.00	2.44	1.89
20-8P	3.86	2.98	4.10	3.18	2.61	2.02
20-8S	4.49	3.47	4.72	3.65	3.24	2.57
20-9P	3.65	2.82	3.86	2.98	2.39	1.86
20-9S	3.74	2.88	3.91	3.02	2.46	1.90
20-11P	4.32	3.34	4.51	3.49	3.05	2.35
20-11S	6.58	5.09	6.80	5.25	5.36	4.14
20-14P	4.08	3.15	4.27	3.30	2.82	2.18
20-14S	5.25	4.05	5.45	4.22	3.96	3.07
20-15P	3.76	2.91	3.95	3.06	2.48	1.91
20-15S	5.08	3.92	5.30	4.10	3.83	2.97
20-16P	3.78	2.92	3.96	3.07	2.54	1.98
20-16S	4.02	3.10	4.23	3.26	2.76	2.14
20-17P	3.74	2.88	3.91	3.02	2.46	1.90
20-17S	4.51	3.49	4.75	3.67	3.25	2.52
20-18P	3.91	3.02	4.17	3.22	2.67	2.67
20-18S	4.34	3.35	4.54	3.50	3.09	2.38
20-19P	4.17	3.22	4.40	3.40	3.40	2.92
20-19S	5.08	3.92	5.30	4.10	3.83	2.97
20-21P	3.65	2.82	3.86	2.98	2.39	1.86
20-21S	3.83	2.97	4.08	3.15	2.59	2.01
20-22P	4.32	3.34	4.51	3.49	3.05	2.35
20-22S	5.08	3.92	5.30	4.10	3.83	2.97
20-23P	3.63	2.80	3.83	2.97	2.38	1.84
20-23S	3.95	3.06	4.19	3.23	2.69	2.08
20-24P	3.74	2.88	3.91	3.02	2.46	1.90
20-24S	4.62	3.56	4.83	3.74	3.35	2.59
20-27P	3.86	2.98	4.10	3.18	2.61	2.02
20-27S	4.23	3.26	4.44	3.45	3.00	2.32
20-29P	4.19	3.23	4.40	3.40	2.94	2.27
20-29S	4.64	3.59	4.85	3.76	3.37	2.60
20-33P	4.17	3.22	4.38	3.38	2.92	2.25
20-33S	4.27	3.30	4.49	3.47	3.02	2.33
22-1P	3.83	2.97	4.02	3.10	2.33	1.79
22-1S	4.44	3.45	4.64	3.59	3.00	2.32
22-2P	4.10	3.18	4.27	3.30	2.61	2.02
22-2S	4.98	3.84	5.15	3.99	3.53	2.74
22-4P	4.23	3.26	4.42	3.41	2.76	2.14
22-4S	4.82	3.73	4.98	3.84	3.33	2.57
22-5P	3.95	3.06	4.17	3.22	2.48	1.91
22-5S	3.96	3.07	4.19	3.23	2.54	1.98
22-6P	3.87	3.00	4.10	3.18	2.44	1.89
22-6S	4.55	3.52	4.77	3.68	3.12	2.42
22-8P	3.33	2.57	3.53	2.74	1.86	1.44
22-8S	4.21	3.25	4.40	3.40	2.72	2.10
22-9P	3.52	2.72	3.67	2.83	2.03	1.57
22-9S	4.44	3.45	4.64	3.59	3.00	2.32
22-10P	3.52	2.72	3.67	2.83	2.03	1.57
22-10S	3.65	2.82	3.83	2.97	2.18	1.68
22-11P	3.24	2.51	3.46	2.67	1.79	1.39
22-11S	3.52	2.72	3.67	2.83	2.03	1.57
22-12P	4.23	3.26	4.42	3.41	2.76	2.14
22-12S	4.92	3.80	5.08	3.92	3.46	2.67
22-14P	4.70	3.64	4.85	3.76	3.22	2.48
22-14S	5.38	4.15	5.56	4.31	3.89	3.00
22-15P	4.19	3.23	4.38	3.38	2.69	2.08

MATING PLUGS

Shell Style Insert	3106A EACH 1-9	3106A EACH 10-49	3106B EACH 1-9	3106B EACH 10-49	3108A EACH 1-9	3108A EACH 10-49	3108B EACH 1-9	3108B EACH 10-49
18-12S	3.09	2.38	3.74	2.88	6.39	4.94	3.86	2.98
18-12P	2.89	2.24	3.52	2.72	6.17	4.77	3.65	2.82
18-13S	3.53	2.74	4.17	3.22	6.83	5.27	4.32	3.34
18-16S	3.25	2.52	3.89	3.00	6.58	5.09	4.08	3.15
18-16P	2.76	2.14	3.37	2.60	6.11	4.72	3.55	2.75
18-18S	3.53	2.74	4.17	3.22	6.83	5.27	4.32	3.34
18-18P	3.52	2.72	4.11	3.19	6.80	5.25	4.27	3.30
18-19S	3.55	2.75	4.19	3.23	6.86	5.30	4.34	3.35
18-19P	4.40	3.40	5.02	3.89	7.69	5.94	5.15	3.99
18-20S	2.94	2.27	3.55	2.75	6.24	4.82	3.74	2.88
18-20P	2.72	2.10	3.35	2.59	6.04	4.67	3.53	2.74
18-22S	2.72	2.10	3.35	2.59	6.04	4.67	3.53	2.74
18-22P	2.54	1.98	3.15	2.44	5.83	4.50	3.30	2.56
18-29S	2.76	2.14	3.37	2.60	6.11	4.72	3.55	2.75
18-29P	2.76	2.14	3.37	2.60	6.11	4.72	3.55	2.75
20-3S	4.54	3.50	5.02	3.89	7.97	6.16	5.25	4.05
20-3P	3.55	2.75	4.02	3.10	6.93	5.36	4.23	3.26
20-4S	4.21	3.25	4.70	3.64	7.61	5.89	4.92	3.80
20-4P	3.76	2.91	4.21	3.25	7.13	5.51	4.42	3.41
20-5S	3.95	3.06	4.42	3.41	7.35	5.69	4.64	3.59
20-5P	3.67	2.83	4.17	3.22	7.08	5.48	4.38	3.38
20-6S	3.46	2.67	3.89	3.00	6.83	5.27	4.11	3.19
20-6P	3.35	2.59	3.83	2.97	6.77	5.24	4.08	3.15
20-7S	4.02	3.10	4.49	3.47	7.42	5.73	4.72	3.65
20-7P	3.76	2.91	4.21	3.25	7.13	5.51	4.42	3.41
20-8S	4.83	3.74	5.30	4.10	8.22	6.36	5.53	4.27
20-8P	4.21	3.25	4.70	3.64	7.61	5.89	4.92	3.80
20-9S	4.08	3.15	4.51	3.49	7.44	5.75	4.75	3.67
20-9P	3.96	3.07	4.44	3.45	7.41	5.71	4.70	3.64
20-11S	6.90	5.35	7.41	5.71	10.34	7.99	7.61	5.89
20-11P	4.64	3.59	5.10	3.93	8.05	6.22	5.36	4.14
20-14S	5.58	4.32	6.04	4.67	8.95	6.91	6.26	4.84
20-14P	4.40	3.40	4.85	3.76	7.79	6.02	5.08	3.92
20-15S	5.41	4.19	5.89	4.55	8.83	6.83	6.12	4.73
20-15P	4.10	3.18	4.54	3.50	7.46	5.78	4.77	3.68
20-16S	4.38	3.38	4.83	3.74	7.74	5.98	5.05	3.91
20-16P	4.11	3.19	4.55	3.52	7.52	5.81	4.82	3.73
20-17S	4.85	3.76	5.36	4.14	8.27	6.39	5.56	4.31
20-17P	4.08	3.15	4.51	3.49	7.44	5.75	4.75	3.67
20-18S	4.70	3.64	5.13	3.96	8.07	6.24	5.30	4.10
20-18P	4.27	3.30	4.75	3.67	7.67	5.93	4.97	3.83
20-19S	5.41	4.19	5.89	4.55	8.83	6.83	6.12	4.73
20-19P	4.49	3.47	4.97	3.83	7.89	6.10	5.15	3.99
20-21S	4.19	3.23	4.64	3.59	7.75	5.85	4.85	3.76
20-21P	3.96	3.07	4.44	3.45	7.41	5.71	4.70	3.64
20-22S	5.41	4.19	5.89	4.55	8.83	6.83	6.12	4.73
20-22P	4.62	3.56	5.10	3.93	8.05	6.22	5.26	4.14
20-23S	4.32	3.34	4.77	3.68	7.69	5.94	4.98	3.84
20-23P	3.95	3.06	4.42	3.41	7.35	5.69	4.64	3.59
20-24S	4.97	3.83	5.41	4.19	8.33	6.44	5.64	4.35
20-24P	4.08	3.15	4.51	3.49	7.44	5.75	4.75	3.67
20-27S	4.55	3.52	5.05	3.91	7.99	6.17	5.26	4.07
20-27P	4.21	3.25	4.70	3.64	7.61	5.89	4.92	3.80
20-29S	4.98	3.84	5.45	4.22	8.37	6.47	5.68	4.38
20-29P	4.51	3.49	4.98	3.84	7.94	6.13	5.21	4.03
20-33S	4.62	3.56	5.08	3.92	8.00	6.19	5.30	4.10
20-33P	4.49	3.47	4.97	3.83	7.89	6.10	5.15	3.99
22-1S	4.44	3.45	5.05	3.91	8.20	6.33	5.36	4.14
22-1P	3.83	2.97	4.38	3.38	7.52	5.81	4.64	3.59
22-2S	4.98	3.84	5.58	4.32	8.72	6.74	5.84	4.53
22-2P	4.10	3.18	4.70	3.64	7.84	6.06	4.97	3.83
22-4S	4.82	3.73	5.40	4.18	8.55	6.60	5.68	4.38
22-4P	4.23	3.26	4.83	3.74	7.99	6.17	5.10	3.93
22-5S	3.96	3.07	4.55	3.52	7.72	5.97	4.85	3.76
22-5P	3.95	3.06	4.54	3.50	7.69	5.94	4.83	3.74
22-6S	4.55	3.52	5.15	3.99	8.31	6.43	5.45	4.22
22-6P	3.89	3.00	4.49	3.47	7.64	5.90	4.77	3.68
22-8S	4.21	3.25	4.82	3.73	7.97	6.16	5.08	3.92
22-8P	3.33	2.57	3.91	3.02	7.08	5.48	4.21	3.25
22-9S	4.44	3.45	5.05	3.91	8.20	6.33	5.36	4.14
22-9P	3.52	2.72	4.10	3.18	7.24	5.58	4.38	3.38
22-10S	3.65	2.82	4.23	3.26	7.41	5.71	4.51	3.49
22-10P	3.52	2.72	4.10	3.18	7.24	5.58	4.38	3.38
22-11S	3.52	2.72	4.10	3.18	7.24	5.58	4.38	3.38
22-11P	3.24	2.51	3.83	2.97	6.99	5.40	4.11	3.19
22-12S	4.92	3.80	5.51	4.26	8.63	6.67	5.73	4.43
22-12P	4.23	3.26	4.83	3.74	7.99	6.17	5.00	3.93
22-14S	5.38	4.15	5.96	4.61	9.14	7.05	6.24	4.82
22-14P	4.70	3.64	5.26	4.07	8.42	6.51	5.56	4.31
22-15S	5.10	3.93	5.69	4.41	8.86	6.84	5.99	4.64

RECEPTACLES

Shell Style / Insert	MS3100A EACH 1-9	MS3100A EACH 10-49	MS3101A EACH 1-9	MS3101A EACH 10-49	MS3102A EACH 1-9	MS3102A EACH 10-49
22-19P	4.62	3.56	4.82	3.73	3.15	2.44
22-19S	4.70	3.64	4.85	3.76	3.22	2.48
22-20P	4.02	3.10	4.21	3.25	2.57	1.99
22-20S	4.21	3.25	4.40	3.40	2.72	2.10
22-22P	4.72	3.65	4.92	3.80	3.24	2.51
22-22S	5.94	4.58	6.12	4.73	4.44	3.45
22-23P	4.51	3.49	4.72	3.65	3.05	2.35
22-23S	5.81	4.49	5.99	4.64	4.34	3.35
22-27P	4.44	3.45	4.64	3.59	3.00	2.32
22-27S	4.82	3.73	4.98	3.84	3.33	2.57
22-28P	4.27	3.30	4.44	3.45	2.82	2.18
22-28S	5.89	4.55	6.11	4.72	4.42	3.41
22-29P	4.64	3.59	4.83	3.74	3.20	2.47
22-29S	5.26	4.07	5.45	4.22	3.80	2.94
22-34P	3.91	3.02	4.11	3.19	2.46	1.90
22-34S	4.10	3.18	4.27	3.30	2.61	2.02
22-36P	20.41	15.78	20.58	15.91	18.94	14.64
22-36S	22.33	17.26	22.52	17.41	20.89	16.15
24-2P	4.75	3.67	4.77	3.68	3.02	2.33
24-2S	5.71	4.42	5.73	4.43	4.02	3.10
24-5P	5.26	4.07	5.30	4.10	3.55	2.75
24-5S	5.94	4.58	5.96	4.61	4.21	3.25
24-6P	4.95	3.81	4.97	3.83	3.22	2.48
24-6S	6.43	4.97	6.45	4.99	4.72	3.65
24-7P	5.51	4.26	5.53	4.27	3.78	2.92
24-7S	5.94	4.58	5.96	4.61	4.21	3.25
24-9P	4.70	3.64	4.72	3.65	2.97	2.30
24-9S	5.21	4.03	5.25	4.05	3.52	2.72
24-10P	6.86	5.30	6.88	5.31	5.13	3.96
24-10S	7.87	6.09	7.89	6.10	6.45	4.99
24-11P	5.84	4.53	5.89	4.55	4.17	3.22
24-11S	7.44	5.75	7.46	5.78	5.71	4.42
24-12P	6.12	4.73	6.15	4.76	4.40	3.40
24-12S	7.33	5.67	7.35	5.69	5.61	4.34
24-17P	4.21	3.25	4.23	3.26	2.48	1.91
24-17S	4.70	3.64	4.72	3.65	2.97	2.30
24-19P	5.26	4.07	5.30	4.10	3.55	2.75
24-19S	5.61	4.34	5.64	4.35	3.89	3.00
24-20P	4.92	3.80	4.95	3.81	3.20	2.47
24-20S	4.97	3.83	4.98	3.84	3.24	2.51
24-21S	5.26	4.07	5.30	4.10	3.55	2.75
24-22P	5.58	4.32	5.61	4.34	3.86	2.98
24-22S	6.90	5.35	6.93	5.36	5.26	4.03
28-6P	6.56	5.08	7.13	5.51	4.95	3.81
28-6S	7.33	5.67	7.94	6.13	5.69	4.41
28-8P	5.40	4.18	5.99	4.64	3.78	2.92
28-8S	5.58	4.32	6.17	4.77	3.95	3.06
28-9P	5.69	4.41	6.27	4.85	4.10	3.18
28-9S	6.24	4.82	6.83	5.27	4.62	3.56
28-10P	7.41	5.71	7.99	6.17	5.73	4.43
28-10S	9.30	7.18	9.90	7.65	7.69	5.94
28-11P	6.12	4.73	6.71	5.19	4.49	3.47
28-11S	7.42	5.73	8.00	6.19	5.81	4.49
28-12P	6.35	4.90	6.93	5.36	4.75	3.67
28-12S	7.42	5.73	8.00	6.19	5.81	4.49
24-27P	4.21	3.25	4.23	3.26	2.48	1.91
24-27S	4.34	3.35	4.38	3.38	2.61	2.02
24-28P	5.73	4.43	5.81	4.49	4.08	3.15
24-28S	6.50	5.01	6.56	5.08	4.82	3.73
24-835P	4.97	3.83	4.98	3.84	3.24	2.51
24-835S	6.12	4.73	6.15	4.76	4.40	3.40
28-1P	6.04	4.67	6.65	5.13	4.42	3.41
28-1S	7.72	5.97	8.31	6.43	6.12	4.73
28-2P	5.40	4.18	5.99	4.64	3.78	2.92
28-2S	5.73	4.43	6.35	4.90	4.17	3.22
28-3P	5.58	4.32	6.17	4.77	3.95	3.06
28-3S	5.94	4.58	6.50	5.01	4.32	3.34
28-14P	6.11	4.72	6.70	5.16	4.44	3.45
28-14S	6.70	5.16	7.29	5.64	5.05	3.91
28-15P	7.13	5.51	7.72	5.97	5.53	4.27
28-15S	8.22	6.36	8.83	6.83	6.60	5.11
28-16P	6.27	4.85	6.88	5.31	4.70	3.64
28-16S	6.35	4.90	6.93	5.36	4.75	3.67
28-17P	5.36	4.14	5.94	4.58	3.74	2.88
28-17S	5.69	4.41	6.27	4.85	4.10	3.18
28-18P	5.15	3.99	5.73	4.43	3.53	2.74
28-18S	5.64	4.35	6.24	4.82	4.02	3.10
28-19P	5.25	4.05	5.83	4.50	3.63	2.80
28-19S	6.35	4.90	6.93	5.36	4.75	3.67
28-20P	6.17	4.77	6.77	5.24	4.54	3.50
28-20S	6.86	5.30	7.44	5.75	5.25	4.05
28-21P	7.35	5.69	7.97	6.16	5.71	4.42
28-21S	8.33	6.44	8.93	6.90	6.75	5.23
28-22P	7.24	5.58	7.84	6.06	5.61	4.34
32-4S	6.99	5.40	7.52	5.81	5.21	4.03
32-5P	7.64	5.90	8.18	6.32	5.84	4.53
32-5S	8.48	6.56	8.95	6.91	6.70	5.16

MATING PLUGS

Shell Style / Insert	3106A EACH 1-9	3106A EACH 10-49	3106B EACH 1-9	3106B EACH 10-49	3108A EACH 1-9	3108A EACH 10-49	3108B EACH 1-9	3108B EACH 10-49
22-19S	4.70	3.64	5.26	4.07	8.42	6.51	5.56	4.31
22-19P	4.62	3.56	5.21	4.03	8.33	6.44	5.51	4.26
22-20S	4.21	3.25	4.82	3.73	7.97	6.16	5.08	3.92
22-20P	4.02	3.10	4.62	3.56	7.74	5.98	4.92	3.80
22-22S	5.94	4.58	6.50	5.01	9.69	7.48	6.80	5.25
22-22P	4.72	3.65	5.30	4.10	8.48	6.56	5.58	4.32
22-23S	5.81	4.49	6.39	4.94	9.51	7.35	6.70	5.16
22-23P	4.51	3.49	5.10	3.93	8.27	6.39	5.40	4.18
22-27S	4.82	3.73	5.40	4.18	8.55	6.60	5.68	4.38
22-27P	4.44	3.45	5.05	3.91	8.20	6.33	5.36	4.14
22-28S	5.89	4.55	6.47	5.00	9.60	7.42	6.77	5.24
22-28P	4.27	3.30	4.85	3.76	8.00	6.19	5.13	3.96
22-29S	5.26	4.07	5.84	4.53	8.99	6.94	6.15	4.76
22-29P	4.64	3.59	5.25	4.05	8.37	6.47	5.53	4.27
22-34S	4.10	3.18	4.70	3.64	7.84	6.06	4.97	3.83
22-34P	3.91	3.02	4.51	3.49	7.67	5.93	4.82	3.73
22-36S	22.33	17.26	22.94	17.73	26.09	20.16	23.20	17.93
22-36P	20.41	15.78	21.02	16.24	24.15	18.66	21.28	16.45
24-2S	5.83	4.50	6.88	5.31	9.85	7.60	6.35	4.90
24-2P	4.83	3.74	5.89	4.55	8.86	6.84	5.38	4.15
24-5S	6.02	4.65	7.08	5.48	10.03	7.75	6.56	5.08
24-5P	5.38	4.15	6.43	4.97	9.39	7.26	5.89	4.55
24-6S	6.50	5.01	7.57	5.85	10.55	8.15	7.03	5.43
24-6P	5.02	3.89	6.11	4.72	9.06	7.01	5.56	4.31
24-7S	6.02	4.65	7.08	5.48	10.03	7.75	6.56	5.08
24-7P	5.58	4.32	6.65	5.13	9.58	7.41	6.12	4.73
24-9S	5.30	4.10	6.35	4.90	9.30	7.18	5.83	4.50
24-9P	4.77	3.68	5.83	4.50	8.80	6.80	5.30	4.10
24-10S	7.97	6.16	8.99	6.94	11.96	9.23	8.50	6.57
24-10P	6.93	5.36	8.00	6.19	10.98	8.49	7.46	5.78
24-11S	7.54	5.82	8.61	6.66	11.57	8.93	8.07	6.24
24-11P	5.96	4.61	7.01	5.42	10.00	7.72	6.47	5.00
24-12S	7.42	5.73	8.50	6.57	11.44	8.85	7.97	6.16
24-12P	6.22	4.81	7.29	5.64	10.21	7.88	6.75	5.23
24-17S	4.77	3.68	5.83	4.50	8.80	6.80	5.30	4.10
24-17P	4.32	3.34	5.38	4.15	8.31	6.43	4.83	3.74
24-19S	5.69	4.41	6.77	5.24	9.73	7.53	6.24	4.82
24-19P	5.38	4.15	6.43	4.97	9.39	7.26	5.89	4.55
24-20S	5.05	3.91	6.12	4.73	9.08	7.02	5.58	4.32
24-20P	4.98	3.84	6.04	4.67	8.99	6.94	5.53	4.27
24-21S	5.38	4.15	6.43	4.97	9.39	7.26	5.89	4.55
24-22S	7.01	5.42	8.07	6.24	11.03	8.52	7.54	5.82
24-22P	5.68	4.38	6.75	5.23	9.72	7.52	6.22	4.81
28-6S	7.54	5.82	8.10	6.25	11.55	8.92	8.18	6.32
28-6P	6.77	5.24	7.33	5.67	10.75	8.31	7.41	5.71
28-8S	5.81	4.49	6.35	4.90	9.80	7.57	6.43	4.97
28-8P	5.61	4.34	6.17	4.77	9.58	7.41	6.24	4.82
28-9S	6.45	4.99	7.01	5.42	10.44	8.07	7.08	5.48
28-9P	5.94	4.58	6.47	5.00	9.90	7.65	6.56	5.08
28-10S	9.51	7.35	10.10	7.81	13.55	10.48	10.15	7.84
28-10P	7.61	5.89	8.18	6.32	11.61	8.97	8.22	6.36
28-11S	7.64	5.90	8.20	6.33	11.63	9.00	8.27	6.39
28-11P	6.32	4.89	6.88	5.31	10.34	7.99	6.93	5.36
28-12S	7.64	5.90	8.20	6.33	11.63	9.00	8.27	6.39
28-12P	6.58	5.09	7.13	5.51	10.58	8.18	7.20	5.57
24-27S	4.42	3.41	5.51	4.26	8.48	6.56	4.97	3.83
24-27P	4.32	3.34	5.38	4.15	8.31	6.43	4.83	3.74
24-28S	6.60	5.11	7.67	5.93	10.64	8.22	7.13	5.51
24-28P	5.84	4.53	6.86	5.30	9.88	7.64	6.39	4.94
24-835S	6.22	4.81	7.29	5.64	10.21	7.88	6.75	5.23
24-835P	5.05	3.91	6.12	4.73	9.08	7.02	5.58	4.32
28-1S	7.97	6.16	8.52	6.59	11.93	9.22	8.59	6.64
28-1P	6.26	4.84	6.83	5.27	10.25	7.92	6.88	5.31
28-2S	5.99	4.64	6.56	5.08	10.00	7.72	6.60	5.11
28-2P	5.64	4.35	6.17	4.77	9.58	7.41	6.24	4.82
28-3S	6.15	4.76	6.71	5.19	10.12	7.83	6.77	5.24
28-3P	5.81	4.49	6.35	4.90	9.80	7.57	6.43	4.97
28-14S	6.88	5.31	7.44	5.75	10.88	8.41	7.52	5.81
28-14P	6.27	4.85	6.86	5.30	10.31	7.98	6.90	5.35
28-15S	8.48	6.56	8.99	6.94	12.43	9.61	9.08	7.02
28-15P	7.35	5.69	7.94	6.13	11.33	8.76	7.99	6.17
28-16S	6.58	5.09	7.13	5.51	10.58	8.18	7.20	5.57
28-16P	6.50	5.01	7.08	5.48	10.49	8.11	7.13	5.57
28-17S	5.94	4.58	6.47	5.00	9.90	7.65	6.56	5.08
28-17P	5.56	4.31	6.12	4.73	9.51	7.35	6.12	4.73
28-18S	5.84	4.53	6.43	4.97	9.85	7.60	6.47	5.00
28-18P	5.40	4.18	5.96	4.61	9.39	7.26	6.02	4.65
28-19S	6.58	5.09	7.13	5.51	10.58	8.18	7.20	5.57
28-19P	5.45	4.22	6.02	4.65	9.45	7.30	6.11	4.72
28-20S	7.08	5.48	7.64	5.90	11.07	8.56	7.69	5.94
28-20P	6.39	4.94	6.93	5.36	10.38	8.02	7.01	5.42
28-21S	8.59	6.64	9.15	7.06	12.54	9.69	9.19	7.11
28-21P	7.57	5.85	8.12	6.27	11.57	8.93	8.10	6.33
28-22S	8.83	6.83	9.39	7.26	12.82	9.90	9.45	7.30
32-4P	7.41	5.71	7.44	5.75	12.06	9.32	7.94	6.13
32-5S	9.77	7.56	9.82	7.59	14.44	11.17	10.31	7.98
32-5P	8.93	6.90	8.99	6.94	13.61	10.52	9.47	7.32

Type "MS" Connectors, Hardware — BUNKER RAMO AMPHENOL

RECEPTACLES

Shell Style Insert	MS3100A EACH 1-9	MS3100A EACH 10-49	MS3101A EACH 1-9	MS3101A EACH 10-49	MS3102A EACH 1-9	MS3102A EACH 10-49
32-6P	8.22	6.36	8.76	6.77	6.45	4.99
32-6S	11.67	9.03	12.21	9.44	9.90	7.65
32-7P	7.79	6.02	8.31	6.43	6.02	4.65
32-7S	9.90	7.65	10.44	8.07	8.12	6.27
32-8P	8.52	6.59	9.06	7.01	6.75	5.23
32-8S	8.63	6.67	9.17	7.10	6.86	5.30
32-9P	7.31	5.66	7.84	6.06	5.53	4.27
32-9S	8.31	6.43	8.86	6.84	6.56	5.08
32-12P	6.35	4.90	6.88	5.31	4.55	3.52
32-12S	7.94	6.13	8.48	6.56	6.15	4.76
32-13P	7.03	5.43	7.57	5.85	5.26	4.07
32-13S	8.05	6.22	8.59	6.64	6.26	4.84
32-15P	9.69	7.48	10.16	7.86	7.89	6.10
32-15S	10.64	8.22	11.18	8.64	8.86	6.84
32-17P	9.57	7.39	10.10	7.81	7.79	6.02
32-17S	10.47	8.10	11.02	8.50	8.70	6.72
32-101P	17.99	13.91	18.51	14.31	16.20	12.53
32-101S	16.83	13.00	17.37	13.42	15.06	11.64
32-102P	13.25	10.24	13.76	10.64	11.46	8.86
32-102S	15.41	11.91	15.94	12.33	13.61	10.52
32-414P	11.78	9.10	12.31	9.53	10.01	7.74
32-414S	15.74	12.15	16.28	12.57	13.94	10.78
36-1P	8.05	6.22	8.28	6.40	5.40	4.18
36-4P	11.46	8.86	11.73	9.07	8.83	6.83
36-4S	13.58	10.49	13.81	10.67	10.92	8.45
36-7P	11.07	8.56	11.31	8.74	8.42	6.51
36-7S	12.21	9.44	12.47	9.64	9.57	7.39
36-8P	10.70	8.27	10.98	8.49	8.07	6.24
36-8S	11.46	8.86	11.73	9.07	8.83	6.83
36-9S	15.45	11.94	15.71	12.14	12.82	9.90
36-9P	12.73	9.85	13.01	10.05	10.10	7.81
36-10P	10.58	8.18	10.79	8.34	7.94	6.13
36-10S	11.39	8.80	11.65	9.01	8.76	6.77
36-14P	14.12	10.91	14.32	11.08	11.44	8.85
36-14S	15.08	11.66	15.34	11.86	12.43	9.61
36-15P	8.95	6.91	9.23	7.14	6.32	4.89
36-15S	9.85	7.60	10.10	7.81	7.20	5.57
36-403P	12.73	9.85	13.01	10.05	10.10	7.81
36-403S	17.11	13.23	17.37	13.42	14.46	11.18
36-404P	14.81	11.44	15.06	11.64	12.16	9.42
36-404S	17.50	13.53	17.78	13.74	14.87	11.49
36-405P	17.49	13.51	17.72	13.69	14.85	11.48
36-405S	21.92	16.95	22.20	17.16	19.29	14.90

MATING PLUGS

Shell Style Insert	3106A EACH 1-9	3106A EACH 10-49	3106B EACH 1-9	3106B EACH 10-49	3108A EACH 1-9	3108A EACH 10-49	3108B EACH 1-9	3108B EACH 10-49
32-6S	13.01	10.05	13.06	10.09	17.67	13.66	13.55	10.48
32-6P	9.51	7.35	9.58	7.41	14.22	10.98	10.05	7.77
32-7S	11.22	8.68	11.29	8.73	15.92	12.30	11.76	9.08
32-7P	9.14	7.05	9.17	7.10	13.76	10.64	9.60	7.42
32-8S	9.95	7.69	10.01	7.74	14.59	11.28	10.47	8.10
32-8P	9.82	7.59	9.88	7.64	14.47	11.20	10.36	8.00
32-9S	9.60	7.42	9.72	7.52	14.31	11.06	10.15	7.84
32-9P	8.61	6.66	8.65	6.69	13.27	10.25	9.15	7.06
32-12S	9.23	7.14	9.29	7.17	13.89	10.75	9.77	7.56
32-12P	7.67	5.93	7.72	5.97	12.37	9.56	8.20	6.33
32-13S	9.36	7.25	9.42	7.27	14.03	10.84	9.88	7.64
32-13P	8.33	6.44	8.42	6.51	13.02	10.08	8.87	6.86
32-15S	11.93	9.22	11.98	9.27	16.62	12.84	12.47	9.64
32-15P	10.98	8.49	11.03	8.52	15.64	12.10	11.50	8.89
32-17S	11.78	9.10	11.85	9.16	16.43	12.69	12.31	9.53
32-17P	10.88	8.41	10.96	8.47	15.54	12.01	11.39	8.80
32-101S	18.12	14.01	18.20	14.05	22.83	17.65	18.66	14.43
32-101P	19.29	14.90	19.34	14.94	23.95	18.51	19.83	15.33
32-102S	16.71	12.92	16.78	12.98	21.37	16.51	17.24	13.33
32-102P	14.55	11.24	14.59	11.28	19.22	14.86	15.08	11.66
32-414S	17.03	13.15	17.11	13.23	21.71	16.78	17.56	13.58
32-414P	13.08	10.11	13.14	10.16	17.78	13.74	13.61	10.52
36-1S	11.13	8.61	11.33	8.76	16.19	12.52	11.93	9.22
36-4S	14.59	11.28	14.85	11.48	19.66	15.20	15.43	11.92
36-4P	12.52	9.67	12.73	9.85	17.56	13.58	13.33	10.31
36-7S	13.27	10.25	13.51	10.44	18.33	14.16	14.12	10.91
36-7P	12.11	9.35	12.37	9.56	17.18	13.27	12.95	10.01
36-8S	12.52	9.67	12.73	9.85	17.56	13.58	13.33	10.31
36-8P	11.78	9.10	11.98	9.27	16.83	13.00	12.58	9.73
36-9P	13.81	10.67	14.03	10.84	18.86	14.58	14.59	11.28
36-9S	16.52	12.78	16.73	12.93	21.58	16.68	17.33	13.39
36-10S	12.47	9.64	12.69	9.81	17.50	13.53	13.27	10.25
36-10P	11.61	8.97	11.85	9.16	16.68	12.88	12.43	9.61
36-14S	16.15	12.48	16.35	12.65	21.17	16.36	16.93	13.10
36-14P	15.13	11.69	15.39	11.90	20.17	15.60	15.97	12.34
36-15S	10.92	8.45	11.13	8.61	15.97	12.34	11.73	9.07
36-15P	10.03	7.75	10.25	7.92	15.08	11.66	10.85	8.39
36-403S	18.14	14.03	18.40	14.23	23.20	17.93	18.96	14.67
36-403P	13.81	10.67	14.03	10.84	18.86	14.58	14.59	11.28
36-404S	18.58	14.35	18.78	14.52	23.63	18.26	19.38	14.98
36-404P	15.84	12.25	16.07	12.42	20.94	16.18	16.68	12.88
36-405S	23.00	17.78	23.20	17.93	28.05	21.69	23.80	18.39
36-405P	18.55	14.34	18.76	14.49	23.61	18.24	19.34	14.94

HARDWARE FOR "MS" CONNECTORS

CABLE CLAMP

Series 3057. Supports at plug or receptacle. *Stepdown. 3½ oz.

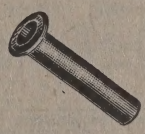
Type	Fits Shell	1-9	10-49	50-99	100-Up
3057-3	8S, 10S	.76	.62	.55	.50
3057-4	12, 12S	.69	.57	.51	.45
3057-6	14, 14S	.69	.57	.51	.45
3057-8	16, 16S	.73	.61	.54	.49
3057-10	18	.77	.62	.54	.51
97-3057-10-6*	18	1.34	1.17	.97	.77
3057-12	20, 22	.82	.76	.68	.58
97-3057-12-6*	20, 22	1.43	1.22	1.03	.82
3057-16	24, 28	1.02	.92	.82	.67
3057-20	32	1.42	1.22	1.03	.93
3057-24	36	1.89	1.69	1.38	1.24
3057-28	40	2.43	2.15	1.89	1.73

MS3057A CABLE CLAMP AND BOOT

Both cable halves move, entering cable. AN3420 boot provides support and weather proofing. May be used for small cable O.D. Wt., 5 oz.

MS Type	Fits Shell	1-9	10-49	50-99	100-Up
3057-4A	10SL, 12, 12	1.02	.91	.81	.66
3057-6A	12SL, 14, 14	1.04	.92	.82	.67
3057-8A	16, 16S	1.05	.93	.83	.68
3057-10A	18	1.09	.96	.86	.71
3057-12A	20, 22	1.21	1.07	.96	.79
3057-16A	24, 28	1.52	1.34	1.20	.99
3057-20A	32	2.00	1.75	1.56	1.30
3057-24A	36	2.46	2.15	1.91	1.60

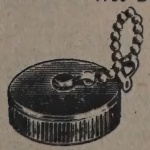
AN3420 TELESCOPING BOOT



For use with cable that is too small in relation to MS connector. Weatherproof 1½ oz.

Type No.	Cable O.D.	EACH 1-9	EACH 10-49	EACH 50-99	EACH 100-Up
9779-513-3	0.130	.11	.10	.09	.08
9779-513-4	0.220	.11	.10	.09	.08
9779-513-6	0.312	.13	.11	.10	.09
9779-513-8	0.437	.13	.11	.10	.09
9779-513-10	0.562	.17	.14	.13	.12
9779-513-12	0.625	.17	.14	.13	.12
9779-513-16	0.750	.22	.17	.16	.14
9779-513-20	0.937	.31	.26	.23	.21
9779-513-24	1.250	.38	.30	.27	.25

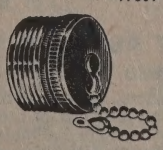
9760 DUST CAPS FOR RECEPTACLES



Internal threads for use with Amphenol MS3100A, MS3101A, and MS3102A, receptacles. Includes beaded chains for mounting. Av. wt., 2 oz.

MS Type	Fits Shell	EACH 1-9	EACH 10-49	EACH 50-99	EACH 100-Up
9760-10	10S, 10SL	.69	.59	.49	.39
9760-12	12, 12S, 12SL	.76	.67	.55	.44
9760-14	14, 14S	.84	.71	.59	.48
9760-16	16, 16S	.91	.79	.66	.52
9760-18	18	1.08	.93	.78	.62
9760-20	20	1.19	1.03	.84	.68
9760-22	22	1.36	1.17	.96	.78
9760-24	24	1.58	1.35	1.13	.91
9760-28	28	1.88	1.63	1.35	1.08
9760-32	32	2.18	1.89	1.57	1.26
9760-36	36	2.42	2.10	1.74	1.39

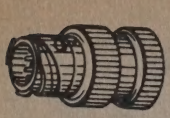
9760P DUST CAPS FOR PLUGS



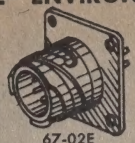
Male caps and chains for plugs MS3106 and MS3108 listed on facing page. Has external threads, provides tight dust-free cover. Av. wt., 2 oz.

MS Type	Fits Shell	EACH 1-9	EACH 10-49	EACH 50-99	EACH 100-Up
9760-10P	10S, 10SL	1.04	.90	.75	.59
9760-12P	12, 12S,	1.14	.98	.82	.66
9760-14P	14, 14S	1.32	1.13	.94	.75
9760-16P	16, 16S	1.49	1.29	1.07	.85
9760-18P	18	1.51	1.32	1.10	.87
9760-20P	20	1.58	1.35	1.13	.91
9760-22P	22	1.97	1.70	1.41	1.13
9760-24P	24	2.35	2.03	1.70	1.35
9760-28P	28	2.46	2.14	1.78	1.43
9760-32P	32	3.63	3.13	2.61	2.10
9760-36P	36	3.76	3.24	2.71	2.16

67 SERIES MinniE® ENVIRONMENT RESISTANT CONNECTORS


67-01E

67-01P


67-02E

67-03E

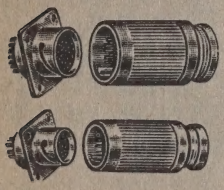
67-06E

67-06P

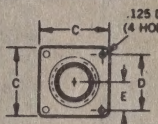
Cable and Panel Receptacles and Single Hole Mounting Receptacles in four constructions, five shell sizes and 17 insert arrangements. Positive locking action. Type P construction for potting. Disposable polyethylene potting form. Type E has utilized grommet/clamp sealing conductor at back.

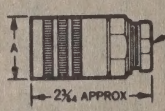
Shell Insert	67-01 E 1-24	67-01 E 25-99	67-01 E 100-199	67-01 P 1-24	67-01 P 25-99	67-01 P 100-199	67-02 E 1-24	67-02 E 25-99	67-02 E 100-199	67-03 E 1-24	67-03 E 25-99	67-03 E 100-199	67-06 E 1-24	67-06 E 25-99	67-06 E 100-199	67-06 P 1-24	67-06 P 25-99	67-06 P 100-199
12-60P	13.60	11.88	10.16	10.54	9.21	7.87	7.66	6.69	5.73	8.74	7.63	6.53	12.99	11.35	9.71	9.94	8.68	7.43
12-60S	14.74	12.88	11.02	11.70	10.22	8.74	8.92	7.79	6.66	18.71	16.35	13.98	15.42	13.47	11.52	11.08	9.68	8.28
14-5P	11.90	10.40	8.89	8.74	7.63	6.53	6.90	6.03	5.15	7.64	6.68	5.71	11.61	10.14	8.68	8.46	7.39	6.32
14-5S	13.16	11.50	9.83	9.96	8.70	7.44	8.06	7.04	6.02	8.83	7.71	6.60	12.83	11.21	9.59	9.68	8.46	7.24
14-9P	12.49	10.91	9.33	9.30	8.12	6.95	7.50	6.55	5.60	8.21	7.17	6.13	12.65	11.05	9.45	8.99	7.85	6.72
14-9S	14.16	12.37	10.58	10.97	9.59	8.20	9.15	8.00	6.84	9.90	8.65	7.40	14.34	12.53	10.72	10.70	9.35	8.00
14-12P	12.32	10.76	9.21	9.41	8.22	7.03	7.55	6.60	5.64	8.28	7.23	6.19	11.99	10.48	8.96	9.08	7.93	6.79
14-12S	14.34	12.53	10.72	11.47	10.02	8.57	10.10	8.82	7.55	10.81	9.44	8.08	14.05	12.27	10.50	11.12	9.71	8.31
14-63S	14.65	12.80	10.95	11.30	9.87	8.45	9.52	8.32	7.11	10.23	8.94	7.64	14.38	12.56	10.74	11.34	9.91	8.47
18-24P	14.67	12.82	10.96	10.54	9.21	7.87	9.32	8.14	6.96	10.12	8.84	7.56	14.67	12.82	10.96	10.54	9.21	7.87
18-24S	19.53	17.06	14.59	15.42	13.47	11.52	14.05	12.27	10.50	14.89	13.01	11.12	19.53	17.06	14.59	15.42	13.47	11.52
18-64P	15.63	13.66	11.69	11.99	10.48	8.96	10.01	8.75	7.48	10.81	9.44	8.08	15.63	13.66	11.68	11.99	10.48	8.96
18-64S	18.18	15.88	13.59	13.36	11.67	9.98	11.50	10.05	8.60	12.32	10.76	9.21	17.02	14.87	12.72	13.36	11.67	9.98
20-37P	19.47	17.01	14.55	15.94	13.93	11.91	15.65	13.67	11.70	16.73	14.61	12.50	19.51	17.04	14.58	16.03	14.01	11.98
20-37S	26.32	22.99	19.67	22.93	20.03	17.14	20.60	18.00	15.40	21.75	19.00	16.25	26.39	23.06	19.72	22.90	20.00	17.11
22-48P	19.47	17.01	14.55	17.75	15.50	13.26	16.71	14.60	12.48	18.86	16.47	14.09	19.04	16.63	14.23	17.31	15.12	12.93
22-48S	28.06	24.52	20.97	26.35	23.02	19.69	24.95	21.80	18.65	27.14	23.71	20.28	27.70	24.20	20.70	25.97	22.69	19.41

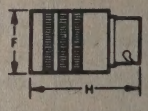
165 SERIES MINIATURE MS TYPE CONNECTORS

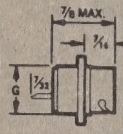


- Pressure-proof and Waterproof, Mated or Apart
- Extremely Efficient in Operation
- Built-in Cable Clamp









	A	B	C	D	E	F	G	H
Small	5⁷⁄64	3⁄8	1 1⁄16	2 5⁄32	2 3⁄64	7⁄8	1 3⁄16	1 5⁹⁄64
Large	1 1⁄64	2 1⁄32	1 5⁄16	3 1⁄32	3 1⁄64	1 1⁄8	1 1⁄16	1 5⁹⁄16

12

Pressure-proof and completely waterproof mated or apart. Withstand government saltspray tests by many hours in excess of standards. Extremely efficient in operation, contacts are bronze, gold plated over silver. Features built-in cable clamp. Average Shpg. wt. 3 oz.

No.	Type	Description	Contacts @ AWG	1-49	50-99
38F300	165-9	Sml. plug	12-#20 male	4.94	3.94
38F301	165-10	Sml. plug	12-#20 female	7.36	5.85
38F302	165-11	Sml. recpt.	12-#20 male	3.72	2.95
38F303	165-12	Sml. recpt.	12-#20 female	6.09	4.84
38F304	165-13	Sml. plug	9-#20 male	4.69	3.74
38F305	165-14	Sml. plug	9-#20 female	7.21	5.73
38F306	165-15	Sml. recpt.	9-#20 male	3.48	2.76
38F307	165-16	Sml. recpt.	9-#20 female	4.44	3.54
38F312	165-25	Lge. plug	24-#20 male	8.46	6.73
38F313	165-26	Lge. plug	24-#20 female	11.12	8.84

No.	Type	Description	Contacts @ AWG	1-49	50-99
38F314	165-27	Lge. recpt.	24-#20 male	5.83	4.66
38F315	165-28	Lge. recpt.	24-#20 female	7.76	6.17
38F316	165-29	Lge. plug	14-#16 male	7.30	5.81
38F317	165-30	Lge. plug	14-#16 female	10.14	8.07
38F318	165-31	Lge. recpt.	14-#16 male	4.70	3.75
38F319	165-32	Lge. recpt.	14-#16 female	7.50	5.96
38F320	165-33	Sml. plug	5-#20 male	4.51	3.55
38F321	165-34	Sml. plug	5-#20 female	6.12	4.87
38F322	165-35	Sml. recpt.	5-#20 female	3.19	2.55
38F323	165-36	Sml. recpt.	5-#20 female	3.87	3.07

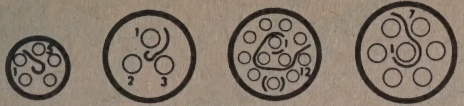
New... MERLIN 118 SERIES

A NEW ADVANCE IN REAR RELEASE DESIGN

QUALIFIED TO MIL-C-83723 AND MIL-C-26482 (REF. F)

Rear release, polymer retention connectors. Utilizes an all polymer retention disc with integrally molded polymer contact retention. This design results in lower cost in that metal clip systems require close dimensional control of twice as many dimensions as does comparable all dielectric system. Ideal for use in any airborne application in oxygen or inert atmospheres, where weight and space are at a premium, for long term service at 200°C, and to upgrade MIL-C-26482E installations through retrofit and replacement. Outstanding benefits: 40% less weight, 62% increase in dielectric separation between contacts, reduced number of connector parts —reducing failure modes, improved temp. life because of reduced effects of out gassing and weight loss, operating temperature of −55°C to +200°C, resistive to fuels, oils, and cleaning solution, hard front closed entry socket insert with a hooded two-tinned, prod-proof socket contact, intermateable and intermountable with existing circuitry. Call your local Newark facility for price and availability.

INSERTS AVAILABLE



Shell Size 10 — MS-24260 — 5—#20 Contacts — Insert 10-5*

Shell Size 12 — MS-24260 — 3—#16 Contacts — Insert 12-3

Shell Size 12 — MS-24260 — 12—#20 Contacts — Insert 12-12*

Shell Size 14 — MS-24260 — 7—#16 Contacts — Insert 14-7*

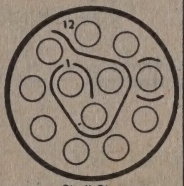
Shell Size 14 — MS-24260 — 15—#20 Contacts — Insert 14-15*

Shell Size 16 — MS-24261 — 24—#20 Contacts — Insert 16-24*

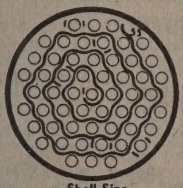
Shell Size 18 — MS-24262 — 14—#16 Contacts — Insert 18-14

Shell Size 18 — MS-24262 — 31—#20 Contacts — Insert 18-31*

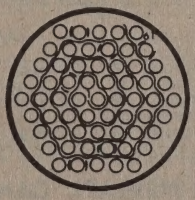
Shell Size 20 — MS-24263 — 41—#20 Contacts — Insert 20-41*



Shell Size 22 — MS-24263 — 12—#20 Contacts — Insert 22-12†



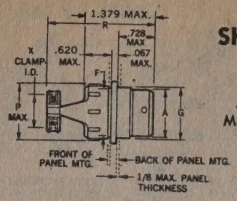
Shell Size 22 — MS-24263 — 55—#20 Contacts — Insert 22-55*



Shell Size 24 — 61—#20 Contacts — Insert 24-61*

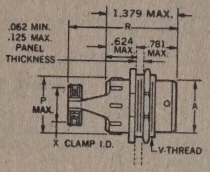
*Available with hard-dielectric face socket inserts for Ultra-Mate (MIL-C-38300) connectors. Pin inserts for MIL-C-38300 connectors have a resilient face and, except for marking, are identical to MIL-C-26500 pin inserts.

†Shielded contact is interchangeable with #12 power contact.

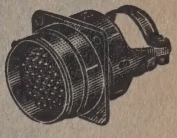


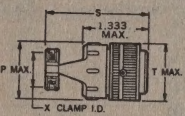
SHELL TYPES

Bayonet Plug
48-16RXX-XXX
MS24266RXXBXXX

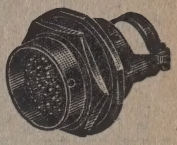


Bayonet
Square Flange
Receptacle
4810RXXBXXX





Bayonet
Single Hole
Mounting Receptacle
48-13RXX-XXX
MS-24265RXXBXXX



FEATURES POKE HOME® CONTACTS

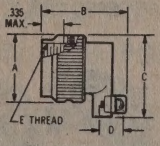
MIL-C-26500 connectors assure high altitude reliability, wide temp. range (200°C environmental resistance). Corrosion, ozone, moisture resistant. Min. insulation resistance, 1000 megs. Sand, dust resistant per MIL-E-5272. Withstand shock cycling −55°C to +260°C. Support 1500 V. RMS, 0 to 350,000 ft., mated. Per MIL-C-26636 standardized crimped wire terms.; aluminum shells; anti-deflection disk; integral insert, grommet; face seal, insert rim seal, shell peripheral seal; grommet double sealing risers for wire.

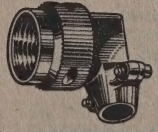
Insert Number in table, below, indicates shell size and contacts per diagrams at right; e.g., 48-10R10-5P, shell size 8 with 2—#20 contacts. (P, plug type; S, socket type).

Insert No.	48-10R			48-13R			48-16R		
	1-9	10-24	25-99	1-9	10-24	25-99	1-9	10-24	25-99
10-5P	15.01	13.49	11.97	18.90	16.98	15.07	18.58	16.70	14.82
10-5S	18.36	16.50	14.64	22.21	19.97	17.72	22.03	19.79	17.56
12-3P	19.72	17.72	15.72	21.93	19.71	17.49	22.15	19.91	17.67
12-3S	22.20	19.95	17.70	24.46	21.98	19.50	24.03	21.60	19.16
12-12P	19.21	17.27	15.32	21.41	19.24	17.07	21.58	19.40	17.21
12-12S	25.41	22.83	20.26	27.60	24.81	22.01	27.78	24.96	22.15
14-7P	19.12	17.18	15.25	22.15	19.91	17.67	23.13	20.79	18.45
14-7S	23.13	20.79	18.45	26.20	23.54	20.89	27.19	24.44	21.68
14-15P	19.07	17.14	15.21	22.06	19.82	17.59	21.95	19.72	17.50
14-15S	26.47	23.79	21.11	29.42	26.44	23.46	29.26	26.30	23.34
16-24P	20.97	18.84	16.72	24.70	22.19	19.69	25.19	22.63	20.08
16-24S	31.63	28.43	25.23	35.34	31.77	28.19	35.85	32.22	28.59
18-14P	24.21	21.75	19.30	27.16	24.41	21.66	29.15	26.20	23.35
18-14S	30.98	27.85	24.71	33.97	30.53	27.09	35.98	32.33	28.69
18-31P	24.06	21.63	19.19	26.88	24.15	21.43	27.46	24.68	21.90
18-31S	37.05	33.30	29.55	39.85	35.81	31.78	40.56	36.45	32.34
20-41P	27.03	24.30	21.56	32.66	29.35	26.04	31.65	28.44	25.24
20-41S	43.97	39.52	35.07	49.68	44.64	39.61	48.60	43.68	38.76
22-12P	32.82	29.49	26.17	36.51	32.82	29.12	38.36	34.48	30.59
22-12S	38.24	34.36	30.49	41.44	37.25	33.05	43.28	38.89	34.51
22-55P	29.89	26.87	23.84	33.13	29.78	26.42	34.19	30.73	27.27
22-55S	51.81	46.56	41.32	55.09	49.52	43.94	56.17	50.48	44.79
24-61P	37.54	33.74	29.94	44.38	39.89	35.39	43.91	39.46	35.02
24-61S	60.04	53.96	47.88	66.79	60.02	53.26	60.85	54.68	48.52

OPEN RIGHT ANGLE CABLE SUPPORT

Allow right angle turns with added protection for the cable or wire. Have a strap to protect the wires at the right angle turns.





Part Number			Dimensions-Maximum				EACH			
Size	Amphenol	MS	A Dia.	B	C	D	1-9	10-24	25-99	100-Up
10	48-2222-10200	MS27559-2	.797	1.293	1.049	.328	11.26	10.14	9.00	7.51
12	48-2222-12200	MS27559-3	1.016	1.293	1.248	.328	11.45	10.30	9.15	7.63
14	48-2222-14200	MS27559-4	1.110	1.460	1.330	.452	11.54	10.41	9.23	7.70
18	48-2222-18200	MS27559-6	1.360	1.561	1.577	.571	11.85	10.67	9.48	7.90

CABLE SUPPORT ASSEMBLY FOR SERIES 48

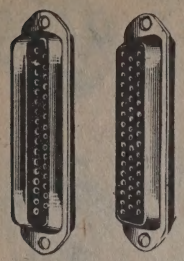
Cable clamps support cable or wire at the plug or receptacle and prevent twisting and pulling. Accommodates shell sizes from 8 through 24.

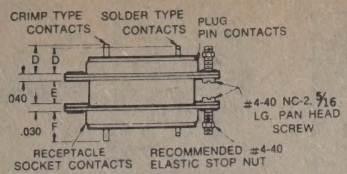
Type	Shell size	Length (Inches)	I.D. (Inches)	EACH 1-9	EACH 10-24	EACH 25-99
48-2840	8	.935	.180	2.48	2.23	1.98
48-2341	10	.935	.270	2.29	2.06	1.83
48-2342	12	.935	.400	2.29	2.06	1.83
48-2343	14	1.170	.460	2.29	2.06	1.83
48-2344	16	1.170	.610	2.15	1.93	1.71
48-2345	18	1.170	.690	2.37	2.13	1.89
48-2643	20	1.170	.830	2.29	2.06	1.83
48-2366	22	1.170	.940	2.34	2.10	1.86
48-2644	24	1.170	1.040	2.99	2.68	2.38

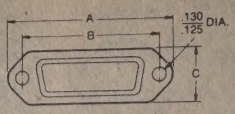
For insertion, Removal, and Crimping Tools see Page 335

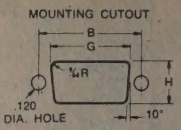
AMPHENOL Min Rac Pin & Socket Connectors

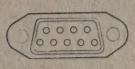
SERIES 17 MIN RAC® CONNECTORS

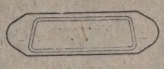









9 Contact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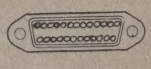
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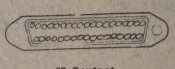
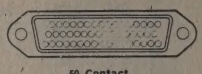

37 Contact


50 Contact

Poke Home

Conn. Size	A Max.	B	C Max.	D (1)	D (2)	D Encapsulated Contact Line Only	D Rear Release	E All Lines
9	1.239	.984	.515	25/64	9/32	29/64	23/64	15/64
15	1.567	1.312	.515	25/64	9/32	29/64	23/64	15/64
25	2.114	1.852	.515	25/64	9/32	29/64	23/64	15/64
37	2.754	2.500	.515	25/64	9/32	29/64	23/64	15/64
50	2.661	2.406	.626	25/64	9/32	29/64	23/64	15/64

F (1)	F (2)	F Encapsulated Contact Line Only	MOUNTING DIM. -ALL LINES G Min. Back Mtg.	G Min. Front Mtg.	H Min. Back Mtg.	H Min. Front Mtg.
13/32	19/64	29/64	.798	.830	.448	.505
13/32	19/64	29/64	1.116	1.161	.448	.505
13/32	19/64	29/64	1.654	1.701	.448	.505
13/32	19/64	29/64	2.304	2.348	.448	.505
13/32	19/64	29/64	2.210	2.285	.559	.645

FIXED CONTACT LINE

Stamped contacts are formed from flat phosphor bronze strips with gold over copper plating, 7.5 amps. -55°C to +125°C.

PLUGS

Stock No.	Contacts	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F3050	9	17-80090-16	1.65	1.49	1.23	.99	.91	.83
39F3051	15	17-80150-16	2.41	2.18	1.81	1.45	1.33	1.21
39F3052	25	17-80250-16	3.66	3.32	2.75	2.21	2.02	1.85
39F3053	37	17-80370-16	5.15	4.64	3.83	3.09	2.78	2.55
39F3054	50	17-80500-16	6.60	6.00	4.94	3.99	3.62	3.31

RECEPTACLES

39F3055	9	17-90090-16	1.15	1.04	.86	.69	.63	.58
39F3056	15	17-900150-16	1.62	1.47	1.22	.98	.89	.82
39F3057	25	17-900250-16	2.34	2.12	1.76	1.41	1.29	1.18
39F3058	37	17-900370-16	3.20	2.90	2.40	1.93	1.76	1.61
39F3059	50	17-900500-16	4.15	3.76	3.11	2.50	2.29	2.09

ORIGINAL POKE-HOME LINE

Solder type contacts are gold-over-copper plated brass, rated 7.5 amps, -55°C to 125°C.

PLUGS Chromate finish

Stk. No.	No. of Contacts	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F1370	9	17-20090	1.25	1.13	.94	.75	.69	.63
39F1371	15	17-20150	1.71	1.55	1.29	1.03	.95	.86
39F1372	25	17-20250	2.41	2.18	1.79	1.44	1.30	1.19
39F1373	37	17-20370	3.30	3.00	2.49	2.00	1.78	1.64
39F1374	50	17-20500	4.20	3.82	3.15	2.53	2.31	2.11

RECEPTACLES Chromate finish

39F1360	9	17-10090	1.71	1.55	1.29	1.03	.99	.86
39F1361	15	17-10150	2.45	2.23	1.84	1.47	1.35	1.23
39F1362	25	17-10250	3.64	3.30	2.73	2.20	2.00	1.83
39F1363	37	17-10370	5.18	4.68	3.86	3.11	2.81	2.58
39F1364	50	17-10500	6.61	6.00	4.95	3.99	3.64	3.33

ENCAPSULATED CONTACT LINE

Contacts buried in nylon. Solder cup contacts: gold over copper plated brass, rated 7.5 amps. -55°C to +125°C.

PLUGS

Stk. No.	Contacts	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F2110	9	17-10090-1(390)	1.75	1.59	1.31	1.06	.97	.88
39F2112	15	17-10150-1(390)	2.48	2.25	1.86	1.49	1.36	1.25
39F2114	25	17-10250-1(390)	3.62	3.28	2.71	2.18	1.99	1.82
39F2116	37	17-10370-1(390)	5.20	4.70	3.89	3.13	2.82	2.60
39F2118	50	17-10500-1(390)	6.63	6.00	4.96	4.00	3.65	3.34

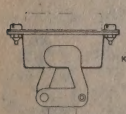
RECEPTACLES

39F2111	9	17-20090-1(390)	1.29	1.17	.97	.78	.72	.66
39F2113	15	17-20150-1(390)	1.76	1.59	1.32	1.06	.97	.88
39F2115	25	17-20250-1(390)	2.42	2.19	1.80	1.45	1.30	1.20
39F2117	37	17-20370-1(390)	3.36	3.04	2.52	2.02	1.79	1.65
39F2119	50	17-20500-1(390)	4.24	3.84	3.18	2.55	2.33	2.14

NEWARK CAN SUPPLY ALL YOUR AMPHENOL REQUIREMENTS

For price quotations on larger quantities than shown, contact your nearest Newark representative. Newark can make same day shipment of most Amphenol connectors from on-the-shelf stocks. When you order from Newark you get the advantages of complete stocks, lowest prices and fast service. Make Newark your headquarters for all your component requirements.

17 SERIES MIN RAC ACCESSORIES



METAL CABLE HOUSING

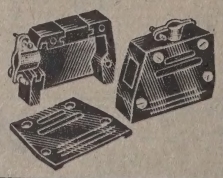
Used to adapt connector for cable to panel or cable to cable applications. Easily attached to connector by two screws.

Stk. No.	Contact	Type	1-9	10-49	50-99	100-249	250-499	500-999
39F1380	9	17-310-01	1.13	.95	.76	.68	.57	.52
39F1381	15	17-311-01	1.18	.99	.78	.71	.59	.54
39F1382	25	17-312-01	1.24	1.02	.82	.74	.62	.57
39F1383	37	17-313-01	1.28	1.07	.86	.77	.64	.59
39F1384	50	17-314-01	1.31	1.09	.87	.79	.65	.60

MIN RAC LOCKING ASSEMBLIES

Spring latch except (*)screw type clip.

Stk. No.	Type	Use With Contact	1-9	10-49	50-99	100-249	250-499	500-999
39F1390	17-529	All except 50	.65	.59	.49	.40	.36	.30
39F1391	17-768*	All	.72	.65	.54	.44	.40	.33
39F1392	17-770	All	.65	.59	.49	.40	.36	.30



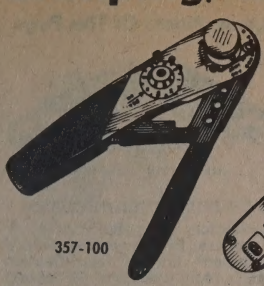
PLASTIC BACKSHELL

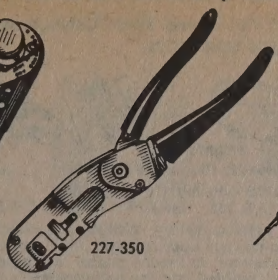
Protects connector and secures its cable. Two piece construction permits installing at any convinient point in assembly process, and easily removable for servicing. Interchangeable cable clamp and removable insert allows side or top cable entry location. Constructed of glass-filled nylon with hardware and clamp cadmium plated steel.

Stock No.	Shell Size	Type	1-9	10-49	50-99	100-249	250-499	500-999
38F1411	9	17-1370	1.14	1.02	.85	.68	.63	.57
38F1412	15	17-1371	1.16	1.05	.87	.70	.64	.58
38F1413	25	17-1372	1.32	1.18	.99	.79	.72	.66
38F1414	37	17-1373	1.36	1.23	1.02	.82	.75	.68
38F1415	50	17-1374	1.51	1.36	1.14	.91	.83	.69

FOR MIN RAC TOOLS SEE NEXT PAGE

Crimping, Insertion, Removal Tools BUNKER RAMO AMPHENOL


357-100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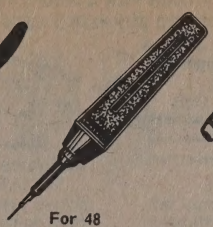
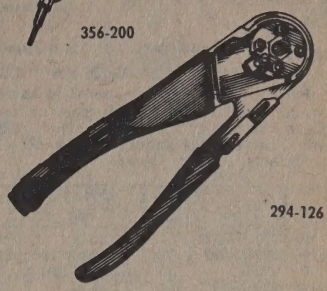

For 48

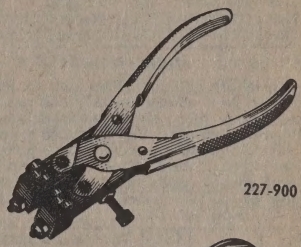
356-200


294-126

High quality Crimping, Insertion and Removal Tools that will give you superior performance over a long period of time. The properly designed tool is available for the complete line of Amphenol's pin and socket connectors. The use of these tools gives you a high quality product at high speed, resulting in lower labor cost. Select the proper tool from the listing below showing the correct applications. **To Order:** see Stock No. and price in listing at the bottom of this page.

CRIMPING, INSERTION AND REMOVAL TOOL GUIDE

Connector Series	Hand Tool	Locator	Die	Bit	Contact	Function
	357-100	357-300-01 357-300-01 357-300-01 357-300-08			220-S02 220-P01 220-S01 220-P02	Crimp
220, 221, 222, 223	356-200			356-400-11 356-400-11 356-400-11 356-400-11	220-S01 220-P01 220-S02 220-P02	Insertion
				356-400-12 356-400-13 356-400-14 356-400-15	220-S01 220-P01 220-S02 220-P02	Removal
17	357-100	357-300-02			*Orig. Poke Home Male & Female	Crimp
		357-300-11			Rear Release Male & Female	
	356-200			356-400-01 356-400-05 356-400-06	Male & Female Female Male	Insertion Front Removal Front Removal
48	294-126 (MS-3191-1) 294-88 294-89 294-96 294-97 294-72 294-73		Included		#20, #16, #12 #20 socket & pin #20 socket & pin #16 socket & pin #16 socket & pin #12 socket & pin #12 socket & pin	Crimp Insertion Removal Insertion Removal Insertion Removal
27	227-900 227-901				50 Ohm Type 75 Ohm Type	Crimp Crimp
5116	227-926 227-911				Center Contact Braid	Crimp Crimp
BNC	227-350		Included	use with RG/U Cables		55, 58, 141, 142, 223, 122, 174, 179, 180, 187, 188, 195
	227-375		Included	use with RG/U Cables		59, 62, 140, 220, 71
	.....		227-920-1†			
	.....		227-920-2‡			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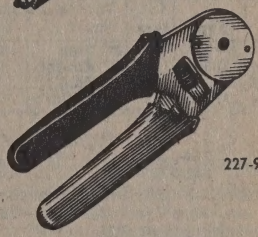
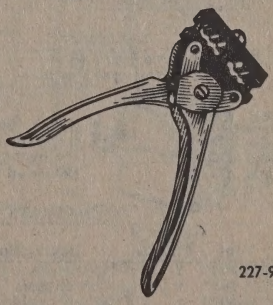

227-926


227-911

* Used For Encapsulated Also
† Used With 227-375 Tool Becomes 227-350
‡ Used With 227-350 Tool Becomes 227-375

ORDERING DATA FOR TOOLS LISTED ABOVE

CRIMPING TOOLS

Stock No.	Type	Description	Each
39F3044	357-100	Hand Tool	95.00
39F1269	357-300-01	Locator	18.50
39F1270	357-300-08	Locator	18.50
38F1437	357-300-02	Locator	18.50
38F1438	357-300-11	Locator	18.50
38F1439	294-126	Hand Tool	108.46
38F1440	227-900	Hand Tool	35.00
38F1441	227-901	Hand Tool	35.00
38F1442	227-926	Hand Tool	47.00
38F1443	227-911	Hand Tool	19.00
38F1444	227-350	Hand Tool	95.00
38F1445	227-375	Hand Tool	95.00
38F1446	227-920-1	Die	47.00
38F1447	227-920-2	Die	47.00

INSERTION AND REMOVAL TOOLS

Stk. No.	Type	Description	Each
39F1262	356-200	Hand Tool	3.25
39F3037	356-400-01	Bit	9.50
39F3038	356-400-05	Bit	5.25
39F3039	356-400-06	Bit	4.50
39F1263	356-400-11	Bit	5.50
39F1264	356-400-12	Bit	5.60
39F1265	356-400-13	Bit	4.50
39F1266	356-400-14	Bit	5.00
39F1267	356-400-15	Bit	4.75
38F1448	294-88	Insertion Tool	9.38
38F1449	294-89	Removal Tool	9.49
38F1450	294-96	Insertion Tool	15.75
38F1451	294-97	Removal Tool	8.86
38F1452	294-72	Insertion Tool	17.28
38F1453	294-73	Removal Tool	10.73

Amphenol Connectors

HOW TO ORDER: Choose Microminiature Shell - Then Pick Contact You Need From Listings In Middle Of This Page

ALL CONNECTORS SUPPLIED LESS CONTACTS

200 Micro Rac Connectors

221 Multipurpose Strip Connectors

Mighty-Mite
Type 222 Plug and Jack

223 Tiny Tim Rack and Panel Connectors

Illustrated with Wireform Contacts

SERIES 220 "MICRO, RAC" CONNECTORS

High density, cable to cable, panel to cable & rack to panel termination. Polarized mono block construction. Contact identification numbers molded in .52 contact size: 1.888" L x .677" W. 1.492 mounting centers. 104 contact: 3.017 x .677 x 2.611 mounting centers. Less contacts. Av. wt. 1½ oz.

Stk. No.	Type	Contacts	Description	Each 1-9	10-49	50-99	100-249
39F1405	220-1N052	52	Plug	1.91	1.53	1.33	1.14
39F1406	220-2N052	52	Receptacle	1.66	1.32	1.16	.99
39F1407	220-5	52	Cable Clamp	1.49	1.18	1.04	.89
39F1408	220-1N104	104	Plug	2.37	1.90	1.66	1.42
39F1409	220-2N104	104	Receptacle	2.04	1.65	1.44	1.24
39F1410	220-6	104	Cable Clamp	1.54	1.23	1.08	.92

SERIES 221 MICRO-MINIATURE STRIP CONNECTORS

Use full length as is or cut to specific length. Almost any configuration can be produced quickly and easily by cutting and stacking strips. Two or more strips can be stacked or epoxied together for multi-row connector. When stacked layer to layer, contact centers are .100" for both connectors. Use guide pins at least every 3 in. for mating alignment as well as keying. Guide pins replace both a pin and socket contact; also one contact hole is utilized when staking or cutting connector. Supplied less contacts and guide pins. Av. shpg. wt. 1 oz.

Stk. No.	Type	Contacts	Description	Spacing	Each 1-9	10-49	50-99	100-249
39F1411	221-1560	60	6" Plug	.100"	.57	.48	.39	.32
39F1412	221-1660	60	6" Recept.	.100"	.57	.48	.39	.32
39F1413	221-2553	53	4" Plug	.075"	.55	.46	.37	.31
39F1414	221-2653	53	4" Recept.	.075"	.55	.46	.37	.31

SERIES 222 "MIGHTY MITE" CIRCULAR CONNECTORS

Highly reliable micro miniature connectors for cable-to-cable or cable-to-chassis applications. .085" centers. Five keys are molded into connector to insure proper alignment. Contact identification numbers molded into the polycarbonate resin dielectric. 19 contact size, .621" dia. x 2.618" long: 31 contact., .745" x 2.948"; 61 contact .966" x 3.530". Less contacts. Av. shpg. wt. 1½ oz.

Stk. No.	Type	Contacts	Description	Each 1-9	10-49	50-99	100-249
39F1416	222-11N19	19	Plug	1.08	.89	.72	.61
39F1417	222-12N19	19	Receptacle	.86	.72	.58	.49
39F1418	222-518	19	Cable Clamp	1.81	1.50	1.22	1.03
39F1419	222-11N31	31	Plug	1.08	.88	.71	.61
39F1420	222-12N31	31	Receptacle	.86	.71	.58	.49
39F1421	222-519	31	Cable Clamp	1.94	1.59	1.29	1.10
39F1423	222-12N61	61	Receptacle	.915	.765	.61	.525
39F1424	222-520	61	Cable Clamp	4.42	3.66	2.95	2.51

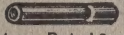
SERIES 223 "TINY TIM" RACK AND PANEL CONNECTORS

For circuit modules either potted in or surface mounted; micro miniature cable-to-cable use. Meets MIL-C-8384B. Contact spacing .100" centers on each row. Screw mount. Less contacts. Wt. 1½ oz.

Stk. No.	Type	Contacts	Description	Mts. Ctrs.	Each 1-9	10-49	50-99	100-249
39F1425	223-1105	5	Plug	.593"	.48	.41	.33	.28
39F1426	223-1205	5	Recept.	.593"	.48	.41	.33	.28
39F1427	223-1109	9	Plug	.793"	.48	.41	.33	.28
39F1428	223-1209	9	Recept.	.793"	.48	.41	.33	.28
39F1429	223-1117	17	Plug	1.193"	.50	.42	.34	.29
39F1430	223-1217	17	Recept.	1.193"	.50	.42	.34	.29

"WIRE FORM" AND "RELIA-TAC" CONTACTS

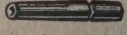
"Wire-Form"

Male  Female

For series 220,221,222, and 223 connectors. Rated 3 amps. For 24,26 and 28 wire. **Wire Form** male gold clad copper alloy. Wire members in copper sleeves both male and female. Size, .404 x .050".

Stk. No.	Type	Description	Per Package of 100 1-9	10-49	50-99	100-249
39F1402	220-P01	Wire-Form Male	10.00	8.10	6.80	5.80
39F1403	220-S01	Wire-Form Female	4.30	3.60	3.20	2.80

"Relia-Tac"

Male  Fem.

Relia-Tac: Male- .389 x .050". Female- .404 x .050" Note: Relia-Tac does not mate with Wire-Form.

Stk. No.	Type	Description	Per Package of 100 1-9	10-49	50-99	100-249
39F1400	220-P02	Relia-Tac Male	7.40	5.80	5.10	4.40
39F1401	220-S02	Relia-Tac Female	19.50	16.30	13.20	11.40

12

126 SERIES RECTANGULAR PLUGS AND SOCKETS

Rated 900V rms. Gold over silver contacts. Aluminum housing except (*) insert-only. #12 rated 23 amps, #20 rated 7½ amps. Av. Shpg. Wt. 3 oz.

11 CONTACTS

Stk. No.	Type	Contacts #12	Contacts #20	Description	1-49	50-99	100-249
39FX050	126-804*	2	9	Plug-chassis type	1.03	.81	.79
39FX051	126-805*	2	9	Socket-chassis type	1.06	.84	.70
39FX052	126-809	2	9	Plug with cable clamp	1.68	1.32	1.10
39FX053	126-808	2	9	Socket with cable clamp	1.72	1.36	1.13

15 CONTACTS

Stk. No.	Type	Contacts		Description	1-49	50-99	100-249
39FX054	126-151*	3	12	Plug chassis type	1.36	1.07	.88
39FX055	126-150*	3	12	Socket chassis type	1.03	.81	.67
39FX056	126-152	3	12	Plug with cable clamp	2.63	2.08	1.72
39FX057	126-153	3	12	Socket with cable clamp	2.05	1.62	1.35

20 CONTACTS

39FX058	126-806*	4	16	Plug chassis type	1.63	1.28	1.06
39FX059	126-807*	4	16	Socket chassis type	1.30	1.02	.85
39FX060	126-811	4	16	Plug with cable clamp	2.61	2.06	1.71
39FX061	126-810	4	16	Socket with cable clamp	2.28	1.80	1.49

126 SERIES HEX CONNECTORS

For inter-connecting miniature equipment. Uses inter-changeable brass hardware and gold-finished contacts. Type 1-105 di-electric body molds, silver plated bases. For No. 20AWG or No. 22 JAN C-76 wire. Has ⅝" threaded body with hex nut for panel mounting. Ship wt. 2 oz.

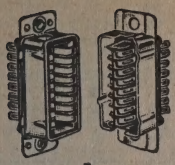
Stk. No.	Type	Contacts	Description	1-49	50-99	100-240
42FX100	126-010	5	Chassis Plug	.73	.59	.48
42FX101	126-011	5	Chassis Socket	1.16	.92	.77
42FX104	126-191	7	Chassis Plug	.86	.68	.56
42FX105	126-192	7	Chassis Socket	1.47	1.16	.97
42FX102	126-012	9	Chasis Plug	.99	.79	.65
42FX102	126-013	9	Chasis Socket	1.82	1.44	1.20
42FX108	126-1063	Hood and clamp assembly		.60	.48	.40
42FX109	126-1064	Locking sleeve for cord conn.		.35	.27	.23
42FX110	126-1069	Clip retainer for chassis unit.		.06	.05	.04

WITH HOOD AND CLAMP

Stk. No.	Type	Cont.	Desc.	1-49	50-99	100-249
42FX119	126-215	4	Socket	1.47	1.16	.96
42FX120	126-217	5	Plug	1.60	1.27	1.06
42FX121	126-223	5	Socket	2.07	1.64	1.37
42FX122	126-195	7	Plug	1.76	1.40	1.16
42FX123	126-196	7	Socket	2.38	1.88	1.57
42FX124	126-220	9	Plug	1.90	1.50	1.25
42FX125	126-222	9	Socket	2.72	2.16	1.79

WITH LOCKING CLIP

42FX112	126-214	4	Plug	.87	.69	.57
42FX113	126-216	5	Plug	.78	.62	.52
42FX114	126-218	5	Socket	1.24	.98	.82
42FX115	126-197	7	Plug	.92	.73	.62
42FX116	126-198	7	Socket	1.55	1.23	1.03
42FX117	126-219	9	Plug	1.06	.85	.70
42FX118	126-221	9	Socket	1.90	1.50	1.25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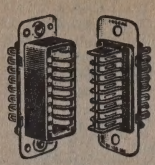
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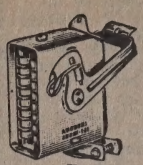
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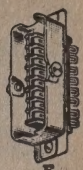

F

AMPHENOL BLUE RIBBON® CONNECTORS

Barrier polarization type connectors are designed for interconnecting electronic sub-assemblies, circuit switching, rerouting and other multi-contact applications. Interlocking design of mating dielectric bodies provide positive polarization. The dimensional stability and high tensile strength of Amphenol "Blue" dielectric make this type of polarization possible. Float mounted receptacle corrects misalignment of plug and receptacle. Corrosion resistant, stainless steel molded-in mounting plates and housing. Rated: 5 amps, 800 volts DC at sea level, 300 volts at 70,000 ft. altitude. Av. Shpg. Wt., 3 oz.

(A) BARRIER POLARIZATION CONNECTORS WITH KEYED SHELLS

Male

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
42FX182	26-4101-8P	8	2.20	1.86	1.51	1.36	1.11
42FX183	26-4101-16P	16	3.33	2.81	2.27	2.05	1.69
42FX184	26-4101-24P	24	3.84	3.23	2.63	2.26	1.94
42FX185	26-4101-32P	32	4.41	3.71	3.01	2.70	2.23

Female

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
42FX186	26-4201-8S	8	2.54	2.14	1.74	1.56	1.28
42FX187	26-4201-16S	16	3.46	2.92	2.36	2.12	1.75
42FX188	26-4201-24S	24	4.14	3.49	2.83	2.53	2.09
42FX189	26-4201-32S	32	4.80	4.25	3.28	2.95	2.43

(B) PIN POLARIZATION TYPE CONNECTORS

Male

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
39FX132	26-159-16	16	2.25	1.90	1.54	1.38	1.13
39FX134	26-159-24	24	2.54	2.13	1.73	1.56	1.28
39FX136	26-159-32	32	3.20	2.69	2.19	1.97	1.61

Female

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
39FX133	26-190-16	16	2.86	2.41	1.96	1.76	1.45
39FX135	26-190-24	24	3.42	2.88	2.34	2.10	1.73
39FX137	26-190-32	32	4.04	3.39	2.76	2.48	2.04

(C) BARRIER POLARIZATION TYPE CONNECTORS

Male

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
39FX130	26-182	8	1.23	1.04	.84	.75	.63
42FX150	26-4100-8P	8	1.12	.94	.76	.69	.57
42FX151	26-4100-16P	16	2.10	1.77	1.43	1.29	1.06
42FX152	26-4100-24P	24	2.52	2.13	1.73	1.55	1.27
42FX153	26-4100-32P	32	2.94	2.47	2.00	1.80	1.48

Female

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
39FX131	26-183	8	1.94	1.62	1.33	1.19	.98
42FX154	26-4200-8S	8	1.83	1.55	1.26	1.12	.92
42FX155	26-4200-16S	16	2.67	2.25	1.82	1.63	1.35
42FX156	26-4200-24S	24	3.16	2.66	2.16	1.94	1.59
42FX157	26-4200-32S	32	3.77	3.17	2.58	2.31	1.91

(D) CABLE TYPE—END OUTLET—KEYED LOCK SHELLS

Mate with 4401 series plugs and sockets.

Male

Stk. No.	Type	Con.	1-9	10-49	50-99	100.249	250-999
42FX158	26-4301-8P	8	5.68	4.77	3.87	3.49	2.87
42FX159	26-4301-16P	16	7.12	5.99	4.87	4.38	3.59
42FX160	26-4301-24P	24	7.98	6.71	5.44	4.90	4.03
42FX161	26-4301-32P	32	8.89	7.48	6.06	5.46	4.48

Female

Stk. No.	Type	Con.	1-9	10-49	50-99	100.249	250-999
42FX162	26-4301-8S	8	6.90	5.81	4.71	4.24	3.49
42FX163	26-4301-16S	16	7.70	6.47	5.25	4.72	3.88
42FX164	26-4301-24S	24	8.98	7.56	6.14	5.51	4.54
42FX165	26-4301-32S	32	9.72	8.17	6.64	5.97	4.91

(E) CABLE TYPE—SIDE OUTLET—KEYED LATCH LOCK SHELLS

Mate with 4401 Series plugs and sockets.

Male

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
42FX174	26-4501-8P	8	5.68	4.77	3.87	3.49	2.87
42FX175	26-4501-16P	16	7.12	5.99	4.87	4.38	3.59
42FX176	26-4501-24P	24	7.98	6.71	5.44	4.90	4.03
42FX177	26-4501-32P	32	8.89	7.48	6.06	5.46	4.48

Female

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
42FX178	26-4501-8S	8	6.39	5.37	4.37	3.92	3.23
42FX179	26-4501-16S	16	7.70	6.47	5.25	4.72	3.88
42FX180	26-4501-24S	24	8.69	7.31	5.94	5.33	4.39
42FX181	26-4501-32S	32	9.59	8.07	6.54	5.88	4.84

(F) CHASSIS TYPE—KEYED LATCH—LOCK SHELLS

Mate with 4301 and 4501 Series plugs and sockets.

Male

Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
42FX166	26-4401-8P	8	3.42	2.88	2.34	2.10	1.73
42FX167	26-4401-16P	16	4.51	3.78	3.07	2.77	2.27
42FX168	26-4401-24P	24	5.07	4.26	3.47	3.11	2.57
42FX169	26-4401-32P	32	5.63	4.74	3.84	3.47	2.84

Female

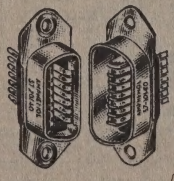
Stk. No.	Type	Con.	1-9	10-49	50-99	100-249	250-999
42FX170	26-4401-8S	8	4.17	3.51	2.84	2.57	2.10
42FX171	26-4401-16S	16	5.10	4.28	3.48	3.13	2.58
42FX172	26-4401-24S	24	5.76	4.84	3.93	3.53	2.90
42FX173	26-4401-32S	32	6.49	5.46	4.43	3.99	3.28

12

MICRO-RIBBON CONNECTORS

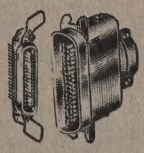
RACK AND PANEL TYPE

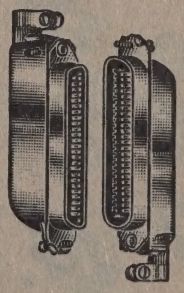
Stk. No.	Type	Cont.	Descrip.	1-9	10-49	50-99	100-249	250-999
42F190	57-10140	14	Male	1.96	1.64	1.34	1.21	1.00
42F193	57-20140	14	Female	2.01	1.70	1.37	1.24	1.02
42F191	57-10240	24	Male	2.62	2.19	1.90	1.60	1.33
42F194	57-20240	24	Female	2.67	2.25	1.83	1.64	1.37
42F192	57-10360	36	Male	3.00	2.52	2.05	1.84	1.51
42F195	57-20360	36	Female	3.17	2.59	2.10	1.89	1.55
42F132	57-10500	50	Male	3.95	3.34	2.70	2.42	1.98
42F133	57-20500	50	Female	4.00	3.38	2.73	2.46	2.02


Rack and Panel Type

CABLE TO PANEL TYPE (Latch type; Top cable entry)

Stk. No.	Type	Cont.	Descrip.	1-9	10-49	50-99	100-249	250-999
42F126	57-30140	14	Male	3.76	3.16	2.57	2.32	1.89
42F127	57-40140	14	Female	2.47	2.09	1.70	1.53	1.25
42F128	57-30240	24	Male	4.13	3.48	2.81	2.54	2.08
42F129	57-40240	24	Female	2.95	2.47	2.01	1.81	1.48
42F130	57-30360	36	Male	5.16	4.26	3.44	3.12	2.57
42F131	57-40360	36	Female	3.18	2.67	2.16	1.94	1.60
42F134	57-30500	50	Malr	5.54	4.66	3.79	3.41	2.81
42F135	57-40500	50	Female	4.16	3.50	2.82	2.54	2.10


Cable to Panel Type


Cable to Cable Type

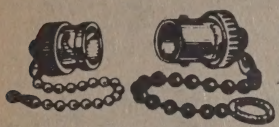
CABLE TO CABLE TYPE (Latch type)

Stk. No.	Type	Cont.	Descrip.	1-9	10-49	50-99	100-249	250-999
42F198	57-10500-7	50	Male	4.69	3.95	3.21	2.78	2.35
42F199	57-20500-7	50	Female	4.98	4.10	3.41	3.05	2.51

BUNKER RAMO **AMPHENOL**

BNC Connectors

Non-constant impedance types for RG-55 and 58/U cables; modified types for RG-59,62, and 71/U. Brass contacts. Copper springs. BNC (Note 1) are 50 ohm types with performance to 10,000 MHz. Modified UG-290/U connector; (Note 2) for RG-62 and 71/U cables, are not matched.
(*) captivated contact.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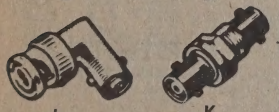
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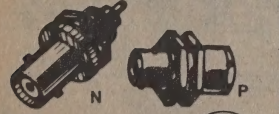
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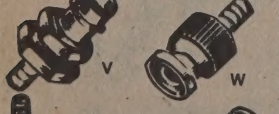
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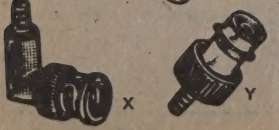

X Y

TYPE "BNC" CONNECTORS

Stock No.	Type	JAN Type	Fig.	Description	RG/U Cables	1-24	25-99	100-499	500-999
39F1000	31-006	CW-123/U	A	Cap & chain	.....	.90	.74	.62	.54
39F1009	31-026	CW123A/U	A	Cap & chain (1)	.....	.62	.51	.43	.37
39F072	31-007	CW155/U	A	Cap & chain	.....	.39	.32	.27	.23
39F1010	31-027	CW155A/U	A	Cap & chain	.....	.54	.44	.37	.32
39F1002	31-017	CW-159/U	A	Cap & chain	.....	1.25	1.02	.86	.74
39F1025	31-210	CW-282/U	B	Cap & chain (1)	.....	.91	.75	.63	.54
39F063	31-002	UG-88/U	C	Plug	55,58	.76	.62	.52	.45
39F1003	31-018	UG-88B/U	C	Plug	55,58	.99	.81	.68	.59
39F1018	31-202	UG-88C/U	C	Plug (1)	55,58	.84	.69	.58	.50
39F1220	31-301*	.....	C	Plug (1)	55,58,141,142	1.77	1.45	1.22	1.05
39F064	31-005	UG-89/U	D	Jack	55,58	1.36	1.12	.94	.81
39F1004	31-019	UG-89A/U	D	Jack	55,58	1.32	1.08	.91	.79
39F1021	31-205	UG-89B/U	D	Jack (1)	55,58	1.26	1.04	.87	.75
39F1221	31-302*	.....	D	Jack (1)	55,58,141,142	2.98	2.44	2.05	1.77
39F1302	1300	UG-90/U	E	Panel jack, sq. flange	55,58	2.24	1.83	1.54	-
39F1311	4500	UG-185/U	F	Receptacle, sq. flange		1.45	1.19	1.00	.86
39F1017	31-201	UG-291B/U	E	Panel jack (1)	55,58	1.60	1.31	1.10	.95
39F1001	31-016	UG-254A/U	G	Bulk Receptacle*	.....	5.94	4.87	4.09	3.53
39F065	31-012	UG-260/U	C	Plug	59,62,71	.87	.71	.60	.52
39F1006	31-021	UG-260A/U	C	Plug	59,62,71	1.00	.82	.69	.60
39F1027	31-212	UG-260B/U	C	Plug (1)	59,62,71	.97	.80	.67	.58
39F1223	31-304*	UG-260B/U	C	Plug (1)	59,62,71,140	1.87	1.54	1.29	1.11
39F066	31-015	UG-261/U	D	Jack	59,62,71	1.58	1.30	1.09	.94
39F1028	31-215	UG-261B/U	D	Jack (1)	59,62,71	1.52	1.25	1.05	.91
39F1026	31-211	UG-262B/U	E	Panel jack (1,	59,62,71	1.76	1.44	1.21	-
39F068	31-008	UG-274/U	H	Tee adapter	.....	2.53	2.07	1.74	1.50
39F1024	31-208	UG-274A/U	H	Tee adapter	.....	2.86	2.35	1.97	1.70
39F1080	31-2208	UG-274B/U	H	Tee adapter	.....	3.30	2.70	2.27	1.96
39F1081	31-350	.....	C	Plug	55,142	3.95	3.24	2.72	2.35
39F069	31-003	UG-290/U	F	Panel Receptacle	.....	.93	.76	.64	.55
39F1019	31-203	UG-290A/U	F	Panel Receptacle (1)	.....	.97	.80	.67	.58
39F070	31-001	UG-291/U	E	Panel jack	55,58	1.54	1.26	1.06	.91
39F1219	31-300*	UG-291B/U	E	Panel jack (1)	55,58,141,142	4.65	3.86	3.20	
39F071	31-009	UG-306/U	J	90° adapter	.....	2.38	1.90	1.64	1.42
39F1071	31-209	UG-306A/U	J	90° adapter	.....	2.93	2.41	2.02	1.74
39F1331	47000	UG-414/U	K	2 Female ends, sq. flange		2.19	1.80	1.51	1.30
39F1036	31-817	UG-447/U	F	Panel receptacle (2)	.....	1.28	2.05	.88	.76
39F1031	31-218	UG-491A/U	L	Adapter (1)	.....	2.73	2.24	1.88	1.62
39F1313	5675	UG-535/U	M	Ang. receptacle, sq. flange		2.72	2.23	1.87	1.61
39F1312	5575	UG-625/U	N	Bulk. receptacle		.87	.71	.60	.52
39F1337	31-236	UG-625B/U	N	Bulk. receptacle		.90	.74	.62	.54
39F073	31-102	UG-657/U	N	Bulk. receptacle	.....	1.35	1.11	.93	.80
39F1033	31-220	UG-492A/U	K	Bulk. adapter	.....	2.96	2.43	2.04	1.76
39F1079	31-3220	UG-492D/U	K	Bulk. adapter*	.....	3.27	2.68	2.25	1.94
39F1022	31-206	UG-909/U	P	Bulk. jack (1)	.....	1.87	1.54	1.29	1.11
39F1023	31-207	UG-910/U	P	Bulk. receptacle	55,58	1.96	1.61	1.35	1.17
39F1339	31-238	UG-912/U	N	Angle plug	59,62,71	2.29	1.88	1.58	1.36
39F1020	31-204	UG-913/U	R	Adapter	.....	3.67	3.01	2.53	2.18
39F1030	31-217	UG-349A/U	...	Adapter	55,58	3.21	2.63	2.21	1.91
39F1032	31-219	UG-914/U	L	Adapter†	.....	1.45	1.19	1.00	.86
39F1335	84975	UG-1033/U	C	Sl. Plug	.....	1.73	1.42	1.19	1.03
39F075	31-221	UG-1094/U	N	Bulk. receptacle	.....	.76	.62	.52	.45
39F3130	31-2221	UG-1094A/U	N	Bulk. receptacle	.....	1.12	.92	.77	.66
39F1034	31-222	UG-1098/U	M	Angle bulk. recept.	.....	3.18	2.61	2.19	1.89
39F1012	31-104	.....	F	Panel receptacle	.....	1.57	1.29	1.08	-
39F1035	31-759	.....	U	Grounding lug	.....	.20	.17	.14	.12
39F1039	31-842	.....	F	Panel receptacle	.....	1.60	1.31	1.10	-
39F1040	31-850	.....	S	Angle plug	.....	4.23	3.47	2.91	2.51
39F1042	31-351	.....	C	Plug	59,62,71	3.76	3.08	2.59	2.24
39F1473	31-352	.....	C	Plug	58,141	5.69	4.67	3.92	3.38
39F1043	31-356	.....	T	Jack	59,62	2.35	1.93	1.62	1.40
39F1044	31-359	.....	C	Plug	58,141	3.83	3.44	2.64	2.28
39F1072	36775	.....	V	Plug	59,62,140	1.15	.94	.79	.68
39F1082	36875	.....	V	Plug	.....	1.21	.99	.83	.72
39F029	68175	.....	V	Plug	.....	1.13	.98	.78	.67
39F1083	79025	.....	...	Adapter	.....	5.69	4.67	3.92	3.38
39F1084	79675	.....	...	Adapter	.....	4.05	3.32	2.79	2.41
39F1085	95725	.....	W	Bulk. jack	.....	2.31	1.89	1.59	1.37
38F1322	31-010	.....	N	Bulk Rec. Isolated	.....	.97	.79	.67	.58

MIL-CRIMP BNC CONNECTORS

Terminates with either 100% crimp or center contact soldered. 50 ohm imped. VSWR identical to solder type BNC connectors up to 10,000 Mc. Sizes: plug, $1\frac{17}{64}$" x $\frac{9}{16}$" dia.; right angle plug, $1\frac{9}{16}$" x $1\frac{1}{8}$" x $\frac{9}{16}$"; cable jack and blkd. jack, $1\frac{11}{32}$" x $\frac{9}{16}$" dia.

Stk. No.	Type	Fig.	Description	RG/U Cables	1-24	25-99	100-499	500-999
39F1438	31-320	V	Plug	58,141	1.31	1.07	.90	.78
39F1439	31-335	X	Angle plug	58,141	4.73	3.88	3.26	2.81
39F1440	31-327	Y	Jack	58,141	1.76	1.44	1.21	1.04
39F1441	31-342	W	Blkh. jack	58,141	2.51	2.06	1.73	1.49
39F1442	31-326	V	Plug	55,142,223	1.36	1.12	.94	.81
39F1443	31-334	X	Angle plug	55,142,223	4.73	3.88	3.26	-
39F1444	31-333	Y	Jack	55,142,223	1.41	1.16	.97	.84
39F1445	31-341	W	Blkh. jack	55,142,223	2.51	2.06	1.73	1.49
39F1446	31-321	V	Plug	59,82,62,140	1.31	1.07	.90	.78
39F1447	31-326	V	Angle plug	59,82,62,140	1.36	1.12	.94	.81
39F1448	31-328	Y	Jack	59,82,62,140	2.00	1.64	1.38	1.19
39F1449	31-343	W	Blkh. jack	59,82,62,140	2.50	2.05	1.72	1.48
39F1454	31-323	V	Plug	180,195	1.68	1.38	1.16	1.00
39F3180	31-338	X	Angle plug	180,195	4.84	3.97	3.33	-
39F1446	31-330	Y	Jack	180,195	2.09	1.72	1.44	-
39F1447	31-345	W	Blkh. jack	180,195	2.61	2.14	1.80	1.55
39F3140	31-324	V	Plug	122	1.00	.82	.69	-

12

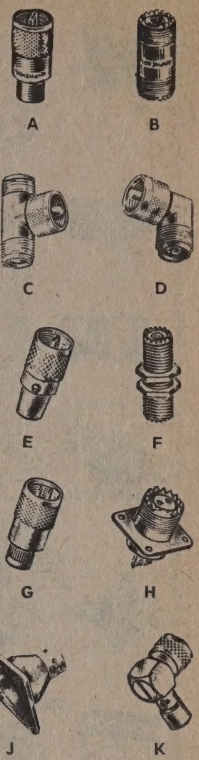
TYPE UHF CONNECTORS

Large single and twin-contact connectors are provided with rubber sealing gasket for weather-proofing, while small single and twin-contact types can be water-proofed by application of Amphenol 307 Silicone Compound to mating insulator surfaces. Beaded chains for caps are nickel-plated brass. Shipping weight each, 4 oz. approx.

Stock No.	Type	Jan Type	Fig.	Description	For RG-/U Cables	1-24	25-99	100-499	500-999
39F034	83-1T	M-358	C	Tee adapter (1)		3.35	2.75	2.31	1.99
39F1060	83-58	M-359A	D	90° adapter (1)	. . .	2.57	2.11	1.77	1.53
39F035	83-1J	PL-258	B	St. adapter (1)	. . .	1.23	1.01	.85	.73
39F030	83-1SP	PL-259	E	Plug (1)	. . .	.62	.51	.43	.37
39F031	83-1SPN	PL-259A	E	Plug (1)	8-13, 63	1.28	1.05	.88	.76
39F1065	83-756	49195	E	Plug (1)	8-13, 63	1.86	1.52	1.28	1.10
39F047	83-22F	PL-275	F	Bulk adapter (2)	8-12	4.46	3.66	3.07	.
39F1056	83-2SP	PL-295	G	Plug (4)	. . .	8.76	7.18	6.03	.
39F039	83-1R	SO-239	H	Receptacle (1)	57,130	.60	.49	.41	.35
39F043	83-22SP	UG-102/U	G	Plug (2)	. . .	1.82	1.49	1.25	1.08
39F048	83-22R	UG-103/U	H	Receptacle (2)	22	1.50	1.23	1.03	.89
39F044	83-22AP	UG-104/U	D	90° Bulk adap. (2)	. . .	3.11	2.55	2.14	.
39F037	83-1H	UG-106/U	J	Hood (1-2)	22	.58	.48	.40	.35
39F1064	83-750	UG-111/U	E	Plug (1)	59,62,71	1.21	.99	.83	.72
39F040	83-185	UG-175/U	B	Reducing adap.	58	.19	.15	.13	.11
39F041	83-168	UG-176/U	B	Reducing adap.	59,62,71	.22	.18	.15	.13
39F038	83-765	UG-177/U	J	Hood (1)	29,55,58	.52	.43	.36	.31
39F032	83-776	UG-203/U	E	Plug (1)	55,59,62,71	1.89	1.55	1.30	1.12
39F1058	83-21R	UG-357/U	H	Receptacle (2)	. . .	4.57	3.75	3.15	-
39F1059	83-21SP	UG-358/U	E	Plug (3)	34	5.91	4.85	4.07	3.51
39F036	83-1F	UG-363/U	F	Bulk adapter (1)	. . .	3.02	2.48	2.08	1.80
39F033	83-1AP	UG-646/U	B	90° adapter (1)	. . .	1.87	1.54	1.29	1.11
39F042	83-1AC	. . .	L	Cap & chain (1-2)	. . .	.91	.75	.63	.54
39F1052	83-1RTY	SO-239	H	Receptacle (1)	. . .	1.03	.85	.71	.61
39F1061	83-59	. . .	K	90° Plug (1)	17,18	5.36	4.39	3.69	3.18
39F1062	83-65	. . .	B	Reducing adap.	250 Diam.	.33	.27	.23	.20
39F1063	83-716	. . .	H	Receptacle* (1)	. . .	5.53	4.54	3.81	-
39F049	83-798	SO-239A	H	Panel Receptacle	. . .	1.54	1.26	1.06	.91
39F1068	83-821	. . .	C	Plug (2) Teflon	22	2.60	2.13	1.79	1.54
39F1225	83-822	49190	E	Plug (1) Teflon	. . .	.93	.76	.64	.55
39F088	83-850	. . .	A	Solderless plug	11	4.02	3.30	2.77	-
39F089	83-851	. . .	A	Solderless plug	8-13,63	2.72	2.23	1.87	1.61

*Pressurized types

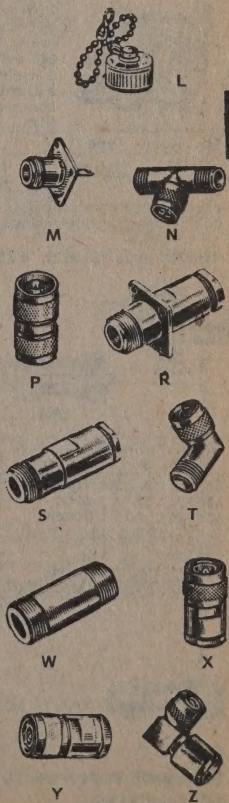
NOTES: 1) Small single-contact connectors 2) Small twin-contact connectors 3) Large single-contact connectors 4) Large twin-contact connectors



TYPE N CONNECTORS

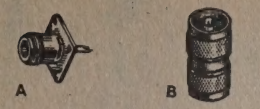
Weatherproof low-voltage connectors of constant impedance. All are 50 ohm types except (1) which are 70 ohms. Shpg. wt. 4 oz.

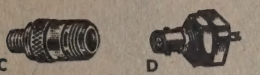
Stk. No.	Type	Jan Type	Fig.	Description	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1101	82-86	UG-18B/U	Y	Plug	5, 6, 21	.332	2.44	2.00	1.68	1.45
39F1108	82-96	UG-21C/U	Y	Plug	8, 9, 10	.332	1.80	1.48	1.24	1.07
39F019	82-61	UG-21B/U	Y	Plug	8, 9, 10	.332	1.51	1.24	1.04	.90
39F3156	82-61	UG-21B/U	Y	Plug	8, 9, 10	.332	1.51	1.24	1.04	.90
39F1118	82-202	UG-21D/U	Y	Plug	8, 9, 10	.332	1.80	1.48	1.24	1.07
39F3155	82-202	UG-21D/U	Y	Plug	8, 9, 10	.332	1.80	1.48	1.24	1.07
39F020	82-62	UG-22B/U	R	Panel jack	8, 9, 10	.332	2.37	1.94	1.63	1.41
39F1122	82-208	UG-22D/U	R	Panel jack	8, 9, 10	.332	2.02	1.66	1.39	1.20
39F021	82-63	UG-23B/U	S	Jack	8, 9, 10	.332	1.90	1.56	1.31	1.00
39F1106	82-94	UG-23C/U	S	Jack	8, 9, 10	.332	2.11	1.73	1.45	-
39F1123	82-209	UG-23D/U	S	Jack	8, 9, 10	.332	1.74	1.43	1.20	1.04
39F076	82-64	UG-27A/U	T	90° adapter	.....	....	3.99	3.28	2.75	2.37
39F1109	82-98	UG-27B/U	T	90° adapter	.....	....	4.33	3.55	2.98	2.57
39F1127	82-213	UG-27C/U	Z	90°adapter	.....	....	3.63	2.98	2.50	2.16
39F1110	82-99	UG-28A/U	C	Tee adapter	.....	....	4.53	3.72	3.12	2.69
39F077	82-65	UG-29A/U	P	St. adapter	.....	....	2.45	2.01	1.69	1.46
39F1112	82-101	UG-29B/U	P	St. adapter	.....	....	2.15	1.76	1.48	1.28
39F022	82-66	UG-30/U	...	Bulk. adapter	.....	....	4.89	4.01	3.37	2.91
39F1117	82-201	UG-30C/U	...	Bulk. adapter	.....	....	4.30	3.53	2.96	2.55
39F1111	82-100	UG-57B/U	P	St. adapter	.....	....	2.70	2.22	1.86	1.61
39F3162	82-100	UG-57B/U	P	St. Adapter	.....	....	2.70	2.22	1.86	1.61
39F023	82-24	UG-58/U	M	Receptacle	.....	....	1.26	1.04	.87	.75
39F3161	82-24	UG-58/U	M	Receptacle	.....	....	1.26	1.04	.87	.75
39F028	82-97	UG-58A/U	M	Receptacle	.....	....	1.23	1.01	.85	.73
39F3160	82-97	UG-58A/U	M	Receptacle			1.23	1.01	.85	.73
39F024	82-84	UG-94A/U	Y	Plug (1)	11-13	.420	2.56	2.10	1.76	1.52
39F1104	82-89	UG-95A/U	S	Jack (1)	11-13	.420	2.70	2.22	1.86	1.61
39F018	82-36	UG-107A/U	C	Tee adapter	.....	....	5.81	4.76	4.00	3.45
39F078	82-102	UG-107B/U	C	Tee adapter	.....	....	6.10	5.00	4.20	3.62
39F1113	82-105	UG-204A/U	Y	Plug	14, 74	.545	6.96	5.70	4.79	-
39F1128	82-811	UG-680/U	...	Bulk. recpt.	.....	....	2.74	2.25	1.89	1.63
39F1114	82-106	MX-913/U	L	Cap & chain	.....	....	.78	.64	.54	.47
39F3159	82-106	MX-913/U	L	Cap & chain	.....	....	.78	.64	.54	.47
39F1115	82-112	.....	M	Receptacle (1)	.....	....	2.44	2.00	1.68	1.45
39F1129	82-835	.....	Z	Angle plug	8, 9, 10	.332	5.08	4.17	3.50	3.02
39F1340	91100	UG-30D/U		Adpg 2F Ends	.....	....	4.18	3.43	2.88	2.49
39F1323	34000	UG-536/U	Y	Plug R, 55, 58	.....	....	2.66	2.18	1.83	1.58
39F3158	34000	UG-536/U	Y	Plug R, 55	.....	....	2.66	2.18	1.83	1.58
39F1324	34025	UG-536B/U	Y	Plug R, 55	.....	....	1.83	1.50	1.26	1.09
39F3157	34025	UG-536B/U	Y	Plug R, 55	.....	....	1.83	1.50	1.26	1.09

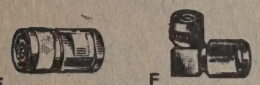


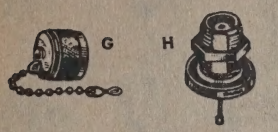
TYPE C CONNECTORS

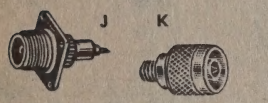
Constant 50 Ohm impedance Design matched to 50 ohm cables, can also be used with 75 ohm cable, at lower frequencies (below 300 MHz). Peak voltage rating of 1500V and low SWR up to 10 GHz. Thermal limits; -67° to 390°F (-55°C to 199°C). Pressurized; compression seal. 2-stud bay net lock. "V" groove split silicone rubber gasket and peaked braid clam. Weatherproof gaskets, Brass male contact; copper female and outer. Meets military specs of MIL-C-3989.











Stk. No.	Type	Jan Type	Fig.	Description	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F087	82-530	UG-573A/U	E	Straight Plug	8, 9	.420	2.90	2.38	2.00	4.73
39F1135	82-508	UG-564/U	...	.....	....	....	3.92	3.22	2.70	2.33
39F1133	82-504	UG-568/U	A	Panel Receptacle	....	....	2.40	1.97	1.65	1.42
39F1145	82-532	UG-628A/U	E	Straight Plug	8, 9A	.420	3.80	3.12	2.62	2.26
39F1143	82-521	UG-632/U	C	Bulkhead Jack	....	.420	5.87	4.81	4.04	....
39F1140	82-514	UG-643/U	...	Straight Adapter	....	....	2.85	2.33	1.96	1.69
39F1141	82-515	UG-634/U	D	Bulkhead Recept.	....	....	3.80	3.12	2.62	2.26
39F1147	82-534	UG-709A/U	B	Straight Plug	55, 58	.206	3.34	2.74	2.30	1.98
39F1144	82-531	UG-710A/U	F	Angle Plug	....	....	5.72	4.69	3.94	3.40

TYPE "HN" CONNECTORS

Constant 50 ohm impedance connectors designed for high voltage applications. Frequency range; 0-4GHz. Voltage Rating; 1,500 V peak. Pressurized; compression seal. Thermal limits; -67° to 390°F (-55° to 199°C). Synthetic and silicone rubber weatherproof. Meets military specs of MIL-C-3643. Brass male contacts; copper female and outer. Dielectric withstanding voltage; 5,000V rms. SWR; 1.3. Contacts are fixed within the connector body by front and rear contact insulators.

Have 5 KV peak rating, when used with Amphenol 307 Silcone compound. Machined brass. 4 oz.

Stk. No.	Type	Jan Type	Fig.	Description	For RG/U Cable	Mx. Jkt. Dia.	1-24	25-99	100-499	500-999
39F026	82-804	UG-59B/U	...	Straight Plug	8-10	.420	4.05	3.32	2.79	2.41
39F1150	82-38	UG-59A/V	...	Straight Plug	8-10	.420	4.57	3.75	3.15	2.72
39F1158	82-92	UG-496/U	J	Panel Recept.	....	....	3.51	2.88	2.42	2.09
39F027	82-805	UG-560/U	J	Panel Recept.	....	....	4.02	3.30	2.77	2.39
39F1163	82-130	.....	G	Cap & Chain	54A	....	1.89	1.55	1.30	1.12
39F1166	82-816	.....	...	Straight Plug	8-10	.250	5.05	4.14	3.48	3.00
39F1167	82-833	.....	K	Angle Plug	....	.420	8.74	7.17	6.02	5.20
39F1169	82-843	.....	H	Bulkhead Recept.	8-10	....	7.51	6.16	5.17	4.46
39F1170	82-856	.....	K	Angle Plug	....	.420	8.90	7.30	6.13	5.29

PRECISION 7mm CONNECTOR

50 ohm coaxial connector designed for use with rigid 7mm air line. Sexless oplanar mating by means of threaded ring housed within coupling nut permits any two connectors in the 7mm line size to be interconnected. The electrical and mechanical contact is made in an identical plane permitting accurate determination of the electrical length of a mated pair of connectors or of an air line assembly with a connector on each end. All components of the connector are held captive.

Stk. No.	Type	Max. SWR	Net Per Pair
41F774	131-1050	1.039 to 18 GHz	40.00

TOOL KIT

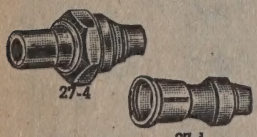
For assembly and disassembly of connectors to air line. Contains collet extractor, line wrench, spanner wrench and torque wrench.

41F775. Type 131-2025. NET 65.00

APC-7 BETWEEN SERIES ADAPTERS

Stk. No.	Type	Descrip. APC-7 to	Max. SWR For Single Adapter	Net
41F776	131-1025	N jack	1.015 @ 4 GHz 1.025 @ 9 GHz	50.00
41F777	131-1035	N plug	1.035 @ 12 GHz 1.045 @ 18 GHz	50.00
41F778	131-1027	BNC jack	1.035 @ 4 GHz	50.00
41F779	131-1037	BNC plug	1.065 @ 9 GHz 1.08 @ 12.4 GHz	50.00
41F780	131-1026	TNC jack	same as BNC plus	50.00
41F781	131-1036	TNC plug	1.12 @ 18 GHz	50.00
41F782	131-1028	SMA jack	1.07 @ 12.4 GHz	50.00
41F783	131-1038	SMA plug	1.10 @ 18 GHz	50.00
41F784	131-1022	GR 874	1.04 @ 4 GHz 1.06 @ 9 GHz	75.00
41F785	131-1023	GR 900	1.011 @ 4 GHz 1.021 @ 8.5 GHz	125.00

SUB-MINIATURE RF CONNECTORS



Machined brass gold finished, beryllium copper female contacts, brass male contacts. Teflon insulation except hermetically sealed receptacles which are glass and Teflon. Field serviceable types require no crimping. 50 ohm types use 227-900 tool. 75 ohm Types use 227-901 Tool. See Tool page for listing. Av. shpg. wt. 3 oz.

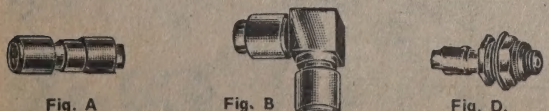
75 OHM

Stock No.	Type No.	Descrip.		1-24	25-99	100-499	500-999
42F213	27-13	Plug	-Push On	1.47	1.20	1.01	.87
42F214	27-14	Jack	-Push On	1.15	.94	.79	...
42F215	27-15	Recep.	-Push On	1.39	1.14	.96	.83
42F219	27-19	Plug	-Screw On	1.21	.99	.83	.72
42F220	27-20	Jack	-Screw On	3.34	2.74	2.30	...
42F221	27-21	Recep.	-Screw On	1.41	1.16	.97	.84
42F222	27-22	Jack, Blkh.	-Screw On	2.05	1.68	1.41	1.22

50 OHM

Stock No.	Type No.	Descrip.	Tool No.	1-24	25-99	100-499	500-999
42F201	27-1	Plug	-Push On	.89	.73	.61	.53
42F202	27-2	Jack	-Push On	.96	.79	.66	.57
42F203	27-3	Recep. Blkh.	-Push On	1.28	1.05	.88	.76
42F204	27-4	Jack Blkh.	-Push On	1.18	.96	.81	.70
42F207	27-7	Plug	-Screw On	.87	.71	.60	.52
42F208	27-8	Jack	-Screw On	1.03	.85	.71	.61
42F209	27-9	Receptacle	-Screw On	.77	.63	.53	.46
42F210	27-10	Jack, Blkh.	-Screw On	1.29	1.06	.89	.77
42F212	27-12	Recep. Herm.	-Screw On	2.53	2.07	1.74	...
42F226	27-26	Pptd.	-Screw On	2.12	1.74	1.46	1.26
39F1217	27-28	Adap., Sub.	-Screw On	2.56	2.10	1.76	1.52

SERIES 5116 SUBMINAX COAXIAL CONNECTORS



SCREW ON TEFLON INSULATION. 50 OHMS. THREAD SIZE 10-32

Stk. No.	Type	For RG/U Cable	Description	Fig.	1-24	25-99	100-499	500-999
41F786	5116-037575	174,188	St. Plug	A	3.46	2.83	2.38	2.05
41F787	5116-037475	178,196	St. Plug	A	3.27	2.68	2.25	1.94
41F788	5116-037675	174,188	Angle Plug	B	6.36	5.22	4.38	...
41F789	5116-037600	178,196	Angle Plug	B	5.18	4.25	3.57	...
41F792	5116-037875	174,188	Blkh. Jack	D	5.36	4.39	3.69	...
41F793	5116-037800	178,196	Blkh. Jack	D	5.36	4.39	3.69	...

CABLE TERMINATIONS

Designed to terminate coax shield without soldering and permitting the inner conductor to extend beyond the termination. (*) Mount in 5/16" hole. Average wt., 4 oz.

Stock No.	Type	Jan Type	Fig.	RG/U Cable	Max. Jkt. Dia.	Mounting	1-24	25-99	100-499	500-999
39F1300	1025	MX1684/U*	A	56,58	.195	Locknut	.70	.57	.48	.41
39F1309	4025	MX1801/U	B	59,62,71	.250	Rt. Strap	.64	.52	.44	---

COAXIAL PLUG-IN CONNECTORS

Commonly used on drawer-type chassis for direct plug-in connections. Plug and receptacle mount in 5/16" hole. 2,000 volts. Average wt., 4 oz.

Stock No.	IPC Type	Jan Type	Fig.	Description	1-24	25-99	100-499	500-999
39F1305	2225	UG1050/U	E	Male	1.02	.83	.70	.60
39F1304	2175	UG1051/U	E	Female	1.16	.95	.80	.69

MB COAXIAL CONNECTORS

Excellent electrical and mechanical properties at low cost. Extremely small, use up to 500 mc, 500 volts, 400°F. Bayonet lock. Average weight, 4 oz.

Stock No.	Jan Type	Fig.	Description	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1326	45000	G	Plug	58	.195	1.73	1.42	1.19	1.03
39F1329	46000	H	Receptacle, nylon	. .	. .	1.34	1.10	.92	.79
39F1334	48850	G	Plug with Jacket Clamp	195	. .	1.47	1.20	1.01	.87

MHV COAXIAL CONNECTORS

Miniature high voltage connectors are small bayonet-lock connectors for use up to 50 mc., 5,000 volts, 5 amps. Similar, but do not mate with BNC Connectors. Average Shpg. wt., 4 oz.

Stk. No.	IPC Type	Jan Type	Fig.	For RG-/U Cable	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1321	27000	UG931/U	C	. . .	. .	2.28	1.87	1.57	1.35
39F1332	28000	UG932/U	D	59	.242	2.37	1.94	1.63	1.41
39F1478	27975	UG932A/U	. .	59,62,71	. .	2.27	1.86	1.56	1.35

TWINAX

Have a nominal impedance of 95 ohms and are weather-proof. All are polarized to preserve continuity of the individual conductors. These conductors can normally be used at frequencies up to 200 mc, and in some cases to 500 mc with caution. Maximum peak-operating voltage is 500 volts. Type 309-6275 plug for RG-U 22 cable. Average shpg. wt., 4 ounces.

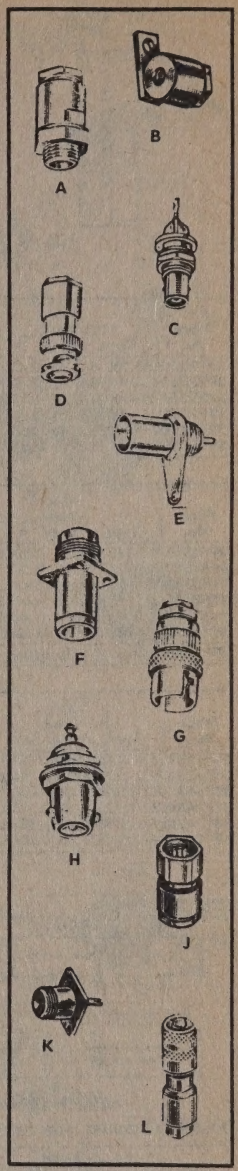
Stk. No.	IPC Type	Jan Type	Fig.	Description	Max. Jkt. Dia.	1-24	25-99	100-499	500-999
39F1314	6275	UG-421/U		Plug	.405	4.02	3.30	2.77	2.39
39F1341	6225	UG-422/U	F	Receptacle, sq. flange	. .	4.23	3.47	2.91	2.51

MISCELLANEOUS CONNECTORS AND ADAPTERS (*)55, 58, 59, 60, 71. (†)8-10, 87A, 115,

Stk. No.	Type	Jan Type	Fig.	Description	Max. Jkt. RG-/U Cables	Dia.	1-24	25-99	100-499	500-999
39F1171	82-21	UG-85/U	L	Plug	(*)	.242	4.47	3.67	3.08	---
39F1174	82-42	UG-87/U	K	Receptacle	. .	.	4.05	3.32	2.79	---
39F1175	82-59	UG-154/U	J	Plug	17,18	.870	27.40	22.47	18.87	16.28
39F1177	82-1110	UG-352A/U	K	Receptacle	. .	....	12.59	10.33	8.67	---
39F1187	82-312	UG-1185/U	. .	Plug	(†)	.425	1.97	1.62	1.36	1.17
39F1188	82-313	UG-1186/U	. .	Jack	(†)	.425	2.40	1.97	1.65	1.42
39F1190	82-320	UG-1213/U	. .	Plug	(†)	.425	5.78	4.74	3.98	3.43
39F1200	82-842	. . .	. .	Push-on plug	. .	. .	1.89	1.55	1.30	---

BETWEEN SERIES ADAPTERS

Stk. No.	Type	MIL.	Mates With	1-24	25-99	100-499	500-999
39F1038	31-830	UG-201/U	N female and BNC male	3.19	2.62	2.20	1.90
39F1029	31-216	UG-201A/U	N female and BNC male	2.18	1.79	1.50	1.29
39F074	31-028	UG-273/U	BNC male and UHF 49194	1.67	1.37	1.15	.99
39F1030	31-217	UG-349A/U	N male and BNC female	3.21	2.63	2.21	1.91
39F1135	82-508	UG-564/U	C male and N female	3.92	3.22	2.70	2.33
39F1195	82-540	UG-565A/U	C female and N male	3.92	3.22	2.70	---
39F1217	27-28	. . . .	BNC female to 50 ohm Screw-on subminax male	2.56	2.10	1.76	1.52
39F1310	4400	UG-146/U	UHF female and N male	4.14	3.39	2.85	2.46
39F1307	2900	UG-255/U	BNC male and UHF female	2.70	2.22	1.86	1.61
39F1320	26700	UG-318/U	N male and UHF female	5.10	4.18	3.51	3.03



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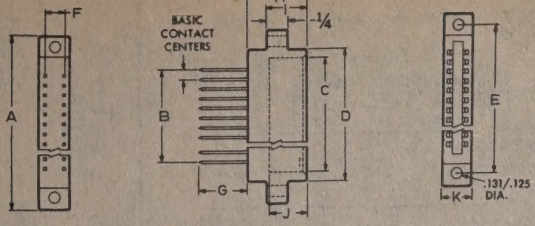
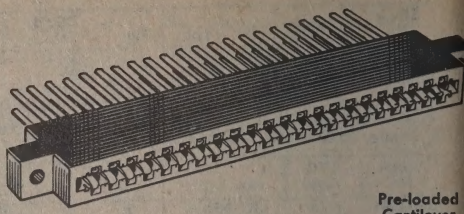
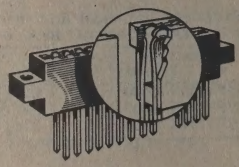


SERIES 261 WIRE-WRAP PC CONNECTORS



Pre-loaded Cantilever Contacts



Basic Contact Centers

.100″ CENTER

Stock No.	Type	No. Contacts	Dimensions A	B	C	D	E	F	G	H	I	J	K	EACH 1-49	50-99	100-249	250-999	1000-Up
39F3350	261-10015-2	15	2.474	1.400	1.720	1.874	2.156							2.44	2.05	1.72	1.47	1.30
39F3351	261-10018-2	18	2.774	1.700	2.020	2.174	2.458							2.80	2.34	1.97	1.68	1.49
39F3352	261-10022-2	22	3.174	2.100	2.420	2.574	2.856	.200	.627	.735	.494	.465	.343	3.27	2.74	2.29	1.97	1.74
39F3353	261-10030-2	30	3.974	2.900	3.220	3.374	3.656							4.09	3.42	2.87	2.46	2.18
39F3354	261-10036-2	36	4.574	3.500	3.820	3.974	4.256							4.75	3.97	3.38	2.86	2.53
39F3355	261-10043-2	43	5.274	4.200	4.520	4.674	4.956							5.53	4.62	3.88	3.32	2.95

.125″ CENTER

Stock No.	Type	No. Contacts	Dimensions A	B	C	D	E	F	G	H	I	J	K	EACH 1-49	50-99	100-249	250-999	1000-Up
39F3356	261-12515-2	15	2.824	1.750	2.070	2.224	2.506							2.24	2.05	1.72	1.47	1.30
39F3357	261-12518-2	18	3.199	2.125	2.445	2.599	2.881							2.80	2.34	1.97	1.68	1.49
39F3358	261-12522-2	22	3.699	2.625	2.945	3.099	3.381							3.27	2.74	2.29	1.97	1.74
39F3359	261-12528-2	28	4.449	3.375	3.695	3.849	4.131	.250	.627	.735	.494	.465	.365	4.09	3.42	2.87	2.46	2.18
39F3360	261-12536-2	36	5.449	4.375	4.695	4.849	5.131							4.75	3.97	3.33	2.86	2.53
39F3361	251-12543-2	43	6.324	5.250	5.570	5.724	6.006							5.53	4.62	3.48	3.32	2.95
39F3362	261-70005		Polarizing key for above											.025	.025	.025	.025	.02

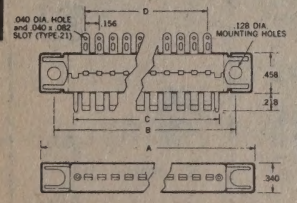
.156″ CENTER

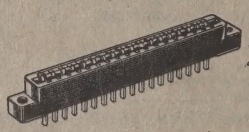
Stock No.	Type	No. Contacts	Dimensions A	B	C	D	E	F	G	H	I	J	K	EACH 1-49	50-99	100-249	250-999	1000-Up
38F1431	261-15615-2	15	3.258	2.184	2.504	2.658	2.940							2.92	2.44	2.05	1.75	1.56
38F1432	261-15618-2	18	3.726	2.652	2.972	3.126	3.408							3.38	2.84	2.37	2.03	1.81
38F1433	261-15622-2	22	4.350	3.276	3.596	3.750	4.032	.200	.765	.770	.515	.500	.343	3.90	3.27	2.73	2.35	2.08
38F1434	261-15628-2	28	5.286	4.212	4.532	4.686	4.968							4.79	4.01	3.37	2.88	2.55
38F1435	261-15636-2	36	6.534	5.460	5.780	5.934	6.216							6.01	5.03	4.23	3.62	3.21
38F1436	261-15643-2	43	7.626	6.552	6.872	7.026	7.308							7.10	6.93	4.98	4.27	4.01

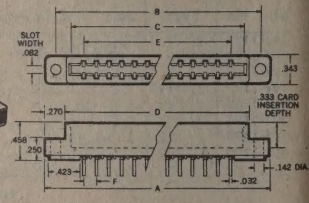
Dual readout of double-sided printed cir cuit boards. Pre-loaded cantilever-type con tacts are assembled into dielectric with precise spacing for automatic solderless wrap terminations. Tail length is sufficien for three wire wraps plus space for bussing or PC board next to block. Contacts are con fined in dielectric to determined pre-load force for fixed, definite separation elimi nating possibility of shorts. Gold-plated phosphor bronze contacts rated at 5.0 amps. Voltage rating: 300 V rms at sea level. Mini mum voltage breakdown: 1800 V rms. Con tact resistance: 6.0 milliohms max. .025″ square tail with 50001-type contact. Key replaces one pair of contacts. Avg. Shpg wt. 3 oz.

12

133 SERIES BOARD ADAPTORS 143 SERIES RECEPTACLES







SERIES 133—MATES FOR SERIES 143

Double tail solder type, rated 600V RMS. 5 amp. Ht. .458″.

Part Number	Number of Contacts	Dimensions A	B	C	D
133-006	6	1.817	1.531	1.082	.781
133-010	10	2.442	2.156	1.708	1.406
133-012	12	2.755	2.468	2.020	1.718
133-015	15	3.222	2.937	2.489	2.187
133-018	18	3.692	3.406	2.957	2.656
133-022	22	4.317	4.031	3.582	3.281

Stock No.	Type No.	Cont.	EACH 1-49	50-99	100-249	250-999	1M-2499
42F316	133-010-03	10	1.52	1.27	1.07	.91	.81
42F317	133-012-03	12	1.87	1.57	1.31	1.13	1.00
42F318	133-015-03	15	2.08	1.74	1.46	1.25	1.11
42F319	133-018-03	18	2.14	1.79	1.50	1.29	1.14
42F320	133-022-03	22	2.35	1.97	1.65	1.41	1.25
42F307	133-006-03	6	1.87	1.57	1.31	1.13	1.00
42F196	133-006-21	6	2.06	1.72	1.45	1.24	1.10
42F136	133-010-21	10	1.77	1.48	1.24	1.06	.94
42F137	133-015-21	15	2.48	2.07	1.74	1.49	1.32
42F138	133-018-21	18	2.56	2.14	1.80	1.54	1.37
42F139	133-022-21	22	2.91	2.44	2.04	1.75	1.55

SERIES 143 PRIN-CIR CONNECTORS

Fit .054″-.070″ circuit boards. Avg. Shpg. wt. 3 oz.

Part Number	Contacts	Dimensions A	B	C	D	E	F	G
143-006	6	1.779	1.531	1.097	1.239	.781	.156	.343
143-010	10	2.404	2.156	1.723	1.864	1.406	.156	.343
143-012	12	2.716	2.468	2.035	2.176	1.718	.156	.343
143-015	15	3.185	2.937	2.504	2.645	2.187	.156	.343
143-018	18	3.654	3.406	2.972	3.114	2.656	.156	.343
143-022	22	4.279	4.031	3.597	3.739	3.281	.156	.343

Stock No.	Type No.	Cont.	1-24	25-249	250-999	1M-4999	5000-Up
42F304	143-006-01	6	.84	.60	.53	.48	.45
42F300	143-010-01	10	.87	.63	.56	.50	.47
42F308	143-012-01	12	.96	.69	.61	.55	.52
42F301	143-015-01	15	1.10	.79	.70	.63	.59
42F302	143-018-01	18	1.31	.94	.83	.75	.71
42F303	143-022-01	22	1.57	1.13	1.00	.90	.85
42F306	143-022-02	22	1.79	1.29	1.14	1.03	.97
42F309	143-006-03	6	.84	.60	.53	.48	.45
42F310	143-010-03	10	.87	.63	.56	.50	.47
42F311	143-012-03	12	.96	.69	.61	.55	.52
42F312	143-015-03	15	1.10	.79	.70	.63	.59
42F313	143-018-03	18	1.31	.94	.83	.75	.71
42F314	143-022-03	22	1.57	1.13	1.00	.90	.85
39F1479	143-022-12	22	1.79	1.29	1.14	1.03	.97
42F305	143-953		Polarizing key for above				.04

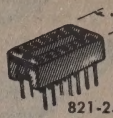
Integrated Circuit Sockets

BUNKER RAMO AMPHENOL

DUAL-IN-LINE PRODUCTION SOCKETS

821-25, 821-20, and 821-40 Series are high reliability production mounting sockets for Dual-In-Line I.C. devices. For applications where it is desirable to provide easy replacement of individual DIP devices without risk of unsoldering from P.C. boards or replacing entire boards. Single piece construction dual wiping action contacts for round or flat leads. Front entry chamfered, maximum lead in. Wire wrappable and solder terminals. Snap on insulator lid for ease of contact replacement. (*) Contact material phosphor bronze. (†) Contact material beryllium copper.

821-20000



821-25011

831-55011

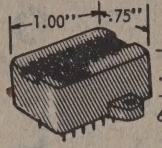
831-55022

STANDARD PROFILE

Stock No.	Type	No. of Leads	Termination	1-99	100-499	500-999
39F3372	821-25011-144	14	solder	.58	.50	.44
39F3373	821-25011-164	16	solder	.68	.58	.50
39F3374	821-25012-144	14	wire wrap	.70	.59	.50
39F3375	821-25012-164	16	wire wrap	.77	.67	.58
	LOW PROFILE					
39F3364	821-20011-144*	14	TAB	.40	.35	.35
39F3365	821-20011-164*	16	TAB	.46	.40	.40
39F3366	821-20012-144†	14	TAB	.47	.41	.41
39F3367	821-20012-164†	16	TAB	.53	.46	.46
39F3368	821-20013-144†	14	wire wrap	.65	.58	.58
39F3369	821-20013-164†	16	wire wrap	.71	.64	.64
39F3370	821-20041-184†	18	wire wrap	.76	.69	.69
39F3371	821-20042-184†	18	TAB	.52	.47	.47

T.O. CAN PRODUCTION SOCKETS

These production type sockets of nylon are constructed to hold devices in firm, long time contact, resisting dirt and environmental attacks upon their contacts. They accept TO-5 and TO-18 type 3 to 12 lead devices and are press fit or solder mounted.

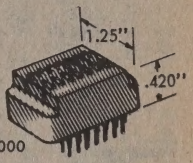


621-01000

Stock No.	Type	No. of Leads	1-99	100-499	500-999
	FOR TO-5 DEVICES HAVING 3, 4, 8, AND 10 LEADS				
39F3378	831-55022-034	3	.32	.29	.26
39F3379	831-55022-044	4	.36	.32	.28
39F3380	831-55022-084	8	.43	.38	.24
39F3381	831-55022-104	10	.46	.43	.39
	FOR TO-18 DEVICES HAVING 3 AND 4 LEADS				
39F3376	831-55011-034	3	.32	.29	.26
39F3377	831-55011-044	4	.36	.32	.28

DUAL-IN-LINE TEST SOCKETS

Polysulfone body material for long term test temperature from −65°C to +150°C. Low leakage and high wear. One piece contacts of beryllium copper, nickel/gold plated, provides a gentle wiping action to insure low, uniform contact resistance. Contacts designed for minimal insertion and withdrawal forces consistent with electrical contact.

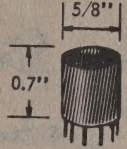


621-10000

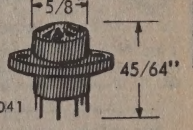
Stock No.	Type	No. of Leads	Mounting Flange	1-24	25-49	50-99
39F3382	621-01011-141	14	No	1.70	1.70	1.55
39F3383	621-01012-141	14	Yes	1.70	1.70	1.55
39F3384	621-01011-161	16	No	1.90	1.90	1.70
39F3385	621-01012-161	16	Yes	1.90	1.90	1.70
39F3386	621-10031-241	24	Yes	4.50	4.50	3.95
39F3387	621-10033-241	24	No	4.50	4.50	3.95
39F3388	621-10011-401	40	No	9.00	7.50	6.50
39F3389	621-10012-401	40	Yes	9.00	7.50	6.50

T.O. CAN TEST SOCKETS

Contacts give low, uniform resistance and do not scrape leads of device. Polarized mark provided on all sockets. Large entrances permit easy insertion. Reliable contact maintained despite severe environmental conditions. 631-150 and 631-200 designed for high density packing. 631-250 are teflon sockets for high temperature test operation. Cylindrical body for T.O. devices.



631-15031

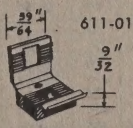


631-05041

Stock No.	Type	No. of Leads	Flange	1-24	25-49	50-99
	FOR HIGH DENSITY APPLICATION					
39F3400	631-15031-061	6	No	2.14	1.83	1.52
39F3401	631-15031-081	8	No	2.32	1.99	1.74
39F3403	631-15031-101	10	No	2.39	2.07	1.78
39F3402	631-20012-081	8	Yes	2.33	2.00	1.75
39F3404	631-20012-101	10	Yes	2.49	2.17	1.81
	FOR HIGH TEMPERATURE APPLICATIONS					
39F3398	631-25041-032	3	No	.70	.65	.60
39F3399	631-25041-042	4	No	.90	.76	.71

FLAT PACK TEST SOCKETS

Fits all standard sizes of flat I.C.'s w/peripheral leads, micromesa xistors and similar components. Body; filled polypropylene. Leads accepted; Flat to .025"w. .008" thick. spaced at .050". Base pins; 0.025" x 0.035" x 0.150" long. Temperature; −65°C to +150°C.



611-01000

Stock No.	Type	No. of Leads	No. of Rows	1-24	25-49	50-99
39F3409	611-01041-143	14	. . .	8.00	6.90	5.60
39F3410	611-01042-163	16	. . .	9.00	7.90	6.60
39F3411	611-10071-221	22	3	17.00	13.80	11.20
39F3412	611-10071-241	24	2	19.20	15.50	12.25
39F3413	611-10031-281	28	2	20.50	16.50	13.00

DUAL-IN-LINE CONTACTORS

ideal for test, aging, and bread-boarding. Maintains proper lead position with minimum of force applied to leads. With DIP carrier, no lead deformation or weakening of devices body/lead junction. One hand operation insertion and withdrawal with guide slots in carrier mating w/alignment studs in contactor. Chassis and P.C. mounting.

623-01000

Stock No.	Type	No. of Leads	Mounting Pad	1-24	25-49	50-99
39F3390	623-01011-141	14	No	2.55	2.30	2.05
39F3392	623-01012-141	14	Yes	2.55	2.30	2.05
39F3391	623-01011-161	16	No	2.90	2.65	2.35
39F3393	623-01012-161	16	Yes	2.90	2.65	2.05
39F3394	623-10023-241	24	No	4.35	3.85	3.34
39F3395	623-10024-241	24	Yes	4.35	3.85	3.34
39F3396	623-20011-401	40	No	8.50	7.25	6.30
39F3397	623-20012-401	40	Yes	8.50	7.25	6.30

T.O. CAN CONTACTORS

Carrier, with T.O. mounted, inserted in contactor where probing contacts make positive electrical contact with device leads. Spring loaded retainer clips on contactor.

633-10000

Stock No.	Type	No. of Leads	Mounting Pad	1-24	25-49	50-99
39F3406	633-10021-081	8	. . .	3.45	2.90	2.52
39F3407	633-10021-101	10	. . .	3.70	3.14	2.74
39F3408	633-10013-121	12	. . .	3.95	3.40	2.95

FLAT PACK CONTACTORS

Series 613 useful in aging and life tests. Fast push-pull latching. Provides support over temperature range. Supplied in standard terminals for dip or wave soldering.

613-01100

Stock No.	Type	No. of Leads	1-24	25-49	50-99
39F3414	613-01021-141	14	4.25	4.25	3.30
39F3415	613-01171-161	16	4.70	4.70	3.60
39F3416	613-10031-261	26	12.50	12.50	9.00

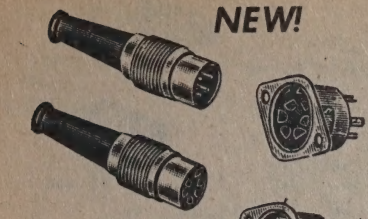
12

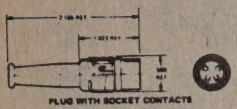
BUNKER RAMO AMPHENOL

Audio Connectors

FRICTION LOCK COUPLING STYLE

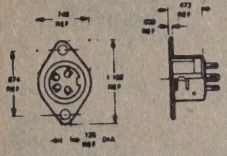
NEW!





Cable Plug With Pin Contacts

Cable Plug With Socket Contacts

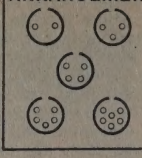


Panel Receptacle With Socket Contacts

- LOW CONTACT RESISTANCE
- POLARIZING KEY PREVENTS MISMATING

Connectors for many cable to panel applications. Low contact resistance and excellent wiping action on the mating pin is provided by the spring type socket contact. Friction locking device in the receptacle grips plug to withstand up to 5 lb. pull-out force. Voltage rating: 120V. Dielectric: Black molded polycarbonate. Contacts: Pin—Silver plated brass with solder pot tails. Socket—Silver plated phosphor bronze spring type with pre-tinned solder eyelets. Wire Size: 20 ga.

CONTACT ARRANGEMENT



CABLE PLUG WITH PIN CONTACTS

Stock No.	Type	Contacts	1-24	25-49	50-99	100-249
38F1416	91-T-3205	2	.60	.55	.52	.49
38F1417	91-T-3265	3	.60	.55	.52	.49
38F1418	91-T-3305	4	.68	.62	.58	.55
38F1419	91-T-3365	5	.76	.68	.65	.61
38F1420	91-T-3405	6	.78	.71	.67	.63

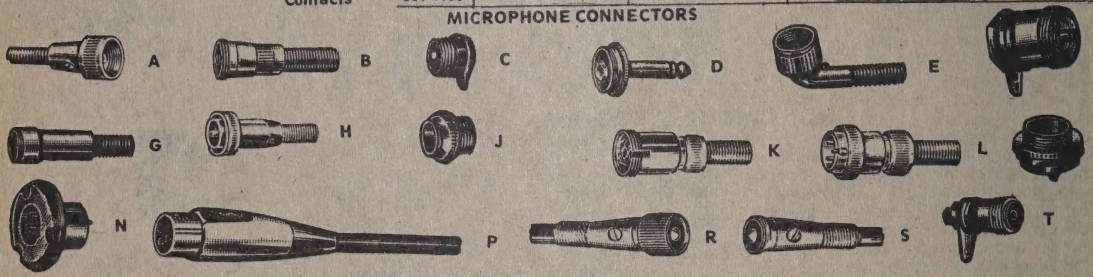
CABLE PLUG WITH SOCKET CONTACTS

Stock No.	Type	Contacts	1-24	25-49	50-99	100-249
38F1421	91-T-3206	2	.48	.43	.41	.39
38F1422	91-T-3266	3	.50	.46	.43	.41
38F1423	91-T-3306	4	.53	.48	.45	.43
38F1424	91-T-3366	5	.55	.50	.48	.43
38F1425	91-T-3406	6	.60	.55	.52	.49

PANEL RECEPTACLE WITH SOCKET CONTACTS

Stock No.	Type	Contacts	1-24	25-49	50-99	100-249
38F1426	91-T-3208	2	.45	.41	.39	.37
38F1427	91-T-3268	3	.48	.43	.41	.39
38F1428	91-T-3308	4	.53	.49	.45	.43
38F1429	91-T-3368	5	.55	.50	.48	.45
38F1430	91-T-3408	6	.53	.48	.45	.43

MICROPHONE CONNECTORS



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"QUIK-MIKE" MICROPHONE CONNECTORS

Figs. N & P. Body is high grade zinc alloy. Gold plated contacts for easy soldering. Nickel finish insures resistance to corrosion. M—Male; F—Female. Shpg. wt. 5 oz.

Stk. No.	Type	Con.	Desc.	1-49	50-99	100-249	250-499	500-999
39F151	91-853	3M	Plug	1.89	1.62	1.41	1.24	1.12
39F152	91-854	3F	Jack	2.15	2.16	1.89	1.65	1.49
39F153	91-855	3M	Recpt.	1.47	1.26	1.10	.96	.87
39F154	91-856	3F	Recpt.	3.48	2.99	2.61	2.29	2.07
39F155	91-857	4M	Plug	2.02	1.74	1.52	1.33	1.20
39F156	91-858	4F	Jack	2.85	2.45	2.14	1.87	1.69
39F157	91-859	4M	Recpt.	1.59	1.37	1.20	1.05	.95
39F158	91-860	4F	Recpt.	3.75	3.22	2.81	2.46	2.23

SERIES 75 SINGLE BUTTON CONTACT

Flat button contact means no pins to bend. Straight plug may be converted to jack by removing coupling ring. Phono plug adapter. 75 MCIP screws into plug. Av. shpg. wt., 3 oz.

Stk. No.	Type	Fg.	Con.	Desc.	1-49	50-99	100-249	250-499	500-999
39F000	75-MC1F	A	1	Plug	.70	.60	.53	.46	.42
39F001	75-MC1M	B	1	Jack	.48	.42	.36	.32	.29
39F002	75-PC1M	C	1	Receptacle	.53	.46	.40	.35	.32
39F003	75-MC1P	D	1	Phone Plug Adapter	.68	.58	.51	.45	.40
39F004	75-MC1FA	E	1	90° Plug	1.63	1.40	1.22	1.07	.97
39F005	75-CL-PC1M	F	1	Receptacle Shorting	.68	.58	.51	.44	.40
39F1280	75-CCC1	...	...	Cap Chain	.47	.40	.35	.31	.28

SERIES 75 MINIATURE MICROPHONE CONNECTORS

Have same rugged characteristics of standard 75 series mike connectors. Female is 1 1/64" long, male is 1" longer, chassis is 5/8" long. Threads are 3/8-32, all parts machined brass nickel plated. Coupling ring removable for versatility. Accepts maximum cable OD of .208 inches. Wt., 3 oz.

Stk. No.	Type	Desc.	Fig.	1-49	50-99	100-249	250-499	500-999
39F094	75-1	Str. Plug	R	.76	.65	.57	.50	.45
39F095	75-2	Cbl. Jack	S	.50	.43	.37	.33	.29
39F096	75-3	Recep.	T	.53	.45	.40	.35	.31

SERIES 80 ONE PIN CONTACT

Stk. No.	Type	Fg.	Con.	Desc.	1-49	50-99	100-249	250-499	500-999
39F006	80-F	G	1F	Jack	.77	.67	.58	.51	.46
39F007	80-M	H	1M	Plug	.76	.65	.57	.50	.45
39F008	80-C	J	1F	Recpt.	.60	.52	.45	.40	.36

SERIES 80 TWO PIN CONTACT

39F009	80-MC2F	G	2F	Jack	.85	.73	.64	.56	.50
39F1284	80-MC2F1	..	2F	Plug	.85	.73	.64	.56	.50
39F010	80-MC2M	H	2M	Plug	.80	.68	.60	.52	.47
39F1285	80-MC2M1	..	2M	Jack	.80	.68	.60	.52	.47
39F011	80-PC2F	J	2F	Recpt.	.68	.58	.51	.44	.40
39F1286	80-PC2M	..	2M	Recpt.	.66	.56	.49	.43	.39

SERIES 91 THREE PIN CONTACT

39F012	91-MC3F	K	3F	Jack	1.13	.97	.85	.74	.67
39F1287	91-MC3F1	K	3F	Plug	1.18	1.05	.88	.77	.70
39F013	91-MC3M	L	3M	Plug	1.11	.95	.83	.73	.66
39F1288	91-MC3M1	L	3M	Jack	1.06	.91	.79	.70	.63
39F014	91-PC3F	M	3F	Recpt.	.80	.69	.60	.52	.47
39F1289	91-PC3M	...	3M	Recpt.	.72	.62	.54	.47	.43

SERIES 91 FOUR PIN CONTACT

39F015	91-MC4F	K	4F	Jack	1.17	1.00	.88	.77	.69
39F1290	91-MC4F1	..	4F	Plug	1.23	1.05	.92	.80	.73
39F016	91-MC4M	L	4M	Plug	1.16	.99	.87	.76	.69
39F1291	91-MC4M1	..	4M	Jack	1.11	.96	.83	.73	.66
39F017	91-PC4F	M	4F	Recpt.	.82	.71	.62	.54	.49
39F1292	91-PC4M	..	4M	Recpt.	.80	.68	.59	.53	.47

MIL/AMPHENOL RF CROSS REFERENCE

MIL No.	Amphenol No.	Page	MIL No.	Amphenol No.	Page
CW-123/U	31-006	338	UG-260A/U	31-021	338
CW-123A/U	31-026	338	UG-260B/U	31-212	338
CW-155/U	31-007	338	UG-260B/U	31-304	338
CW-155A/U	31-027	338	UG-261/U	31-015	338
CW-159/U	31-017	338	UG-261B/U	31-215	338
CW-282/U	31-210	338	UG-262B/U	31-211	338
M-358	83-1T	339	UG-273/U	31-028	341
M-359A	83-58	339	UG-274/U	31-008	338
MX-913/U	82-106	339	UG-274A/U	31-208	338
MX-1684/U	1025	341	UG-274B/U	31-2208	338
MX-1801/U	4025	341	UG-290/U	31-003	338
PL-258	83-1J	339	UG-290A/U	31-203	338
PL-259	83-1SP	339	UG-291/U	31-001	338
PL-259A	83-1SPN	339	UG-291B/U	31-201	338
PL-275	83-22F	339	UG-291B/U	31-300	338
PL-295	83-2SP	339	UG-306/U	31-009	338
SO-239	83-1R	339	UG-306A/U	31-209	338
SO-239	83-1RTY	339	UG-318/U	26700	341
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UG-21D/U	82-202	339	UG-363/U	83-1F	339
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UG-23C/U	82-94	339	UG-422/U	.....	341
UG-23D/U	82-209	339	UG-447/U	31-817	338
UG-27A/U	82-64	339	UG-491A/U	31-218	338
UG-27B/U	82-98	339	UG-492A/U	31-220	338
UG-27C/U	82-213	339	UG-492D/U	31-3220	338
UG-28A/U	82-99	339	UG-496/U	82-92	340
UG-29B/U	82-101	339	UG-535/U	5675	338
UG-30/U	82-66	339	UG-536/U	34000	339
UG-30C/U	82-201	339	UG-536B/U	34025	339
UG-30D/U	91-100	339	UG-560/U	82-805	340
UG-57B/U	82-100	339	UG-564/U	82-508	340,341
UG-58/U	82-24	339	UG-565A/U	82-540	341
UG-58A/U	82-97	339	UG-568/U	82-504	340
UG-59A/U	82-38	340	UG-573A/U	82-530	340
UG-59B/U	82-804	340	UG-625/U	5575	338
UG-85/U	82-21	341	UG-625B/U	31-236	338
UG-87/U	82-42	341	UG-628A/U	82-532	340
UG-88/U	31-002	338	UG-632/U	82-521	340
UG-88B/U	31-018	338	UG-634/U	82-515	340
UG-88C/U	31-202	338	UG-643/U	82-514	340
UG-88C/U	31-301	338	UG-646/U	83-1AP	339
UG-89/U	31-005	338	UG-657/U	31-102	338
UG-89A/U	31-019	338	UG-680/U	82-811	339
UG-89B/U	31-205	338	UG-709A/U	82-534	340
UG-89B/U	31-302	338	UG-710A/U	82-531	340
UG-90/U	1300	338	UG-909/U	31-206	338
UG-94A/U	82-84	339	UG-910/U	31-207	338
UG-95A/U	82-89	339	UG-912/U	31-238	338
UG-102/U	83-22SP	339	UG-913/U	31-204	338
UG-103/U	83-22R	339	UG-914/U	31-219	338
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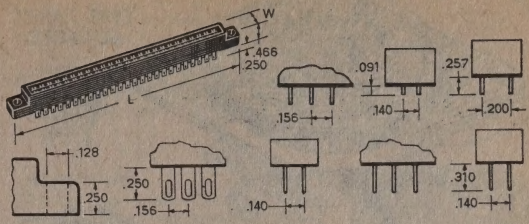
UG-176/U	83-168	339	UG-1094A/U	31-2221	338
UG-177/U	83-765	339	UG-1098/U	31-222	338
UG-185/U	4500	338	UG-1185/U	82-312	341
UG-201/U	31-830	341	UG-1186/U	82-313	341
UG-201A/U	31-216	341	UG-1212/U	82-320	341
UG-203/U	83-776	339	45000	.....	341
UG-204A/U	82-105	339	46000	.....	341
UG-254A/U	31-016	338	48850	.....	341
UG-255/U	2900	341	49190	83-822	339
UG-260/U	31-012	338	49195	83-756	339

225 SERIES PC CONNECTORS



Connectors with short dip solder tails on .140" row spacing and dip solder tails with .200 row spacing terminations consist of the same economical materials and array of sizes (6 thru 43 positions) as the 225 Series solder eyelet connectors.

Specifications: Operating voltage 600 VAC (RMS) at sea level; 150 VAC (RMS) at 70,000 ft. 5 amp current rating. Dielectric material is electrical grade black phenolic. Insulation resistance 5,000 megohms min. Copper alloy contacts with .000020" gold over copper. 30mV max. contact resistance at rated current. Board thickness .054" to .071".

SOLDER EYELET TERMINATION

Stk. No.	Type	No. Cont.	1-49	50-99	100-249	250-499	500-999
39F2350	225-20621-401(117)	6 or 12	1.31	1.10	.92	.82	.75
39F2351	225-21021-401(117)	10 or 20	1.73	1.44	1.21	1.08	.99
39F2352	225-21521-401(117)	15 or 30	2.06	1.72	1.45	1.29	1.18
39F2353	225-21821-401(117)	18 or 36	2.39	2.00	1.68	1.50	1.37
39F2354	225-22221-401(117)	22 or 44	2.58	2.16	1.81	1.61	1.48
39F2355	225-22821-401(117)	28 or 56	3.95	3.31	2.77	2.47	2.26
39F2356	225-23621-401(117)	36 or 72	4.60	3.85	3.23	2.87	2.63
39F2357	225-24321-401(117)	43 or 86	5.28	4.42	3.71	3.30	3.02

DIP SOLDER TERMINATION

39F2358	225-20621-404(117)	6 or 12	1.31	1.10	.92	.82	.75
39F2359	225-21021-404(117)	10 or 20	1.73	1.44	1.21	1.08	.99
39F2360	225-21521-404(117)	15 or 30	2.06	1.72	1.45	1.29	1.18
39F2361	225-21821-404(117)	18 or 36	2.39	2.00	1.68	1.50	1.37
39F2362	225-22221-404(117)	22 or 44	2.58	2.16	1.81	1.61	1.48
39F2363	225-22821-404(117)	28 or 56	3.95	3.31	2.77	2.47	2.26
39F2364	225-23621-404(117)	36 or 72	4.60	3.85	3.23	2.87	2.63
39F2365	225-24321-404(117)	43 or 86	5.28	4.42	3.71	3.30	3.02

SHORT DIP SOLDER TERMINATION

39F2382	225-20621-410(117)	6 or 12	1.31	1.10	.92	.82	.75
39F2383	225-21021-410(117)	10 or 20	1.73	1.44	1.21	1.08	.99
39F2384	225-21521-410(117)	15 or 30	2.06	1.72	1.45	1.29	1.18
39F2385	225-21821-410(117)	18 or 36	2.39	2.00	1.68	1.50	1.37
39F2386	225-22221-410(117)	22 or 44	2.58	2.16	1.81	1.61	1.48
39F2387	225-22821-410(117)	28 or 56	3.95	3.31	2.77	2.47	2.26
39F2388	225-23621-410(117)	36 or 72	4.60	3.85	3.23	2.87	2.63
39F2389	225-24321-410(117)	43 or 86	5.28	4.42	3.71	3.30	3.02

DIP SOLDER ON .200 ROW SPACING

39F2390	225-20621-407(117)	6 or 12	1.31	1.10	.92	.82	.75
39F2391	225-21021-407(117)	10 or 20	1.73	1.44	1.21	1.08	.99
39F2392	225-21521-407(117)	15 or 30	2.06	1.72	1.45	1.29	1.18
39F2393	225-21821-407(117)	18 or 36	2.39	2.00	1.68	1.50	1.37
39F2394	225-22221-407(117)	22 or 44	2.58	2.16	1.81	1.61	1.48
39F2395	225-22821-407(117)	28 or 56	3.95	3.31	2.77	2.47	2.26
39F2396	225-23621-407(117)	36 or 72	4.60	3.85	3.23	2.87	2.63
39F2397	225-24321-407(117)	43 or 86	5.28	4.42	3.71	3.30	3.02

SOLDER EYELET TERMINATION

39F1482	225-20621-101	6 or 12	1.64	1.37	1.15	1.03	.94
39F1485	225-21021-101	10 or 20	2.16	1.81	1.52	1.35	1.24
39F1488	225-21521-101	15 or 30	2.58	2.16	1.81	1.61	1.48
39F1491	225-21821-101	18 or 36	2.87	2.40	2.01	1.79	1.64
39F1494	225-22221-101	22 or 44	3.47	2.91	2.44	2.17	1.99
39F1497	225-22821-101	28 or 56	4.87	4.07	3.42	3.04	2.78
42F325	225-23621-101	36 or 72	6.36	5.32	4.47	3.98	3.64
42F326	225-24321-101	43 or 86	7.07	5.92	4.96	4.42	4.05

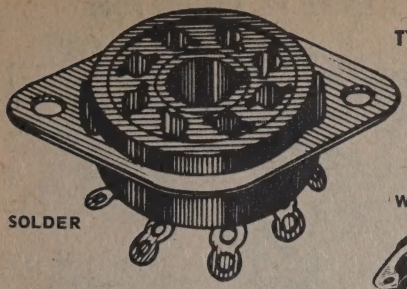
LONG DIP SOLDER TERMINATION

39F1483	225-20621-103	6 or 12	1.64	1.37	1.15	1.03	.94
39F1486	225-21021-103	10 or 20	2.16	1.81	1.52	1.35	1.24
39F1489	225-21521-103	15 or 30	2.58	2.16	1.81	1.61	1.48
39F1492	225-21821-103	18 or 36	2.87	2.40	2.01	1.79	1.64
39F1495	225-22221-103	22 or 44	3.47	2.91	2.44	2.17	1.99
39F1498	225-22821-103	28 or 56	4.87	4.07	3.42	3.04	2.78
42F327	225-23621-103	36 or 72	6.36	5.32	4.47	3.98	3.64
42F328	225-24321-103	43 or 86	7.07	5.92	4.96	4.42	4.05

SOLDER EYELET TERMINATION
MILITARY STYLE, SPEC. MIL-C-21097

Stk. No.	Type	M21097/	No. Cont.	1-49	50-99	100-249	250-499	500-999
42F329	225-20621-201	1-019	6 or 12	1.77	1.48	1.24	1.11	1.01
42F330	225-21021-201	1-055	10 or 20	2.37	1.98	1.66	1.48	1.36
42F331	225-21521-201	1-091	15 or 30	2.89	2.42	2.03	1.81	1.65
42F332	225-21821-201	1-127	18 or 36	3.24	2.71	2.28	2.03	1.86
42F333	225-22221-201	1-163	22 or 44	3.93	3.29	2.76	2.46	2.25
42F334	225-22821-201	1-199	28 or 56	5.45	4.56	3.83	3.41	3.12
42F335	225-23621-201	1-235	36 or 72	7.11	5.95	4.99	4.45	4.07
42F336	225-24321-201	1-271	43 or 86	7.97	6.66	5.59	4.98	4.56

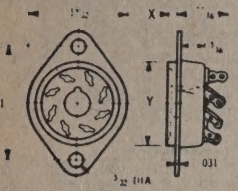
BUNKER RAMO AMPHENOL Industrial Tube & Relay Sockets



TYPE "MIP" SOCKETS

WIRE WRAP

PRINTED CIRCUIT



X=3/32 on MIP-4-5-6-7S + 7L
X=.145 on MIP-8-9-11-12
Y=17/64 on MIP-4-5-6-7S
Y=1 13/64 on MIP 7L-20
Y=1 9/64 on MIP-11-12

High dielectric bakelite body with molded in steel plate except (†) Mica-filled phenolic socket. *Requires 1 3/16" hole for mounting. All others mount in 1 5/32" hole. Shpg. wt., 2 oz.

SOLDER TYPES

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F840	77MIP4	4	.26	.22	.195	.151	.135
42F822	†77MIP4T	4	.29	.24	.216	.167	.149
38F841	77MIP5	5	.29	.24	.218	.166	.147
38F842	77MIP6	6	.31	.26	.235	.182	.163
38F843	77MIP7S	7S	.34	.28	.252	.195	.174
38F845	77MIP8	Octal	.26	.22	.196	.152	.136
38F846	*88-8	Octal	.29	.24	.220	.170	.150
38F847	*88-8X	Loktal	.44	.37	.330	.254	.226
38F848	77MIP9	9	.30	.25	.226	.175	.156
38F849	77MIP11	11	.31	.26	.232	.180	.160
39F1244	†77MIP11T	11	.40	.34	.302	.233	.207
38F850	77MIP12	12	.36	.30	.269	.208	.185
39F149	77MIP20	20	.70	.59	.527	.410	.363

PRINTED CIRCUIT TYPES

Stock No.	Type	Prongs	1-49	50-249	250-499	500-999	1000-2499
42F825	77M1P8W-0125	8	.35	.29	.264	.205	.182
42F826	77M1P9W-0125	9	.40	.33	.295	.228	.205
42F827	77M1P11W-0125	11	.42	.36	.317	.246	.219

WIRE WRAP TYPES

42F828	77M1P8W-0500	8	.39	.33	.295	.228	.203
42F829	77M1P9W-0500	9	.44	.37	.327	.253	.225
42F830	77M1P11W-0500	11	.49	.41	.367	.285	.253

TYPE 147 & 59 MINIATURE SOCKETS

A

B

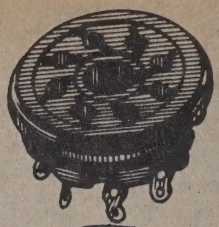
147 series mount in 5/8" chassis hole and have 7/8" mounting centers with 1/8" screw holes. 59 series mount in 3/4" chassis hole and have 1 1/8" mounting centers with .095" rivet holes. All are Bottom-Mounting Type-Fig. A except those with *, which are Top-Mounting Type-Fig. B. (Tube Shield Base included) Shpg. wt. 2 oz.

Stock No.	Type	Insul.	Pins	1-49	50-99	100-249	250-999	1000-2499
38F870	147-500	Bakelite	7	.41	.34	.305	.237	.211
38F872	147-505	Mica	7	.42	.35	.316	.245	.218
38F875	*147-905	Bakelite	7	.50	.41	.371	.288	.257
38F877	*147-913	Mica	7	.49	.41	.371	.287	.255
38F873	59-409	Bakelite	9	.44	.37	.333	.257	.230
38F874	59-410	Mica	9	.46	.38	.343	.267	.240

MINIATURE RETAINER RING SOCKETS

For installation in compact electronic equipment. Black molded bakelite bodies. Mount in 5/8" round or "D" shaped hole with ring provided. Wt., 2 oz.

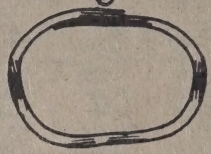
Stk. No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F825	78-S3S	3	.16	.13	.119	.092	.082
38F826	78-S4S	4	.24	.20	.180	.140	.124
38F827	78-S5S	5	.25	.21	.189	.146	.130
38F828	78-S6S	6	.26	.22	.192	.149	.132

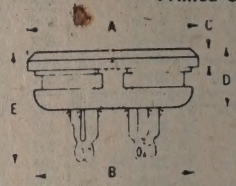


TYPE "S" SOCKETS

Wire Wrap

Printed Circuit





Sockets	A	B	C	D	E
78-S4,—S5,—S6,—S7S	1 1/4	1 5/32	.135	.420	Approx. 27/32
78—S8,—S9,—S11,—S12,—S16,—A7P,—A9P,—B	1 1/4	1 5/32	.145	.490	Approx. 7/8
78—S8L	1 1/4	1 5/32	3/32	2 3/64	9/16

Retainer ring sockets. For easy assembly to chassis or panel from 19 gauge (.044") to 16 gauge (.062") with tempered steel retainer ring. Black phenolic except (*) micafilled phenolic. Rotation feature permits lining up contacts. All mount in 1 11/64" to 1 7/32" hole. With retainer. Wt., 2 oz.

SOLDER TERMINALS

Stk. No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F810	78S4	4	.27	.22	.200	.155	.138
38F811	78S5	5	.29	.24	.213	.166	.147
38F812	78S6	6	.31	.26	.234	.182	.162
38F816	78S8	Octal	.25	.21	.188	.144	.130
39F1045	78S8T*	8	.31	.26	.234	.182	.162
38F817	78S9	9	.28	.24	.213	.165	.146
38F821	78-S11	11	.33	.27	.235	.190	.169
39F1046	78S11T*	11	.40	.33	.299	.231	.206

PRINTED CIRCUIT TYPES

Stk. No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
42F814	78S8W-0125	8	.31	.26	.234	.181	.161
42F815	78S9W-0125	9	.34	.28	.253	.196	.174
42F816	78S11W-0125	11	.34	.29	.26	.20	.183

WIRE WRAP TYPES

42F819	78S8W-0500	8	.36	.30	.268	.208	.185
42F820	78S9W-0500	9	.38	.32	.287	.224	.198
42F821	78S11W-0500	11	.39	.33	.293	.227	.226

TYPE RSS STEATITE SOCKETS

Low-Loss steatite for high frequency transmitters, amplifiers and power supplies. Ideal for use in high temperatures. Mtg. hole, 1 3/16". Universal removable mounting plate with slotted holes. Shpg. wt. 3 oz.

Stock No.	Type	Prongs	1-49	50-99	100-249	250-999	1000-2499
38F860	49RSS4	4	.95	.80	.71	.551	.493
38F865	49RSS8	Octal	1.05	.87	.78	.605	.541

RELAY SOCKETS

146-817

146-103, 146-104

Type 146-817. 11 contact socket with 4 molded-in threaded inserts. 600 VRMS. 10 Amps. Type 146-103. 8 contact standard socket without tie point inserts top mounted. Molded in one piece of Melamine. Removable contacts. 1250 V. RMS, 5 amps.

Type 146-104. 8 contact socket with 4 molded-in treaded inserts for tie points. Top mounted. Molded in one piece of Melamine. Removable contacts.

Type 146-203. Same as 146-103 above except bottom mounted.

Type 146-204. Same as 146-104 above except bottom mounted.

Stk. No.	Type	Wt.	1-49	50-99	100-249	250-999	1000-2500
38F930	146-103	8 oz.	1.64	1.45	1.27	.94	.86
38F931	146-104	8 oz.	2.04	1.71	1.53	1.18	1.06
38F933	146-203	8 oz.	1.64	1.45	1.27	.94	.86
38F934	146-204	8 oz.	2.04	1.71	1.53	1.18	1.06
39F1247	146-817	10 oz.	3.53	2.95	2.65	2.00	1.83

12

Connectors, Receptacles & Plugs

BUNKER RAMO AMPHENOL

MINIATURE CABLE CONNECTORS

For cables up to six conductors. Bakelite elements are housed in cadmium plated brass shells. Plugs are 1 3/16" long. Chassis units mount on 1 1/4" centers. Suffix "L" in Type—long (1 3/16") "S" short (13/16").

Stk. No.	Type	Fig.	Cont.	1-49	50-99	100-249	250-499	500-999
39F080	91-MPF3L	E	3	.561	.484	.418	.374	.33
39F3000	91-MPF3S	E	3	.54	.464	.399	.356	.324
39F082	91-MPM3L	F	3	.462	.396	.352	.308	.275
39F3001	91-MPM3S	F	3	.453	.388	.345	.302	.27
39F081	91-MPF4L	E	4	.55	.47	.41	.36	.33
39F3002	91-MPF4S	E	4	.572	.496	.432	.328	.345
39F083	91-MPM4L	F	4	.507	.442	.328	.334	.302
39F084	91-MPM5L	F	5	.539	.462	.396	.352	.319
39F3003	91-MPM4S	F	4	.517	.451	.385	.341	.308
39F085	91-MPM6L	F	6	.552	.472	.414	.357	.322

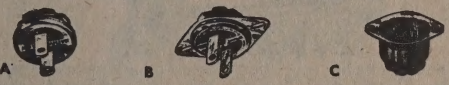
Stk. No.	Type	Fig.	Pins	1-49	50-99	100-249	250-999	1000-2499
39F090	78-PCG3	G	3	,50	.41	.37	.286	.255
39F091	78-PCG4	G	4	.59	.50	.444	.344	.306
39F092	78-PCG5	G	5	.62	.52	.465	.361	.320
39F093	78-PCG6	G	6	.63	.53	.473	.366	.326

RECTANGULAR PLUGS AND SOCKETS

Molded of black bakelite with molded-in-mounting plate. Type70-26 is plug; 77-26 is a socket. Wt., 3 oz.

Stk. No.	Type	Pins	1-49	50-99	100-249	250-999	1000-2499
39F165	70-26	4	.21	.17	.154	.12	.107
39F166	77-26	4	.33	.27	.245	.19	.19

RECEPTACLES AND PLUGS



Mount on or below panels, or with cable terminals. Rates 110 volts, 15 amps or 250 volts, 10 amps. Bakelite insulation. Retainer ring types require 1 11/64" hole. Mounting plate types require 1 9/32" hole & mounting centers, slotted 1 1/2" to 1 5/8"; recessed shell types require 1 3/8" hole with mounting centers, 1 3/4". Two pole female receptacles take standard or polarized plugs. Fig. A with retainer ring. Fig. B with removable mounting plate. Fig. C with recessed shell. U.L. Approved. Av. shpg. wt. 3 oz.

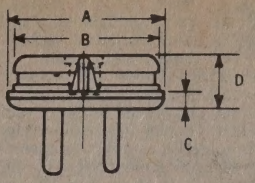
Stk. No.	Type	Poles	Descrip.	Fig.	1-49	50-99	100-249	250-499	500-999
39F100	61-F	2	Fem. univ.	A	.42	.36	.31	.27	.25
39F101	60-F	3	Fem. Pol.	A	.48	.41	.36	.32	.29
39F102	61-M	2	Male Std.	A	.46	.39	.34	.30	.27
39F104	60-M	3	Male Pol.	A	.58	.50	.44	.38	.35
39F105	61-F1	2	Fem. univ.	B	.49	.42	.37	.32	.29
39F106	60-F1	3	Fem. Pol.	B	.56	.48	.42	.37	.33
39F109	60-M1	3	Male Pol.	B	.66	.57	.50	.43	.39
39F110	61-F10	2	Fem. Univ.	C	.62	.53	.46	.40	.37
39F111	61-M10	2	Male Std.	C	.65	.56	.49	.43	.39
39F116 Type 61-MIP-61F. Molded in plate receptacle. Takes 2 pole plug.					.45	.39	.34	.30	.27

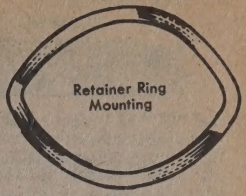
2-POLE GROUNDING TYPE RECEPTACLES AND PLUGS

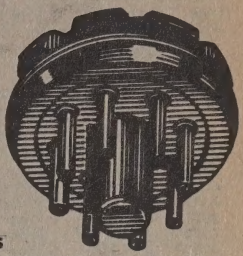
Rated 15 amps, 110 volts. Mtg. Ctr. A mount in 1 9/32" dia. center hole and two 9/32" holes on 1 1/2" to 1 55/64" centers. Mtg. Ctr. B. mount in 1 7/16" hole; two 9/32" screw holes on 1 3/4" centers. Mtg. Ctr. C. 7/16" I.D. grommet or clamp to 3/4" O.D. Mtg. Ctr. D meets MIL-M-14F req. Mount in 1 11/64" keyed hole. Wt. 3 oz. *w/Grommet. †w/Clamp.

Stk. No.	Type	Description	Mtg. Ctr.	1-49	50-99	100-249	250-499	500-999
39F1230	160-2-N	Fem. MIP	A	1.10	.95	.82	.723	.658
39F1231	160-3-N	Male MIP	A	1.41	1.21	1.06	.92	.84
39F1232	160-4-N	Fem. Flush Mtr.	B	1.28	1.10	.961	.842	.766
39F1233	160-5-N	Male Flush Mtr.	B	1.56	1.34	1.17	1.03	.93
39F1234	*160-6-N	Fem. Shl'd	C	1.15	.993	.874	.756	.691
39F1235	*160-7-N	Male Shl'd	C	1.45	1.25	1.09	.95	.864
39F1236	†160-8-N	Fem. Shl'd	C	1.23	1.05	.928	.81	.734
39F1237	†160-9-N	Male Shl'd	C	1.43	1.22	1.06	.93	.84
39F1238	160-10-N	Fem. Insert	D	1.02	.885	.766	.68	.615
39F1239	160-11-N	Male Insert	D	1.14	.98	.85	.75	.68

TYPE "CP" PLUGS







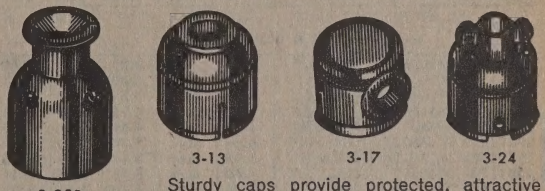
Can be assembled in any one of the plug caps or receptacle shells. Ideal for use as chassis connectors, with plug-in units. Plugs with 4, 5, 6 and 7 contacts do not have center guide post. Current rating is 5 amps except (†3) amps. (*) Mica filled phenolic. Molded-in contacts are nickel plated brass. Size: 1 3/4x13/16". Wt. 2 oz.

DIMENSIONS

Part No.	A	B	C	D
86-CP4, -CP5, -CP6, -CP7S	1 1/4	1 5/32	5/32	7/16
86-CP8, -CP9, -CP11, -CP12	1 1/4	1 5/32	.145	7/16

Stk. No.	Type	Contacts	1-49	50-99	100-249	250-999	1000-2499
42F030	86-CP4	4	.318	.266	.238	.184	.164
42F031	86-CP5	5	.321	.27	.24	.186	.166
42F032	86-CP6	6	.344	.288	.258	.199	.177
42F033	86-CP7S	7 small	.38	.316	.283	.22	.161
42F034	86-CP8	8 octal	.347	.291	.26	.201	.179
42F035	86-CP8T*	8	.376	.315	.283	.219	.194
42F036	86-CP9	9	.356	.298	.266	.208	.183
42F037	86-CP11	11	.363	.304	.273	.211	.187
42F038	86-CP12†	12	.374	.313	.28	.217	.189

CAPS AND CABLE CLAMPS



Sturdy caps provide protected, attractive cable terminations when assembled with retainer type plugs and sockets. May be used with all grooved connectors. Steel caps are intended only as a protective housing and are not to be used in applications requiring frequent mating and unmating of connectors. For cable to cable or cable to panel applications, use molded thermo-plastic caps which have a strain relief grip, 3-858. Avg. shpg. wt. 2 oz

Stk. No.	Type	Description	1-49	50-99	100-249	250-999	1000-2499
42F017	3-13	Cap. with end grommet	.17	.15	.124	.094	.085
42F018	3-17	Cap. with side grommet	.24	.22	.19	.14	.128
42F019	3-24	Cap. with cable clamp	.28	.25	.213	.161	.146
39F150	79-CC4	Cable Clamp	.15	.13	.117	.09	.08
38F1400	3-858	Thermoplastic, end outlet	.30	.26	.23	.17	.15

STEEL MOUNTING SHELLS

Type 23-1S extends 13/16" above or below chassis. Mounts in 1 3/4" hole. 3 notch holes for #6 screws. Type 61-61 recesses 1 3/16" only. Mounts in 1 7/16" hole. Two 9/32" screw holes on 1 3/4" center. Shpg. wt. 5 oz.

Stock No.	Type	1-49	50-99	100-249	250-999	1000-2499
39F1242	23-15	.26	.22	.195	.155	.14
39F1243	61-61	.14	.12	.11	.10	.09

12

Subminiature "D" Connectors

SUBMINIATURE "D" CONNECTORS

Have pin and socket insert, gold-plated copper alloy contacts, cadmium-plated steel shells. Original "D" has 2 piece nylon insert. Mark I Golden "D"; monoblock with diallylphthalate glass fiber insulation. Meets MIL-M-14F Type SDG. Insul. res., over 5000 megohms, per MIL-STD-202A, method 302. Mark II Golden "D" are snap-in crimp type in monoblock insulator. Contacts snap-in to eliminate soldering and reduce assembly time. Takes stranded wire of up to #20 AWG. Meet MIL-STD-202A. *Digits indicate number of contacts. "F" in Mfr's Type No., indicates floating mfg. Suffix "P", male connector; "S", female. Shpg. wt., 2 oz.

ORIGINAL "D"

Stock No.	Type*	Flange Size	1-9	10-49	50-99	100-249	250-499
43F200	DE-9P	1 13/64 x 3/4"	1.28	1.15	.98	.77	.71
43F201	DE-9S	1 13/64 x 3/4"	1.84	1.65	1.38	1.10	1.01
43F202	DA-15P	1 17/32 x 3/4"	1.81	1.63	1.37	1.09	1.00
43F203	DA-15S	1 17/32 x 3/4"	2.68	2.42	2.01	1.60	1.47
29F1150	DAF-15P	1 17/32 x 3/4"	2.58	2.32	1.93	1.53	1.41
43F204	DAF-15S	1 17/32 x 3/4"	3.44	3.09	2.59	2.08	1.90
43F205	DB-25P	2 5/64 x 3/4"	2.63	2.36	1.97	1.57	1.44
43F206	DB-25S	2 5/64 x 3/4"	4.11	3.70	3.08	2.47	2.26
29F1151	DBF-25P	2 5/64 x 3/4"	3.46	3.11	2.61	2.09	1.91
43F207	DBF-25S	2 5/64 x 3/4"	4.94	4.46	3.71	2.98	2.72
43F208	DC-37P	2 23/32 x 3/4"	3.57	3.21	2.67	2.15	1.97
43F209	DC-37S	2 23/32 x 3/4"	5.83	5.24	4.37	3.49	3.21
43F210	DD-50P	2 5/8 x 3/4"	4.66	4.18	3.48	2.80	2.56
43F211	DD-50S	2 5/8 x 3/4"	7.68	6.91	5.77	4.59	4.22

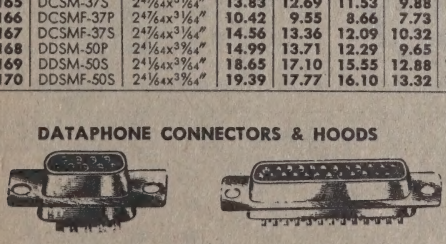
MARK I GOLDEN "D"

43F233	DEM-9P	1 13/64 x 3/4"	2.54	2.29	1.91	1.52	1.39
43F234	DEM-9S	1 13/64 x 3/4"	3.50	3.15	2.64	2.12	1.94
43F235	DAM-15P	1 17/32 x 3/4"	3.67	3.30	2.74	2.19	2.01
43F236	DAM-15S	1 17/32 x 3/4"	5.20	4.69	3.90	3.11	2.86
43F238	DBM-25P	2 5/64 x 3/4"	5.40	4.85	4.06	3.24	2.98
43F233	DBM-25S	2 5/64 x 3/4"	8.01	7.20	6.02	4.80	4.40
43F241	DCM-37P	2 23/32 x 3/4"	7.54	6.78	5.65	4.52	4.14
43F242	DCM-37S	2 23/32 x 3/4"	11.41	10.28	8.56	6.84	6.28
43F243	DDM-50P	2 5/8 x 3/4"	9.76	8.80	7.32	5.87	5.37
43F244	DDM-50S	2 5/8 x 3/4"	14.97	13.47	11.23	8.98	8.23

MARK II GOLDEN "D"

29F1152	DESM-9P	1 7/32 x 3/4"	3.61	3.39	3.01	2.69	2.40
29F1153	DESM-9S	1 7/32 x 3/4"	4.25	3.90	3.55	3.20	2.84
29F1154	DESMF-9P	1 7/32 x 3/4"	4.34	4.06	3.57	3.14	2.81
29F1155	DESMF-9S	1 7/32 x 3/4"	4.99	4.56	4.10	3.65	3.24
29F1156	DASM-15P	1 35/64 x 3/4"	5.49	5.03	4.57	4.12	3.66
29F1157	DASM-15S	1 35/64 x 3/4"	6.66	6.11	5.56	5.00	4.45
29F1158	DASMF-15P	1 35/64 x 3/4"	6.23	5.69	5.14	4.56	4.06
29F1159	14-W-DIP	1 35/64 x 3/4"	7.40	6.78	6.11	5.45	4.84
29F1160	DBSM-25P	2 3/32 x 3/4"	8.34	7.28	6.63	5.61	5.03
29F1161	DBSM-25S	2 3/32 x 3/4"	10.06	9.22	8.39	6.83	6.06
29F1162	DBSMF-25P	2 3/32 x 3/4"	9.07	7.94	7.18	6.06	5.43
29F1163	DBSMF-25S	2 3/32 x 3/4"	10.79	9.89	8.94	7.28	6.46
29F1164	DCSM-37P	2 47/64 x 3/4"	9.69	8.88	8.12	7.28	6.46
29F1165	DCSM-37S	2 47/64 x 3/4"	13.83	12.69	11.53	9.88	9.05
29F1166	DCSMF-37P	2 47/64 x 3/4"	10.42	9.55	8.66	7.73	6.86
29F1167	DCSMF-37S	2 47/64 x 3/4"	14.56	13.36	12.09	10.32	9.46
29F1168	DDSM-50P	2 41/64 x 3/4"	14.99	13.71	12.29	9.65	8.85
29F1169	DDSM-50S	2 41/64 x 3/4"	18.65	17.10	15.55	12.88	11.70
29F1170	DDSMF-50S	2 41/64 x 3/4"	19.39	17.77	16.10	13.32	12.10

DATAPHONE CONNECTORS & HOODS



Dataphone and Subminiature D Connectors designed for applications where space and weight are prime considerations. High contact density connectors especially well suited for aircraft, missile and ground support installations. Designed for rack-and-panel installation but can be adapted for cable attachment by means of accessory junction shells with integral clamps. Dataphone connectors require molded hoods which are listed to the right.

Stock No.	Type	DWG No.	1-9	10-49	50-99	100-249	250-499
43F246	DA-19603-404 15-cont. socket	230-15-61-099	6.54	6.00	5.50	4.91	4.37
43F247	DB-19604-433 25-cont. socket	230-25-61-099	10.25	9.38	8.56	7.68	6.83
43F249	DA-19603-403 15-pin plug	231-15-61-133	2.90	2.72	2.45	2.18	2.10
43F250	DB-19604-432 25-pin plug	231-25-61-125	4.01	3.74	3.36	2.96	2.83

SUBMINIATURE "D" CONNECTORS WIRE WRAP TERMINATION

Designed to meet or exceed most of the requirements of MIL-C-8384, Rev. B. Available in two tail lengths: 3/8" for two wires and 37/64" for three wires. Socket contacts and plug pins are copper alloy gold plated over silver. Insulators are two-piece nylon. Outer shells are yellow chromate finished, cadmium-plated steel. Will intermate with any Sub. "D" of same insert configuration. Adaptable for cable attachment.

PLUGS

Stock No.	Type	Tail Lgth.	1-9	10-49	50-99	100-249	250-499
29F1350	DE-9P-F179	3/8"	2.09	1.69	1.47	1.29	1.23
29F1351	DA-15P-F179	3/8"	2.71	2.15	1.89	1.69	1.59
29F1352	DB-25P-F179	3/8"	4.25	3.39	2.93	2.45	2.33
29F1353	DC-37P-F179	3/8"	5.80	4.61	4.06	3.50	3.31
29F1354	DD-50P-F179	3/8"	6.88	5.49	4.83	4.35	4.11

SOCKETS

Stock No.	Type	Tail Lgth.	1-9	10-49	50-99	100-249	250-499
29F1362	DE-9S-F179	3/8"	3.79	3.02	2.51	2.01	1.84
29F1363	DA-15S-F179	3/8"	5.18	4.13	3.44	2.75	2.52
29F1364	DB-25S-F179	3/8"	6.03	4.84	4.24	3.79	3.55
29F1365	DC-37S-F179	3/8"	8.03	6.44	6.13	5.82	5.51
29F1366	DD-50S-F179	3/8"	10.58	8.46	8.04	7.58	7.07

SUBMINIATURE "D" CONNECTORS—RIGHT ANGLE MOUNT

Male connectors for direct, above board mounting to printed circuit boards up to 1/16" thick. Supplied with .040" nominal diameter pins that extend .093" below the 90° bracket. Meets or exceeds the requirements of MIL-C-24308. Contacts and terminations: brass, gold plated over silver. Insulator: glass filled diallylphthalate. Outer Shell: yellow chromate finished, cadmium plated steel.

Stock	Type	1-9	10-49	50-99	100-249
29F1360	DEM-9P-A	7.49	7.36	6.70	6.03
29F1361	DAM-15P-A	10.63	9.66	8.05	7.32
29F1372	DBM-25P-A	15.92	14.47	13.35	11.83
29F1373	DCM-37P-A	17.51	15.91	14.86	13.79

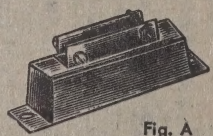


Fig. A

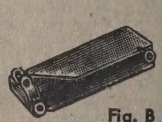


Fig. B

Fig. C

STRAIGHT CLAMP TYPE JUNCTION SHELLS—Fig. A

Stock No.	Type	DWG Number	1-9	10-49	50-99	100-249	250-499
43F212	DA-19678-1	019678-0001	1.12	1.02	.84	.68	.62
43F213	DB-19678-2	019678-0002	1.33	1.19	1.01	.80	.73
43F214	DC-19678-3	019678-0003	1.58	1.43	1.19	.95	.87
43F215	DD-19678-4	019678-0004	1.74	1.56	1.29	1.04	.95

RIGHT ANGLE TYPE JUNCTION SHELLS—Fig. B

43F216	DA-19977-1	019977-0001	1.46	1.31	1.09	.87	.80
43F217	DB-19977-2	019977-0002	1.60	1.45	1.21	.96	.88
43F218	DC-19977-3	019977-0003	1.70	1.52	1.27	1.02	.92
43F219	DD-19977-4	019977-0004	1.84	1.65	1.38	1.10	1.01
43F220	DE-19977-5	019977-0005	1.86	1.68	1.41	1.11	1.02

MOLDED HOODS FOR ABOVE PLUGS OR SOCKETS—Fig. C

Stock No.	Type	DWG No.	1-9	10-49	50-99	100-249	250-499
43F252	DA-51225-1 for 15 cont.	239-13-69-069	1.46	1.31	1.05	.96	.88
43F253	DB-51226-1 for 25 cont.	239-13-99-070	1.61	1.36	1.08	.99	.90

SCREW LOCK ASSEMBLIES *Male †Female

43F230	D20418-2†	020418-0002	.44	.40	.35	.27	.25
43F231	D20419*	020419-0000	.27	.24	.21	.17	.16
43F232	D20420*	020420-0000	.41	.38	.30	.25	.23

12

"300 Series" Plugs and Sockets

TRW CINCH CONNECTORS

AB

FP

CCT-L

CCT-K

RP

CCT

Compact connectors with phosphor-bronze "knife switch" type socket contacts. Black crystal-finished metal caps cover bakelite body. Rated: .730 volts rms at 10 amps. 2-contact types are round all others are rectangular. Shpg. wt., 3 oz.

PLUGS WITH ANGLE BRACKETS

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F200	P-302-AB	2	.35	.27	.24	.20	.19
39F201	P-303-AB	3	.39	.30	.26	.22	.21
39F202	P-304-AB	4	.43	.35	.29	.24	.23
39F203	P-306-AB	6	.53	.43	.37	.28	.27
39F204	P-308-AB	8	.62	.48	.41	.34	.32
39F205	P-310-AB	10	.69	.54	.46	.38	.36
39F206	P-312-AB	12	.78	.63	.50	.41	.39
39F207	P-315-AB	15	1.05	.83	.69	.54	.51
39F208	P-318 AB	18	1.25	1.01	.83	.67	.61
39F209	P-321-AB	21	1.56	1.25	1.05	.83	.80
39F210	P-324-AB	24	1.90	1.52	1.26	1.02	.97
39F211	P-327-AB	27	2.23	1.79	1.49	1.18	1.12
39F212	P-330-AB	30	2.56	2.03	1.69	1.37	1.28
39F213	P-333-AB	33	2.87	2.29	1.91	1.52	1.46

PLUGS WITH FLUSH PLATE

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F240	P-302-FP	2	.59	.45	.39	.30	.29
39F241	P-303-FP	3	.62	.48	.41	.34	.30
39F242	P-304-FP	4	.66	.50	.43	.36	.34
39F243	P-306-FP	6	.76	.62	.50	.40	.39
39F244	P-308-FP	8	.83	.67	.56	.44	.42
39F245	P-310-FP	10	.90	.72	.62	.48	.46
39F246	P-312-FP	12	1.01	.80	.67	.51	.49

PLUGS WITH CABLE CLAMP IN TOP

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F280	P-302-CCT	2	.70	.56	.46	.38	.36
39F281	P-303-CCT	3	.78	.63	.50	.41	.39
39F282	P-304-CCT	4	.82	.66	.54	.43	.41
39F283	P-306-CCT	6	.92	.75	.63	.48	.46
39F284	P-308-CCT	8	1.02	.81	.68	.53	.50
39F285	P-310-CCT	10	1.11	.88	.75	.61	.56
39F286	P-312-CCT	12	1.20	.97	.81	.65	.61
39F287	P-315-CCT	15	1.60	1.28	1.08	.85	.82
39F288	P-318-CCT	18	1.88	1.50	1.25	1.01	.93
39F289	P-321-CCT	21	2.24	1.80	1.50	1.19	1.13
39F290	P-324 CCT	24	2.63	2.10	1.76	1.41	1.33
39F291	P-327-CCT	27	3.01	2.39	2.00	1.60	1.52
39F292	P-330-CCT	30	3.38	2.70	2.26	1.81	1.71
39F293	P-333-CCT	33	3.75	3.00	2.50	2.00	1.90

PLUGS WITH RECESSED PLATE

Stk. No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F260	P-302-RP	2	.66	.51	.44	.36	.35
39F261	P-303-RP	3	.69	.54	.46	.38	.36
39F262	P-304-RP	4	.74	.60	.48	.40	.38
39F263	P-306-RP	6	.85	.68	.53	.44	.43
39F264	P-308-RP	8	.98	.78	.65	.50	.48
39F265	P-310-RP	10	1.22	.86	.72	.60	.54
39F266	P-312-RP	12	1.22	.98	.81	.65	.62

PLUGS—CABLE CLAMP IN TOP WITH LATCHES

Stk. No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
29F859	P-302-CCT-L	2	.87	.70	.60	.46	.44
29F860	P-303-CCT-L	3	.93	.76	.64	.49	.47
29F861	P-304-CCT-L	4	1.01	.80	.67	.51	.49
29F862	P-306-CCT-L	6	1.11	.88	.74	.60	.56
29F863	P-308-CCT-L	8	1.18	.93	.80	.64	.61
29F864	P-310-CCT-L	10	1.28	1.04	.86	.69	.66
29F865	P-312-CCT-L	12	1.37	1.10	.91	.74	.70
29F1028	P-315-CCT-L	15	1.79	1.44	1.19	.93	.90
29F1029	P-318-CCT-L	18	2.04	1.63	1.38	1.09	1.05
29F1030	P-321-CCT-L	21	2.40	1.93	1.61	1.28	1.23
29F1031	P-324-CCT-L	24	2.79	2.24	1.88	1.50	1.42
29F1032	P-327-CCT-L‡	27	3.17	2.55	2.12	1.69	1.61
29F1033	P-330-CCT-L‡	30	3.55	2.85	2.37	1.90	1.81
29F1034	P-333-CCT-L‡	33	3.92	3.13	2.63	2.10	1.98

(‡) Locks are centered on each side, not on each end as shown.

SOCKETS WITH ANGLE BRACKETS

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F220	S-302-AB	2	.37	.29	.25	.21	.17
39F221	S-303-AB	3	.41	.34	.27	.23	.22
39F222	S-304-AB	4	45	.37	.30	.25	.24
39F223	S-306 AB	6	.59	.45	.39	.30	.29
39F224	S-308-AB	8	.69	.55	.46	.38	.36
39F225	S-310-AB	10	.81	.65	.54	.43	.40
39F226	S-312-AB	12	.97	.76	.65	.50	.47
39F227	S-315-AB	15	1.22	.98	.81	.65	.62
39F228	S-318-AB	18	1.40	1.11	.92	.75	.70
39F229	S-321-AB	21	1.72	1.39	1.14	.90	.87
39F230	S-324-AB	24	2.04	1.63	1.38	1.08	1.05
39F231	S-327-AB	27	2.37	1.90	1.58	1.26	1.20
39F232	S-330-AB	30	2.72	2.18	1.82	1.46	1.39
39F233	S-333-AB	33	3.05	2.43	2.02	1.61	1.54

SOCKETS WITH FLUSH PLATE

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F250	S-302-FP	2	.61	.47	.40	.32	.29
39F251	S-303-FP	3	.63	.49	.42	.34	.32
39F252	S-304-FP	4	.68	.53	.45	.37	.35
39F253	S-306-FP	6	.80	.64	.51	.42	.40
39F254	S-308-FP	8	.90	.72	.62	.48	.46
39F255	S-310-FP	10	1.04	.82	.69	.54	.51
39F256	S-312-FP	12	1.17	.92	.79	.64	.61

SOCKETS WITH CABLE CLAMP IN TOP

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F300	S-302-CCT	2	.72	.60	.48	.39	.38
39F301	S-303-CCT	3	.80	.64	.51	.42	.40
39F302	S-304-CCT	4	.84	.68	.56	.44	.43
39F303	S-306-CCT	6	.98	.78	.65	.50	.48
39F304	S-308-CCT	8	1.09	.86	.72	.60	.54
39F305	S-310-CCT	10	1.23	1.00	.82	.66	.63
39F306	S-312-CCT	12	1.40	1.11	.91	.74	.70
39F307	S-315-CCT	15	1.79	1.44	1.19	.93	.90
39F308	S-318-CCT	18	2.02	1.61	1.35	1.08	1.03
39F309	S-321-CCT	21	2.39	1.92	1.60	1.27	1.22
39F310	S-324-CCT	24	2.77	2.23	1.85	1.48	1.41
39F311	S-327-CCT	27	3.14	2.52	2.11	1.68	1.59
39F312	S-330-CCT	30	3.55	2.85	2.37	1.90	1.81
39F313	S-333-CCT	33	3.92	3.13	2.63	2.10	1.98

SOCKETS WITH RECESSED PLATE

Stk. No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
39F270	S-302-RP	2	.69	.54	.45	.37	.36
39F271	S-303-RP	3	.71	.59	.47	.38	.37
39F272	S-304-RP	4	.76	.62	.50	.41	.39
39F273	S-306-RP	6	.87	.70	.60	.46	.44
39F274	S-308-RP	8	1.05	.83	.70	.56	.51
39F275	S-310-RP	10	1.22	.98	.81	.65	.62
39F276	S-312-RP	12	1.40	1.11	.92	.75	.70

SOCKETS—CABLE CLAMP IN TOP WITH KEEPERS

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
29F866	S-302-CCT-K	2	.89	.72	.62	.47	.45
29F867	S-303-CCT-K	3	.98	.78	.65	.50	.46
29F868	S-304-CCT-K	4	1.03	.82	.68	.53	.50
29F869	S-306-CCT-K	6	1.14	.90	.76	.62	.59
29F870	S-308-CCT-K	8	1.26	1.02	.84	.68	.65
29F871	S-310-CCT-K	10	1.41	1.12	.92	.75	.71
29F872	S-312-CCT-K	12	1.56	1.25	1.05	.83	.80
29F1035	S-315-CCT-K	15	1.95	1.56	1.30	1.05	1.00
29F1036	S-318-CCT-K	18	2.21	1.76	1.47	1.17	1.11
29F1037	S-321-CCT-K	21	2.58	2.05	1.72	1.38	1.29
29F1038	S-324-CCT-K	24	2.95	2.36	1.96	1.56	1.50
29F1039	S-327-CCT-K‡	27	3.33	2.66	2.23	1.79	1.68
29F1040	S-330-CCT-K‡	30	3.74	3.00	2.49	1.98	1.90
29F1041	S-333-CCT-K‡	33	4.10	3.28	2.73	2.19	2.07

(‡) Keepers are centered on each side, not on each end as shown.

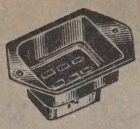
12

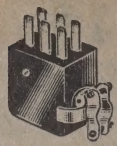
TRW CINCH CONNECTORS "Jones" Plugs and Sockets

P-315-SB

S-315-SB

P-306-DB


S-306-DB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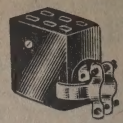

S-306-CCE

P-315-EB

S-315-EB

300 SERIES PLUGS AND SOCKETS

Feature Monoblock construction. Eliminate internal moisture traps. Plugs and sockets are compatible with old two piece types.

PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
28F1092	P-302-DB	2	.84	.68	.56	.44	.43
28F1093	P-303-DB	3	.85	.68	.59	.45	.43
28F1094	P-304-DB	4	.90	.72	.61	.47	.45
28F1095	P-306-DB	6	1.02	.80	.67	.53	.49
28F1096	P-308-DB	8	1.08	.87	.72	.59	.54
28F1097	P-312-DB	12	1.24	1.01	.83	.66	.64
28F1098	P-315-DB	15	1.52	1.22	1.03	.81	.78
28F1099	P-318-DB	18	1.82	1.46	1.22	.99	.91
28F1100	P-321-DB	21	2.18	1.75	1.46	1.16	1.10
28F1101	P-324-DB	24	2.56	2.04	1.71	1.37	1.29
28F1102	P-327-DB	27	2.93	2.34	1.95	1.55	1.49
28F1103	P-330-DB	30	3.29	2.64	2.21	1.76	1.67
28F1104	P-333-DB	33	3.64	2.93	2.44	1.94	1.88

PLUGS WITH SHALLOW BRAGKETS FOR FLUSH MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
28F1105	P-315-SB	15	1.52	1.22	1.03	.81	.78
28F1106	P-318-SB	18	1.82	1.46	1.22	.99	.91
28F1107	P-321-SB	21	2.18	1.75	1.46	1.16	1.10
28F1108	P-324-SB	24	2.56	2.04	1.71	1.37	1.29
28F1109	P-327-SB	27	2.93	2.34	1.95	1.55	1.49
28F1110	P-330-SB	30	3.29	2.64	2.21	1.76	1.67
28F1111	P-333-SB	33	3.64	2.93	2.44	1.94	1.88

PLUGS WITH CABLE CLAMP IN END

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1008	P-306-CCE	6	.98	.79	.66	.50	.48
29F1009	P-308-CCE	8	1.06	.84	.70	.56	.53
29F1010	P-310-CCE	10	1.16	.91	.78	.63	.60
29F1011	P-312-CCE	12	1.25	1.01	.83	.67	.64
29F1012	P-315-CCE	15	1.64	1.31	1.10	.87	.83
29F1013	P-318-CCE	18	1.92	1.53	1.27	1.03	.98
29F1014	P-321-CCE	21	2.56	2.04	1.71	1.35	1.29
29F1015	P-324-CCE	24	2.67	2.14	1.79	1.44	1.39
29F1016	P-327-CCE	27	3.05	2.43	2.03	1.62	1.54
29F1017	P-330-CCE	30	3.43	2.73	2.28	1.83	1.73
29F1018	P-333-CCE	33	3.79	3.03	2.54	2.02	1.92

PLUGS WITH END BRACKETS

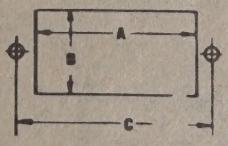
29F1064	P-315-EB	15	1.08	.85	.71	.59	.53
29F1065	P-318-EB	18	1.28	1.04	.85	.68	.66
29F1066	P-321-EB	21	1.60	1.27	1.07	.85	.81
29F1067	P-324-EB	24	1.93	1.54	1.28	1.04	1.00
29F1068	P-327-EB	27	2.26	1.81	1.51	1.20	1.14
29F1069	P-330-EB	30	2.59	2.05	1.72	1.39	1.30
29F1070	P-333-EB	33	2.90	2.32	1.93	1.54	1.47

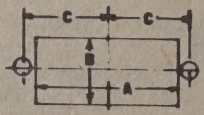
FLUSH PLATE MOUNTING DIMENSIONS

Type	A	B	C
303FP	.953	.566	1.750
304FP	.703	.766	1.750
306FP	.953	.766	1.750
308FP	1.203	.766	2.250
310FP	1.516	.766	2.250
312FP	1.203	1.616	2.250

SHALLOW BRACKET MOUNTING DIMENSIONS

Type	A	B	C
315SB	1.750	1.156	1.063
318SB	2.063	1.156	1.219
321SB	2.375	1.156	1.375
324SB	2.688	1.166	1.531
327SB	3.000	1.156	1.688
330SB	3.313	1.156	1.844
333SB	3.625	1.066	2.000





REPLACEMENT DRIVE PINS FOR 300 SERIES CAP TYPE PLUGS AND SOCKETS

Type 300 Series, 10 and 15 thru 33 contact sizes require 2 pins per unit. Other sizes require one.

Stk. No.	Type	24-49	50-99	100-249	250-499
29F1195	302-R	.09	.08	.067	.053
29F1196	303-R	.09	.08	.067	.053
29F1197	304-R	.09	.08	.067	.053
29F1198	312-R	.09	.08	.067	.053
29F1199	333-R	.09	.08	.067	.053

Formed metal housing with black wrinkle finish. Molded insulator. Phosphor bronze plated contact. Rated voltage 730 volts rms.

SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTINGS

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F873	S-302-DB	2	.86	.70	.60	.46	.44
29F874	S-303-DB	3	.86	.69	.60	.46	.44
29F875	S-304-DB	4	.91	.74	.63	.48	.46
29F876	S-306-DB	6	1.05	.83	.70	.54	.51
29F877	S-308-DB	8	1.16	.91	.78	.63	.59
29F878	S-312-DB	12	1.44	1.13	.97	.76	.72
29F879	S-315-DB	15	1.69	1.37	1.13	.89	.85
29F880	S-318-DB	18	1.96	1.56	1.30	1.06	1.01
29F881	S-321-DB	21	2.34	1.88	1.55	1.24	1.18
29F882	S-324-DB	24	2.71	2.17	1.82	1.46	1.38
29F883	S-327-DB	27	3.08	2.45	2.04	1.63	1.55
29F884	S-330-DB	30	3.47	2.77	2.32	1.85	1.76
29F885	S-333-DB	33	3.82	3.07	2.56	2.03	1.94

SOCKETS WITH SHALLOW BRACKETS FOR FLUSH MOUN TING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F886	S-315-SB	15	1.69	1.37	1.13	.89	1.85
29F887	S-318-SB	18	1.96	1.56	1.30	1.06	1.01
29F888	S-321-SB	21	2.34	1.88	1.55	1.24	1.18
29F889	S-324-SB	24	2.71	2.17	1.82	1.46	1.38
29F890	S-327-SB	27	3.08	2.45	2.04	1.63	1.55
29F891	S-330-SB	30	3.47	2.77	2.32	1.85	1.76
29F892	S-333-SB	33	3.82	3.07	2.56	2.03	1.94

SOCKET WITH CABLE CLAMP IN END

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1019	S-306 CCE	6	1.02	.81	.69	.53	.50
29F1020	S-308-CCE	8	1.13	.89	.76	.62	.59
29F1021	S-310-CCE	10	1.27	1.03	.86	.68	.65
29F1022	S-312-CCE	12	1.44	1.14	.97	.76	.72
29F1023	S-315-CCE	15	1.83	1.47	1.22	.98	.91
29F1024	S-318-CCE	18	2.05	1.64	1.39	1.10	1.05
29F1025	S-321-CCE	21	2.44	1.95	1.62	1.29	1.24
29F1026	S-324-CCE	24	2.81	2.26	1.89	1.50	1.44
29F1027	S-327-CCE	27	3.18	2.56	2.14	1.71	1.61
29F1062	S-330-CCE	30	3.58	2.87	2.39	1.92	1.82
29F1063	S-333-CCE	33	3.96	3.16	2.65	2.12	2.01

SOCKETS WITH END BRACKETS

29F1071	S-315-EB	15	1.24	1.01	.82	.66	.64
29F1072	S-318-EB	18	2.00	1.14	.97	.76	.72
29F1073	S-321-EB	21	1.76	1.41	1.17	.92	.88
29F1074	S-324-EB	24	2.07	1.66	1.40	1.11	1.06
29F1075	S-327-EB	27	2.40	1.93	1.60	1.28	1.22
29F1076	S-330-EB	30	2.76	2.21	1.84	1.48	1.40
29F1077	S-333-EB	33	3.08	2.45	2.04	1.63	1.55

DEEP BRACKET MOUNTING DIMENSIONS

Type	A	B	C
302-312DB	1.375	1.0628	.625
315DB	2.000	1.438	1.188
318DB	2.313	1.438	1.344
321DB	2.625	1.438	1.500
324DB	2.938	1.438	1.656
327DB	3.250	1.438	1.813
330DB	3.562	1.438	1.969
333DB	3.875	1.438	2.125

END BRACKET MOUNTING DIMENSIONS

Type	A	B	C
315EB	1.6411	1.016	2.000
318EB	1.953	1.016	2.313
321EB	2.266	1.016	2.625
324EB	2.578	1.016	2.938
327EB	2.891	1.016	3.250
330EB	3.203	1.016	3.603
333EB	3.516	1.016	3.372

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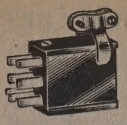
er ... Sockets

TRW
CINCH CONNECTORS

Series 400 plugs and sockets are ... 2,4,6,8,10 and 12 ... bronze knife switch ... engage both sides of ... are of heavy brass ¼" wide x 1/16" thick. Caps are finished in black crystal and equipped with fibre lining. Body of Molded Bakelite. Rated at 1100 RMS volts at 15 amps.

P-406-AB

S-406-AB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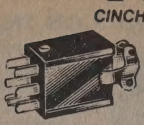
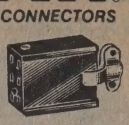
S-406-CCE


P-406-CCT


S-406-CCT

SERIES 400

PLUGS WITH ANGLE BRACKETS

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
39F320	P-402-AB	2	.85	.68	.57	.45	.43
39F321	P-404-AB	4	1.05	.84	.69	.54	.51
39F322	P-406-AB	6	1.23	.98	.83	.66	.63
39F323	P-408-AB	8	1.42	1.13	.93	.75	.71
39F323	P-410-AB	10	1.60	1.28	1.08	.86	.82
39F325	P-412-AB	12	1.80	1.44	1.19	.95	.90

PLUGS WITH CABLE CLAMP ON TOP

39F340	P-402-CCT	2	1.41	1.13	.93	.75	.71
39F341	P-404-CCT	4	1.61	1.29	1.08	.86	.82
39F342	P-406-CCT	6	1.85	1.48	1.24	1.00	.93
39F343	P-408-CCT	8	2.05	1.63	1.37	1.10	1.05
39F344	P-410-CCT	10	2.36	1.89	1.58	1.26	1.19
39F345	P-412-CCT	12	2.58	2.06	1.71	1.38	1.30

PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F514	P-402-DB	2	1.13	.90	.75	.61	.57
29F515	P-404-DB	4	1.38	1.10	.91	.72	.70
29F516	P-406-DB	6	1.61	1.29	1.08	.86	.82
29F517	P-408-DB	8	1.85	1.48	1.24	1.00	.93
29F518	P-410-DB	10	2.10	1.67	1.40	1.12	1.07
29F519	P-412-DB	12	2.34	1.88	1.56	1.24	1.18

PLUGS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

29F1054	P-402-SB	2	1.09	.87	.72	.57	.54
29F1055	P-404-SB	4	1.32	1.07	.88	.70	.67
29F1056	P-406-SB	6	1.56	1.25	1.06	.84	.80
29F1057	P-408-SB	8	1.82	1.45	1.20	.96	.91
29F1058	P-410-SB	10	2.05	1.63	1.38	1.10	1.05
29F1059	P-412-SB	12	2.29	1.82	1.53	1.22	1.16

PLUGS WITH CABLE CLAMP IN END

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1060	P-402-CCE	2	1.46	1.17	.98	.78	.74
29F1061	P-404-CCE	4	1.66	1.32	1.11	.88	.84
29F1078	P-406-CCE	6	1.90	1.52	1.26	1.02	.96
29F1079	P-408-CCE	8	2.11	1.68	1.40	1.12	1.07
29F1080	P-410-CCE	10	2.40	1.92	1.61	1.29	1.22
29F1081	P-412-CCE	12	2.63	2.10	1.75	1.40	1.32

SOCKETS WITH ANGLE BRACKETS

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
39F330	S-402-AB	2	1.00	.79	.66	.51	.49
39F331	S-404-AB	4	1.28	1.02	.85	.68	.65
39F332	S-406-AB	6	1.56	1.25	1.06	.84	.80
39F333	S-408-AB	8	1.85	1.48	1.23	.99	.92
39F334	S-410-AB	10	2.13	1.70	1.42	1.13	1.07
39F335	S-412-AB	12	2.42	1.93	1.61	1.29	1.23

SOCKETS WITH CABLE CLAMP ON TOP

39F346	S-402-CCT	2	1.60	1.28	1.07	.85	.82
39F347	S-404-CCT	4	1.91	1.53	1.28	1.02	.96
39F348	S-406-CCT	6	2.23	1.79	1.48	1.18	1.12
39F349	S-408-CCT	8	2.52	2.03	1.69	1.34	1.29
39F350	S-410-CCT	10	3.17	2.52	2.11	1.69	1.61
39F351	S-412-CCT	12	2.85	2.28	1.91	1.55	1.46

SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTING

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1048	S-402-DB	2	1.28	1.02	.85	.68	.65
29F1049	S-404-SB	4	1.61	1.29	1.08	.86	.82
29F1050	S-406-DB	6	1.95	1.56	1.31	1.06	1.00
29F1051	S-408-DB	8	2.29	1.84	1.53	1.22	1.16
29F1052	S-410-DB	10	2.64	2.10	1.75	1.41	1.33
29F1053	S-412-DB	12	2.98	2.37	1.98	1.59	1.51

SOCKETS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

39F380	S-402-SB	2	1.23	.98	8.3	.66	.63
39F381	S-404-SB	4	1.56	1.25	1.06	.84	.80
39F382	S-406-SB	6	1.91	1.54	1.28	1.02	.96
39F383	S-408-SB	8	2.25	1.81	1.51	1.19	1.13
39F384	S-410-SB	10	2.05	1.72	1.72	1.39	1.31
39F385	S-412-SB	12	2.92	2.34	1.95	1.56	1.48

SOCKETS WITH CABLE CLAMP IN END

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1088	S-402-CCE	2	1.64	1.31	1.10	.88	.84
29F1089	S-404-CCE	4	1.95	1.56	1.31	1.05	1.00
29F1090	S-406-CCE	6	2.28	1.82	1.52	1.22	1.16
29F1091	S-408-CCE	8	2.59	2.06	1.72	1.38	1.31
29F1092	S-410-CCE	10	2.90	2.32	1.93	1.55	1.47
29F1093	S-412-CCE	12	3.21	2.56	2.14	1.71	1.62

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SERIES 2400

Series 2400 sockets and plugs are designed for high electrical and mechanical efficiency. They are similar to the 400 series except that their design increases the creepage distance and can take higher voltages. They are interchangeable with the 400 series. Rated at 1700 RMS Volts at 15 amps. Shpg. wt., 5 oz.

P-2406-SB

S-2406-SB

P-2406-DB

S-2406-DB

PLUG WITH CABLE CLAMP ON TOP

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F523	P-2402-CCT	2	1.49	1.19	1.00	.79	.75
29F524	P-2404-CCT	4	1.69	1.34	1.13	.90	.86
29F525	P-2406-CCT	6	1.90	1.52	1.26	1.02	.96
29F526	P-2408-CCT	8	2.10	1.68	1.41	1.12	1.07
29F527	P-2410-CCT	10	2.32	1.85	1.54	1.23	1.17
29F528	P-2412-CCT	12	2.42	1.94	1.62	1.29	1.22

PLUGS WITH DEEP BRACKETS FOR RECESSED MOUNTING

29F1094	P-2402-DB	2	1.17	.92	.78	.63	.60
29F1095	P-2404-DB	4	1.35	1.05	.90	.72	.69
29F1096	P-2406-DB	6	1.56	1.24	1.05	.84	.79
29F1097	P-2408-DB	8	1.75	1.41	1.17	.92	.89
29F1098	P-2410-DB	10	1.95	1.56	1.30	1.05	1.00
29F1099	P-2412-DB	12	2.14	1.71	1.44	1.14	1.09

PLUGS WITH SHALLOW BRACKETS FOR FLUSH MOUNTING

29F1106	P-2402-SB	2	1.08	.86	.71	.57	.54
29F1107	P-2404-SB	4	1.28	1.02	.85	.68	.65
29F1108	P-2406-SB	6	1.47	1.17	.98	.79	.74
29F1109	P-2408-SB	8	1.67	1.34	1.11	.88	.95
29F1110	P-2410-SB	10	1.86	1.49	1.24	1.00	.93
29F1111	P-2412-SB	12	2.08	1.64	1.38	1.10	1.05

PLUGS WITH CABLE CLAMPS IN END

29F1112	P-2402-CCE	2	1.53	1.23	1.03	.82	.78
29F1113	P-2404-CCE	4	1.74	1.39	1.16	.92	.88
29F1114	P-2406-CCE	6	1.94	1.55	1.30	1.05	1.00
29F1115	P-2408-CCE	8	2.14	1.71	1.44	1.14	1.09
29F1116	P-2410-CCE	10	2.35	1.90	1.58	1.25	1.19
29F1117	P-2412-CCE	12	2.57	2.05	1.70	1.35	1.30

SOCKET WITH CABLE CLAMP ON TOP

Stk. No.	Type	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F529	S-2402-CCT	2	1.62	1.03	1.09	.86	.83
29F530	S-2404-CCT	4	1.80	1.44	1.19	.95	.90
29F531	S-2406-CCT	6	2.01	1.60	1.33	1.08	1.02
29F532	S-2408-CCT	8	2.23	1.79	1.48	1.18	1.12
29F533	S-2410-CCT	10	2.44	1.94	1.62	1.30	1.23
29F534	S-2412-CCT	12	2.65	2.12	1.76	1.41	1.34

SOCKETS WITH DEEP BRACKETS FOR RECESSED MOUNTING

29F900	S-2402-DB	2	1.25	1.01	.84	.67	.64
29F901	S-2404-DB	4	1.46	1.17	.98	.78	.74
29F902	S-2406-DB	6	1.67	1.33	1.11	.88	.85
29F903	S-2408-DB	8	1.88	1.49	1.25	1.01	.93
29F904	S-2410-DB	10	2.07	1.66	1.38	1.11	1.06
29F905	S-2412-DB	12	2.28	1.83	1.53	1.22	1.16

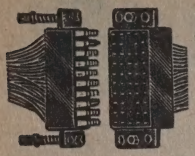
SOCKETS WITH SHALLOW BRACKET FOR FLUSH MOUNTING

29F535	S-2402-SB	2	1.17	.92	.78	.63	.60
29F536	S-2404-SB	4	1.37	1.10	.91	.72	.69
29F537	S-2406-SB	6	1.58	1.26	1.06	.84	.80
29F538	S-2408-SB	8	1.79	1.42	1.19	.95	.90
29F539	S-2410-SB	10	2.00	1.59	1.32	1.07	1.01
29F540	S-1412-SB	12	2.21	1.75	1.47	1.17	1.11

SOCKETS WITH CABLE CLAMPS IN END

29F1124	S-2402-CCE	2	1.67	1.33	1.11	.88	.85
29F1125	S-2404-CCE	4	1.84	1.47	1.23	.98	.92
29F1126	S-2406-CCE	6	2.05	1.63	1.38	1.10	1.05
29F1127	S-2408-CCE	8	2.27	1.82	1.52	1.20	1.14
29F1128	S-2410-CCE	10	2.48	1.98	1.66	1.32	1.25
29F1129	S-2412-CCE	12	2.70	2.15	1.81	1.44	1.35

MINI-JONES CRIMP-ON, SNAP-IN CONNECTORS



Light duty, multiple contact connector. Casting and bulk pins or contacts. No insertion tool required. Rack and panel, cable-to-cable, or cable-to-chassis mounting. Contact density of 25 contacts per sq. in. Accepts following stranded wire sizes: one AWG 18, 20, 22, 24; also two AWG 22, 24. Voltage Rating: 830 VRMS, 1230 VDC. Current Rating: 4.0 Amps. Contact Res: .0065 Max. Low Level Contact Res: current flow at 0.1 microV, no variation of contact Res. at 6.5 and 16.25 ma. Insulation Res: 1000 megohms. Contacts: Phosphor and Bronze. Polarizing pins and lock nuts: brass. Locking screw: steel. Locking spring: music wire. MJP-2/MJS-2 provide for MJ-SL screw locks.

Stock No.	Type No.	Pins or Contacts Supplied	1-24	25-49	50-99	100-249	250-999
28F1124	MJP-39	39	3.64	2.91	2.42	1.93	1.83
28F1127	MJP-68	68	4.97	3.97	3.31	2.65	2.52
28F1128	MJP-2-19	19	3.82	3.06	2.55	2.04	1.93
28F1129	MJP-2-29	29	4.32	3.44	2.87	2.29	2.17
28F1130	MJP-2-39	39	4.79	3.82	3.18	2.55	2.42
28F1131	MJP-2-48	48	5.16	4.13	3.44	2.76	2.61
28F1132	MJP-2-58	58	5.64	4.49	3.76	3.01	2.85
28F1133	MJP-2-68	68	6.11	4.88	4.08	3.27	3.09
28F1136	MJS-39	39	3.06	2.45	2.04	1.63	1.55
28F1137	MJS-48	48	3.30	2.64	2.21	1.76	1.67
28F1139	MJS-68	68	3.96	3.17	2.65	2.12	2.02
28F1140	MJS-2-19	19	3.54	2.82	2.36	1.89	1.80
28F1141	MJS-2-29	29	3.87	3.09	2.58	2.06	1.95
28F1142	MJS-2-39	39	4.20	3.36	2.80	2.25	2.13
28F1143	MJS-2-48	48	4.44	3.55	2.96	2.37	2.26
28F1144	MJS-2-58	58	4.79	3.82	3.18	2.55	2.42
28F1145	MJS-2-68	68	5.10	4.10	3.42	2.72	2.58

SCREW LOCK AND SPRING

Type MJ-SL. Spring-loaded stud-lock which fits MJP-2/MJS-2 series plugs and sockets interchangeably to complete lock.

Stock No.	Type	1-24	25-49	50-99	100-249
23F1146	MJ-SL	.96	.76	.64	.50

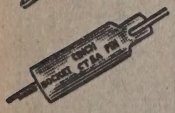
PLUG PINS AND SOCKET CONTACTS

Type MJP-P. Extra plug pins available for the Cinch Mini-Jones crimp-on, snap-in connector series. 100 plug pins per bag.
Type MJS-C. Extra socket contacts available for the Cinch Mini-Jones crimp-on, snap-in connector series. 100 per bag.

Stock No.	Type	1-24	25-49	50-99	100-299
28F1147	MJP-P	.128	.092	.050	.039
28F1148	MJS-C	.128	.092	.050	.039

CRIMPING TOOL

Type CT-5B. Versatile, manually operated tool for crimping wire to "MINI-JONES" plug or receptacle contacts. Cycle controlled to assure correct crimping operation.
28F1149. NET.....132.00



PIN REMOVAL TOOL

Type CT-5A. Special nylon hand tool with separate tips for removing contacts from "MINI-JONES" plug or receptacle.
28F1150. NET.....1.10

HINGE CONNECTORS

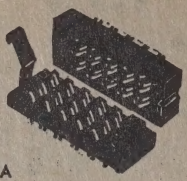


Fig. A

Fig. B

Maximum number of contacts in minimum of space. Easily engaged and disengaged. Locking device insures positive contact. Type 37 plugs and sockets are black Bakelite type CFG. All 1⅛" wide.

SOCKETS WITH LOCKS—FIG. A

Stk. No.	Type No.	1-24	25-49	50-99	100-249	250-499
29F906	37F20L	3.35	2.67	2.23	1.79	1.69
29F907	37F30L	3.96	3.14	2.64	2.11	2.02
29F908	37F40L	4.56	3.64	3.02	2.43	2.32
29F909	37F50L	5.16	4.12	3.43	2.76	2.61
29F910	37F60L	5.74	4.59	3.83	3.07	2.91
29F912	37F80L	6.95	5.54	4.62	3.72	3.53
29F914	37F100L	8.15	6.52	5.44	4.35	4.13

PLUGS W/O LOCKS Mates With Sockets Above

Stk. No.	Type No.	1-24	25-49	50-99	100-249	250-499
29F933	37M20	3.01	2.40	2.02	1.60	1.52
29F934	37M30	3.60	2.88	2.40	1.92	1.82
29F935	37M40	4.21	3.37	2.80	2.25	2.14
29F936	37M50	4.81	3.84	3.20	2.56	2.43
29F937	37M60	5.42	4.33	3.60	2.88	2.73
29F939	37M80	6.62	5.29	4.40	3.53	3.36
29F941	37M100	7.80	6.25	5.21	4.16	3.96

SOCKETS W/O LOCKS—FIG. A

Stk. No.	Type No.	1-24	25-49	50-99	100-249	250-499
29F915	37F20	3.01	2.40	2.02	1.60	1.52
29F916	37F30	3.60	2.88	2.40	1.92	1.82
29F917	37F40	4.21	3.37	2.80	2.25	2.14
29F920	37F70	6.01	4.81	4.00	3.20	3.03
29F923	37F100	7.80	6.25	5.21	4.16	3.96

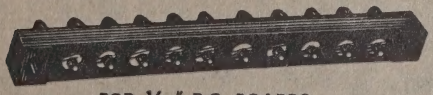
PLUGS WITH LOCKS Mates With Sockets Above

Stk. No.	Type No.	1-24	25-49	50-99	100-249	250-499
29F924	37M20L	3.35	2.67	2.23	1.79	1.69
29F925	37M30L	3.96	3.14	2.64	2.11	2.02
29F926	37M40L	4.56	3.64	3.02	2.43	2.32
29F929	37M70L	6.35	5.07	4.23	3.39	3.22
29F932	37M100L	8.15	6.52	5.44	4.35	4.13

Fig. B—CAPS TO FIT HINGE CONNECTORS LISTED ABOVE

Stk. No.	Type	For Types	Hole Size	1-24	25-49	50-99	100-249	250-499
29F942	37C20	M/F20	¾"	4.65	3.73	3.11	2.49	2.37
29F943	37C30	M/F30	1 3/16x1"	4.70	3.76	3.13	2.51	2.39
29F944	37C40	M/F40	1 3/16x1"	4.76	3.80	3.16	2.54	2.42
29F945	37C50	M/F50	1 3/16x1"	4.81	3.84	3.20	2.56	2.43
29F946	37C60	M/F60	1 3/16x1½"	4.85	3.89	3.24	2.58	2.46
29F947	37C70	M/F70	1 3/16x1½"	4.91	3.92	3.27	2.63	2.49
29F948	37C80	M/F80	1 3/16x1½"	4.95	3.97	3.29	2.65	2.51
29F950	37C100	M/F100	1 3/16x1½"	5.06	4.03	3.38	2.69	2.56

PRINTED CIRCUIT BARRIER TERMINAL BLOCKS



Molded-in non-twist feed-thru terminals. Solder or screw attaching. Feed-thru terminal diameter: .093", for insertion in standard 7/64" diameter hole. Terminals on .375" centers. Insulator: GP black phenolic. Terminal bushing: brass, .0002" cadmium plated. 5-40 Binder Head Screw: brass, .0002" nickel plated.

FOR 1/16" P.C. BOARDS

Stock No.	Type	No. of Terminals	1-24	25-49	50-99	100-249	250-499
29F1380	2-176-2	2	.86	.68	.57	.46	.43
29F1381	3-176-2	3	.98	.78	.65	.52	.49
29F1382	4-176-2	4	1.10	.88	.74	.59	.56
29F1383	5-176-2	5	1.20	.96	.80	.64	.61
29F1384	6-176-2	6	1.33	1.06	.89	.71	.67
29F1385	7-176-2	7	1.43	1.14	.95	.76	.72
29F1386	8-176-2	8	1.55	1.24	1.04	.83	.79
29F1387	9-176-2	9	1.68	1.34	1.12	.90	.85
29F1388	10-176-2	10	1.82	1.46	1.22	.97	.92

FOR 1/8" P.C. BOARDS

Stock No.	Type	No. of Terminals	1-24	25-49	50-99	100-249	250-499
29F1389	2-176-3	2	.86	.68	.57	.46	.43
29F1390	3-176-3	3	.98	.78	.65	.52	.49
29F1391	4-176-3	4	1.10	.88	.74	.59	.56
29F1392	5-176-3	5	1.20	.96	.80	.64	.61
29F1393	6-176-3	6	1.33	1.06	.89	.71	.67
29F1394	7-176-3	7	1.43	1.14	.95	.76	.72
29F1395	8-176-3	8	1.55	1.24	1.04	.83	.79
29F1396	9-176-3	9	1.68	1.34	1.12	.90	.85
29F1397	10-176-3	10	1.82	1.46	1.22	.97	.92

Barrier Terminal Blocks & Accessories

TRW CINCH CONNECTORS

SERIES 140 AND 140-Y BARRIER TERMINAL BLOCKS

140

Series 140. Base: .8" W x 13/32" H molded bakelite. Eyelets and binder head screws are brass, nickel plated. 5-40 x 3/16" screws. Leakage path 1/2". Shpg. wt., 3 oz.

Series 140-Y. Same as Series 140 but with Thru-panel solder lugs.

140-Y

SERIES 140

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F700	2-140	2	.25	.21	.18	.15	.14
28F701	3-140	3	.29	.24	.20	.17	.16
28F702	4-140	4	.38	.29	.25	.21	.20
28F703	5-140	5	.46	.37	.30	.26	.25
28F704	6-140	6	.54	.43	.37	.29	.26
28F705	7-140	7	.63	.49	.42	.34	.32
28F706	8-140	8	.71	.58	.47	.38	.37
28F707	9-140	9	.80	.64	.51	.42	.40
28F708	10-140	10	.87	.70	.60	.46	.44
28F709	11-140	11	.93	.75	.64	.49	.47
28F710	12-140	12	1.05	.83	.69	.54	.51
28F869	13-140	13	1.11	.88	.75	.61	.56
28F870	14-140	14	1.20	.96	.81	.65	.62
28F871	15-140	15	1.28	1.04	.85	.68	.66
28F872	16-140	16	1.35	1.09	.90	.72	.69
28F873	17-140	17	1.45	1.14	.96	.78	.72
28F874	18-140	18	1.52	1.22	1.03	.81	.78
28F875	19-140	19	1.60	1.27	1.07	.85	.81
28F876	20-140	20	1.67	1.34	1.12	.88	.85
28F877	21-140	21	1.77	1.42	1.18	.92	.88
29F1000	22-140	22	1.82	1.46	1.23	1.00	.92
29F1001	23-140	23	1.91	1.53	1.28	1.04	.97
29F1002	24-140	24	2.03	1.62	1.35	1.08	1.04
29F1003	25-140	25	2.12	1.70	1.41	1.12	1.07

SERIES 140-Y

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F749	2-140-Y	2	.32	.25	.22	.18	.17
29F750	3-140-Y	3	.39	.32	.26	.24	.22
29F751	4-140-Y	4	.53	.43	.37	.28	.27
29F752	5-140-Y	5	.66	.52	.44	.36	.35
29F753	6-140-Y	6	.81	.65	.53	.43	.39
29F754	7-140-Y	7	.88	.71	.61	.46	.44
29F755	8-140-Y	8	1.02	.81	.68	.53	.50
29F756	9-140-Y	9	1.13	.89	.76	.62	.58
29F757	10-140-Y	10	1.25	1.02	.84	.67	.64
29F758	11-140-Y	11	1.35	1.09	.90	.72	.69
29F759	12-140-Y	12	1.49	1.18	1.01	.80	.74
29F760	13-140-Y	13	1.60	1.28	1.08	.85	.82
29F761	14-140-Y	14	1.73	1.39	1.16	.91	.87
29F762	15-140-Y	15	1.85	1.48	1.23	1.00	.92
29F763	16-140-Y	16	1.95	1.56	1.30	1.05	1.01
29F764	17-140-Y	17	2.07	1.66	1.40	1.11	1.06
29F765	18-140-Y	18	2.21	1.76	1.47	1.17	1.11
29F766	19-140-Y	19	2.30	1.85	1.54	1.23	1.17
29F767	20-140-Y	20	2.42	1.94	1.61	1.28	1.23
29F768	21-140-Y	21	2.56	2.04	1.71	1.35	1.29
29F1004	22-140-Y	22	2.66	2.13	1.79	1.44	1.35
29F1005	23-140-Y	23	2.78	2.23	1.86	1.49	1.42
29F1006	24-140-Y	24	2.94	2.36	1.95	1.56	1.49
29F1007	25-140-Y	25	3.07	2.45	2.03	1.62	1.54

IMPRINTED MARKER STRIPS FOR USE WITH SERIES 140 AND SERIES 140-Y

Strips are of 1/32" black fibre and have same mounting holes as barrier strips. Shpg. wt., 2 oz.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F804	MS- 2-140	2	.13	.10	.09	.08	.07
29F805	MS- 3-140	3	.13	.10	.09	.08	.07
29F806	MS- 4-140	4	.13	.10	.09	.08	.07
29F807	MS- 5-140	5	.13	.10	.09	.08	.07
29F808	MS- 6-140	6	.13	.10	.09	.08	.07
29F809	MS- 7-140	7	.15	.12	.10	.09	.08
29F810	MS- 8-140	8	.15	.12	.10	.09	.08
29F811	MS- 9-140	9	.15	.12	.10	.09	.08
29F812	MS-10-140	10	.17	.13	.11	.10	.09
29F813	MS-11-140	11	.17	.13	.11	.10	.09
29F814	MS-12-140	12	.17	.13	.11	.10	.09
29F815	MS-13-140	13	.19	.15	.13	.11	.10
29F816	MS-14-140	14	.19	.15	.13	.11	.10
29F817	MS-15-140	15	.19	.15	.13	.11	.10
29F818	MS-16-140	16	.21	.17	.14	.12	.11
29F819	MS-17-140	17	.21	.17	.14	.12	.11
29F820	MS-18-140	18	.21	.17	.14	.12	.11
29F821	MS-19-140	19	.23	.19	.16	.13	.12
29F822	MS-20-140	20	.23	.19	.16	.13	.12
29F823	MS-21-140	21	.23	.19	.16	.13	.12
29F1251	MS- 2-140-Y	2	.15	.12	.10	.09	.08
29F1252	MS- 3-140-Y	3	.15	.12	.10	.09	.08
29F1253	MS- 4-140-Y	4	.15	.12	.10	.09	.08
29F1254	MS- 5-140-Y	5	.17	.13	.11	.10	.09
29F1255	MS- 6-140-Y	6	.17	.13	.11	.10	.09
29F1256	MS- 7-140-Y	7	.17	.13	.11	.10	.09
29F1257	MS- 8-140-Y	8	.17	.13	.11	.10	.09
29F1258	MS- 9-140-Y	9	.17	.13	.11	.10	.09
29F1259	MS-10-140-Y	10	.19	.15	.13	.11	.10
29F1260	MS-11-140-Y	11	.19	.15	.13	.11	.10
29F1261	MS-12-140-Y	12	.19	.15	.13	.11	.10
29F1262	MS-13-140-Y	13	.21	.17	.14	.12	.11
29F1263	MS-14-140-Y	14	.21	.17	.14	.12	.11
29F1264	MS-15-140-Y	15	.21	.17	.14	.12	.11
29F1265	MS-16-140-Y	16	.23	.19	.16	.13	.12
29F1266	MS-17-140-Y	17	.23	.19	.16	.13	.12
29F1267	MS-18-140-Y	18	.23	.19	.16	.13	.12
29F1268	MS-19-140-Y	19	.26	.20	.17	.14	.13
29F1269	MS-20-140-Y	20	.26	.20	.17	.14	.13

JUMPERS FOR 140 BARRIER BLOCK SERIES

Units are used for making permanent connections between adjacent barrier block terminals for Barrier block series 140.

Stock No.	Type No.	1-24	15-49	50-99	100-249	250-499
28F833	140J-1	.12	.10	.09	.074	.058

SOLDER TERMINALS FOR USE WITH SERIES 140

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
28F791	3/4W-140	.13	.12	.105	.095	.084
28F797	W-140	.13	.12	.105	.095	.084
28F794	Y-140	.15	.13	.116	.105	.095

SERIES 160 FANNING STRIPS

Fits 140 Series Barrier strips. Brass, cadmium plated .032" terminals are mounted on 3/32" bakelite, 1/2" wide and on 3/8" centers. Wt., 3 oz. Mounting hole on left.

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F750	2-160-L	2	.28	.23	.20	.17	.16
28F751	3-160-L	3	.35	.28	.24	.20	.18
28F752	4-160-L	4	.43	.35	.29	.24	.23
28F753	5-160-L	5	.50	.41	.35	.27	.26
28F754	6-160-L	6	.58	.46	.39	.29	.28
28F755	7-160-L	7	.66	.53	.43	.35	.34
28F756	8-160-L	8	.72	.58	.48	.40	.38
28F757	9-160-L	9	.83	.66	.57	.43	.42
28F758	10-160-L	10	.91	.74	.62	.48	.44
28F759	11-160-L	11	1.02	.80	.68	.54	.50
28F760	12-160-L	12	1.13	.90	.76	.61	.58
29F1250	20-160-L	20	1.73	1.39	1.17	.91	.88
Mounting hole on right.							
28F800	2-160-R	2	.28	.23	.20	.17	.16
28F801	3-160-R	3	.35	.28	.24	.20	.18
28F802	4-160-R	4	.43	.35	.29	.24	.23
28F803	5-160-R	5	.50	.41	.35	.27	.26
28F804	6-160-R	6	.58	.46	.39	.29	.28
28F805	7-160-R	7	.66	.53	.43	.35	.34
28F806	8-160-R	8	.72	.58	.48	.40	.38
28F807	9-160-R	9	.83	.66	.57	.43	.42
28F808	10-160-R	10	.91	.74	.62	.48	.44
28F809	11-160-R	11	1.02	.80	.68	.54	.50
28F810	12-160-R	12	1.13	.90	.76	.61	.58
29F1270	20-160-R	20	1.73	1.39	1.17	.91	.88

SERIES 164 TERMINAL BLOCKS

Same as Series 140 except has 6-32 binder head screws instead of 5-40. Maximum volts r.m.s. without marker strip; 1100; with market strip: 1200. Max. current in amps: 15. Max. watts per terminal: 3750.

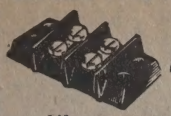
Stock No.	Type No.	Contacts	1-24	25-49	50-99	100-249	250-499
28F840	2-164	2	.28	.22	.19	.16	.15
28F841	3-164	3	.36	.27	.23	.19	.18
28F842	4-164	4	.45	.37	.30	.24	.23
28F843	5-164	5	.54	.44	.38	.29	.28
28F844	6-164	6	.66	.50	.43	.36	.34
28F845	7-164	7	.74	.60	.48	.40	.38
28F846	8-164	8	.83	.67	.56	.44	.42
28F847	9-164	9	.90	.74	.63	.48	.46
28F848	10-164	10	1.03	.82	.68	.53	.50
28F849	11-164	11	1.11	.88	.74	.60	.56
28F891	12-164	12	1.20	.96	.81	.65	.62
28F892	13-164	13	1.29	1.05	.86	.69	.63
28F893	14-164	14	1.41	1.12	.92	.75	.71
28F894	15-164	15	1.51	1.19	1.01	.80	.76
28F895	16-164	16	1.60	1.27	1.07	.85	.81
28F896	17-164	17	1.67	1.34	1.12	.88	.85
28F897	18-164	18	1.79	1.44	1.19	.93	.89
28F898	19-164	19	1.88	1.50	1.25	1.01	.93
28F899	20-164	20	1.97	1.58	1.31	1.06	1.02
28F900	21-164	21	2.06	1.66	1.39	1.10	1.06

12

TRW
CINCH CONNECTORS

Barrier Terminal Blocks

SERIES 141 AND 141-Y BARRIER TYPE TERMINAL BLOCKS


141

141-Y

Increased insulation barriers placed between each terminal. Long leakage path prevents direct shorts from frayed wire at terminal. Base: 1⅛"W x ½"H. molded bakelite. Series 141-Y has thru panel solder lugs. 6-32x¼" screw. Use with Series 161 Fanning Strips. Shp. Wt. 3 oz.

SERIES 141

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F711	2-141	2	.28	.22	.19	.16	.15
28F712	3-141	3	.38	.29	.25	.20	.19
28F713	4-141	4	.49	.40	.34	.27	.26
28F714	5-141	5	.63	.47	.44	.36	.30
28F715	6-141	6	.69	.54	.46	.38	.36
28F716	7-141	7	.82	.65	.54	.43	.41
28F717	8-141	8	.90	.72	.62	.48	.46
28F718	9-141	9	1.02	.81	.68	.53	.50
28F719	10-141	10	1.12	.89	.75	.71	.58
28F720	11-141	11	1.22	.97	.83	.66	.63
28F721	12-141	12	1.31	1.06	.87	.70	.67
28F878	13-141	13	1.44	1.13	.93	.76	.72
28F879	14-141	14	1.53	1.22	1.03	.82	.78
28F880	15-141	15	1.62	1.29	1.09	.86	.82
28F881	16-141	16	1.73	1.39	1.16	.91	.87
28F882	17-141	17	1.84	1.47	1.23	1.00	.91
28F883	18-141	18	1.94	1.55	1.29	1.04	1.00
28F884	19-141	19	2.04	1.63	1.38	1.09	1.05
28F885	20-141	20	2.16	1.72	1.45	1.09	1.05

SERIES 141-Y

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F769	2-141-Y	2	.39	.30	.25	.23	.22
29F770	3-141-Y	3	.54	.43	.37	.28	.27
29F771	4-141-Y	4	.71	.58	.47	.38	.37
29F772	5-141-Y	5	.86	.69	.57	.45	.43
29F773	6-141-Y	6	1.00	.80	.67	.51	.49
29F774	7-141-Y	7	1.17	.92	.79	.63	.61
29F775	8-141-Y	8	1.30	1.05	.87	.70	.67
29F776	9-141-Y	9	1.46	1.16	.97	.78	.74
29F777	10-141-Y	10	1.61	1.28	1.08	.86	.82
29F778	11-141-Y	11	1.77	1.42	1.18	.92	.88
29F779	12-141-Y	12	1.92	1.53	1.27	1.03	.97
29F780	13-141-Y	13	2.07	1.66	1.40	1.11	1.06
29F781	14-141-Y	14	2.24	1.80	1.50	1.19	1.13
29F782	15-141-Y	15	2.38	1.91	1.59	1.27	1.20
29F783	16-141-Y	16	2.56	2.04	1.71	1.35	1.29
29F784	17-141-Y	17	2.71	2.17	1.82	1.46	1.38
29F785	18-141-Y	18	2.87	2.29	1.92	1.53	1.46
29F786	19-141-Y	19	3.05	2.43	2.02	1.61	1.54
29F787	20-141-Y	20	3.18	2.56	2.13	1.71	1.61

SOLDER TERMINALS FOR SERIES 141 BARRIER STRIPS

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
28F792	¾W-141	.12	.116	.105	.095	.084
28F798	W-141	.12	.116	.105	.095	.084
28F795	Y-141	.14	.126	.116	.105	.095

IMPRINTED MARKER STRIPS FOR USE WITH SERIES 141

Strips are of 1/32" black fibre and have same mounting holes as barrier strips. Serves as an insulator on metal.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F824	MS-2-141	2	.13	.10	.09	.08	.07
29F825	MS-3-141	3	.13	.10	.09	.08	.07
29F826	MS-4-141	4	.13	.10	.09	.08	.07
29F827	MS-5-141	5	.15	.12	.10	.09	.08
29F828	MS-6-141	6	.15	.12	.10	.09	.08
29F829	MS-7-141	7	.15	.12	.10	.09	.08
29F830	MS-8-141	8	.17	.13	.11	.10	.09
29F831	MS-9-141	9	.17	.13	.11	.10	.09
29F832	MS-10-141	10	.17	.13	.11	.10	.09
29F833	MS-11-141	11	.19	.15	.13	.11	.10
29F834	MS-12-141	12	.19	.15	.13	.11	.10
29F835	MS-13-141	13	.21	.17	.14	.12	.11
29F836	MS-14-141	14	.21	.17	.14	.12	.11
29F837	MS-15-141	15	.23	.19	.16	.13	.12
29F838	MS-16-141	16	.23	.19	.16	.13	.12
29F839	MS-17-141	17	.26	.20	.17	.14	.13
29F840	MS-18-141	18	.26	.20	.17	.14	.13
29F842	MS-20-141	20	.27	.22	.18	.15	.14

TYPE 141-J JUMPER for Series 140 and 141 Terminal Blocks.

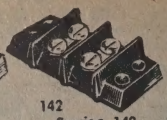
Stock No.	Type	1-24	25-49	50-99	100-249	250-499
28F790	141-J	.11	.103	.089	.074	.058

TYPE QC-1. QUICK CLAMP TERMINAL for Series 141 and 541.

28F740	QC-1	.18	.14	.13	.12	.11

SERIES 142 AND 142-Y BARRIER TYPE TERMINAL BLOCKS

142-Y


142

Series 142

Series 142. Base: 1 5/16" W x 5/8" H. molded bakelite. Eyelets and binder head screws are brass, nickel plated. 8-32 x 5/16" screw. Use with Series 162 Fanning Strips.

Stock No.	Type No.	Cont.	1-24	25-49	50-99	100-249	250-499
28F722	2-142	2	.34	.26	.22	.19	.18
28F723	3-142	3	.45	.36	.29	.24	.23
28F724	4-142	4	.61	.47	.40	.32	.30
28F725	5-142	5	.72	.58	.47	.39	.37
28F726	6-142	6	.85	.68	.58	.45	.43
28F727	7-142	7	1.00	.79	.66	.51	.49
28F728	8-142	8	1.11	.88	.74	.60	.56
28F729	9-142	9	1.23	1.00	.82	.66	.63
28F730	10-142	10	1.38	1.10	.90	.72	.69
28F731	11-142	11	1.50	1.19	1.01	.79	.76
28F732	12-142	12	1.62	1.29	1.09	.85	.82
28F886	13-142	13	1.76	1.41	1.17	.92	.88
28F887	14-142	14	1.89	1.51	1.26	1.02	.96
28F888	15-142	15	2.02	1.61	1.34	1.08	1.03
28F889	16-142	16	2.16	1.72	1.45	1.14	1.09
28F890	17-142	17	2.28	1.83	1.52	1.22	1.16

Series 142-Y Same as above but with Thru-panel solder lugs.

29F788	2-142-Y	2	.46	.38	.30	.26	.25
29F789	3-142-Y	3	.65	.51	.43	.33	.32
29F790	4-142-Y	4	.86	.69	.58	.45	.43
29F791	5-142-Y	5	1.05	.83	.70	.56	.51
29F792	6-142-Y	6	1.25	1.01	.83	.67	.64
29F793	7-142-Y	7	1.45	1.14	.96	.78	.72
29F794	8-142-Y	8	1.62	1.29	1.09	.85	.82
29F795	9-142-Y	9	1.82	1.46	1.20	.96	.90
29F796	10-142-Y	10	2.02	1.61	1.34	1.08	1.03
29F797	11-142-Y	11	2.21	1.77	1.48	1.17	1.11
29F798	12-142-Y	12	2.39	1.92	1.60	1.27	1.22
29F799	13-142-Y	13	2.60	2.07	1.73	1.39	1.31
29F800	14-142-Y	14	2.78	2.23	1.86	1.49	1.42
29F801	15-142-Y	15	3.00	2.38	1.98	1.59	1.51
29F802	16-142-Y	16	3.17	2.56	2.13	1.69	1.61
29F803	17-142-Y	17	3.37	2.69	2.25	1.81	1.71

SOLDER TERMINALS FOR SERIES 142 TERMINAL BLOCKS

Stock No.	Mgf. No.	For Use With	1-24	25-49	50-99	100-249	250-499
28F793	¾W-142	142	.14	.12	.11	.105	.095
28F799	W-142	142	.14	.12	.11	.105	.095
28F796	Y-142	142	.14	.12	.11	.105	.095

QUICK CLAMP TERMINALS

For use with 142 Barrier Block Series. For wire gauge 8-16.

Stock No.	Type No.	1-24	25-49	50-99	100-249	250-499
28F741	QC-2	.18	.14	.13	.12	.11

SERIES 161 FANNING STRIPS

Series 161. Fit Series 141 Barrier Strips. Brass, cadmium plated .032" terminals are mounted on 3/32" bakelite, 5/8" wide and on 7/16" ctrs. Ave. Shpg. wt. 3 oz. Mounting holes on left.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F761	2-161-L	2	.30	.26	.21	.18	.17
28F762	3-161-L	3	.40	.30	.26	.21	.20
28F763	4-161-L	4	.43	.35	.29	.24	.23
28F764	5-161-L	5	.53	.42	.37	.28	.27
28F765	6-161-L	6	.61	.48	.41	.30	.29
28F766	7-161-L	7	.69	.57	.47	.37	.35
28F767	8-161-L	8	.76	.61	.50	.42	.41
28F768	9-161-L	9	.83	.66	.57	.43	.42
28F769	10-161-L	10	.93	.76	.63	.50	.47
28F770	11-161-L	11	1.07	.87	.72	.58	.54
28F771	12-161-L	12	1.17	.92	.79	.62	.60

SERIES 162 FANNING STRIPS

Series 162. Fit 142 Series Barrier Strips. Brass, cadmium plated .432" terminals mounted on 3/32" bakelite, 5/8" wide on 9/16" mtg. centers. Ave. shpg. wt., 3 oz. Mounting hole on left.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F772	2-162-L	2	.35	.28	.24	.20	.18
28F773	3-162-L	3	.41	.34	.27	.23	.21
28F774	4-162-L	4	.50	.41	.35	.27	.26
28F775	5-162-L	5	.58	.46	.39	.29	.28
28F776	6-162-L	6	.66	.58	.48	.40	.38
28F777	7-162-L	7	.67	.58	.48	.40	.37
28F778	8-162-L	8	.83	.66	.57	.43	.42
28F779	9-162-L	9	.89	.70	.58	.47	.46
28F780	10-162-L	10	1.00	.79	.66	.53	.50
28F781	11-162-L	11	1.09	.88	.74	.60	.57
28F782	12-162-L	12	1.23	1.00	.83	.66	.63

12

Barrier Terminal Blocks

TRW CINCH CONNECTORS

SERIES 150

Fits std. 50 amp. solder lug for 6 Ga. stranded wire. Base: 1 13/16" W. x 25/32" H. Molded bakelite. Screws: 10-32x5/16" brass, burnished nickel plate. 1 1/16" mtg. ctr.

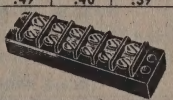
Stk. No.	Type	Cont	1-24	25-49	50-99	100-249	250-499
29F731	2-150	2	.87	.70	.60	.46	.44
29F732	3-150	3	1.23	1.00	.82	.66	.63
29F733	4-150	4	1.59	1.27	1.07	.84	.81
29F734	5-150	5	1.95	1.55	1.29	1.05	1.00
29F735	6-150	6	2.30	1.85	1.54	1.23	1.17
29F736	7-150	7	2.67	2.13	1.79	1.42	1.35
29F737	8-150	8	3.63	2.42	2.02	1.61	1.53
29F739	10-150	10	3.75	3.00	2.50	2.00	1.90

SERIES 171

Miniautre 1 33/32" W. x 5/16" H. Single Screw Terminals. 2-56x1/4" binder head screws. 1/8" Dia. Mtg. Holes, 1/4" Mtg. Centers.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F901	2-171	2	.29	.24	.20	.16	.15
28F902	3-171	3	.38	.29	.25	.20	.19
28F903	4-171	4	.45	.37	.30	.24	.23
28F904	5-171	5	.53	.43	.37	.28	.27
28F905	6-171	6	.63	.48	.41	.34	.32
28F906	7-171	7	.69	.54	.45	.37	.36
28F907	8-171	8	.75	.62	.49	.40	.39

SERIES 172



Double screw terminals. 5/8" W. x 5/16" H. Mtg. on 1/4" centers. 2-56x1/4" binder head screws. 1/8" Dia. Mtg. holes.

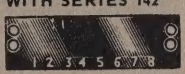
Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F909	2-172	2	.54	.43	.37	.29	.28
28F910	3-172	3	.69	.54	.46	.38	.36
28F911	4-172	4	.84	.68	.56	.44	.43
28F912	5-172	5	1.00	.79	.66	.51	.49
28F913	6-172	6	1.13	.89	.76	.62	.58
28F914	7-172	7	1.28	1.04	.85	.68	.66
28F915	8-172	8	1.44	1.13	.93	.76	.72
28F916	9-172	9	1.56	1.25	1.06	.84	.80
28F917	10-172	10	1.72	1.39	1.14	.90	.87
28F919	12-172	12	2.01	1.60	1.34	1.08	1.03
28F921	14-172	14	2.30	1.84	1.53	1.23	1.17

SERIES 173

Single screw terminals. 3/8" Wx1/2"H. Mtg. on 3/8" centers. 4-40x5/32". Sems type Binder head screws. .522" Dia. Mtg. Holes.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
28F923	2-173	2	.30	.24	.21	.17	.16
28F924	3-172	3	.42	.34	.27	.23	.22
28F925	4-173	4	.54	.44	.38	.29	.28
28F926	5-173	5	.67	.53	.44	.36	.35
28F927	6-173	6	.79	.63	.51	.42	.40
28F928	7-173	7	.89	.71	.61	.47	.45
28F929	8-173	8	1.02	.80	.67	.53	.49
28F930	9-173	9	1.11	.88	.75	.61	.56
28F931	10-173	10	1.23	1.00	.81	.66	.63

IMPRINTED MARKER STRIPS FOR USE WITH SERIES 142 BARRIER TERMINAL BLACKS



Type MS-142. 1/32" black fibre. Have same mounting holes as barrier strips. Serve as an insulator on metal. Wt., 2 oz.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-500
29F843	MS- 2-142	2	.13	.10	.09	.08	.07
29F844	MS- 3-142	3	.13	.10	.09	.08	.07
29F845	MS- 4-142	4	.15	.12	.10	.09	.08
29F846	MS- 5-142	5	.15	.12	.10	.09	.08
29F847	MS- 6-142	6	.15	.12	.10	.09	.08
29F848	MS- 7-142	7	.17	.13	.11	.10	.09
29F849	MS- 8-142	8	.17	.13	.11	.10	.09
29F850	MS- 9-142	9	.19	.15	.13	.11	.10
29F851	MS-10-142	10	.21	.17	.14	.12	.11
29F852	MS-11-142	11	.21	.17	.14	.12	.11
29F853	MS-12-142	12	.23	.19	.16	.13	.12
29F854	MS-13-142	13	.23	.19	.16	.13	.12
29F855	MS-14-142	14	.26	.20	.17	.14	.13
29F856	MS-15-142	15	.26	.20	.17	.14	.13
29F857	MS-16-142	16	.29	.23	.20	.16	.15
29F858	MS-17-142	17	.32	.25	.21	.17	.16

JUMPERS FOR SERIES 142 BARRIER TERMINAL

Stk. No.	Type	1-24	25-49	50-99	100-249	250-500
28F789	95B	.227	173	.146	.13	.12
28F742	142J-1	.13	.117	.103	.089	.074
28F743	142J-2	.118	.103	.089	.074	.058

500 SERIES BARRIER TERMINAL BLOCKS

For especially critical electrical and mechanical performance requirements. Enclosed bottoms; Knock-outs molded into base for Y terminals. Heavy construction adds strength to block, minimizing warpage and shrinkage. Screws and terminals are brass-nickel plated. Material of the block is general purpose black bakelite.

Series 540. 2 to 31 contacts. Base: 1 1/8" wide, barrier: 1 1/8" wide by 5/8" high, body 1 9/32" wide by 5/16" high. Web at base, 5/64" thick. 5-40x3/16" screw. Wt., 5 oz.

Stk. No.	Type	Terms.	1-24	25-49	50-99	100-249	250-499
28F1000	2-540	2	.60	.46	.40	.32	.30
28F1001	3-540	3	.81	.65	.53	.43	.41
28F1002	4-540	4	1.00	.79	.66	.52	.49
28F1003	5-540	5	1.04	.82	.69	.54	.51
28F1004	6-540	6	1.40	1.11	.93	.75	.61
28F1005	7-540	7	1.28	1.06	.87	.70	.67
28F1006	8-540	8	1.47	1.17	1.00	.79	.75
28F1008	10-540	10	1.60	1.28	1.08	.85	.82
28F1009	11-540	11	1.76	1.41	1.17	.92	.88
28F1010	12-540	12	1.91	1.52	1.27	1.03	.97
28F1011	13-540	13	2.04	1.63	1.38	1.09	1.05
28F1012	14-540	14	2.21	1.76	1.47	1.17	1.11
28F1013	15-540	15	2.34	1.88	1.56	1.25	1.19
28F1014	16-540	16	2.48	1.98	1.66	1.31	1.26
28F1016	18-540	18	2.64	2.11	1.76	1.41	1.33
28F1018	20-540	20	2.93	2.34	1.95	1.55	1.49
28F1019	21-540	21	3.21	2.58	2.16	1.72	1.63
28F1066	24-540	24	3.36	2.69	2.24	1.80	1.71
28F1067	25-540	25	3.80	3.05	2.55	2.02	1.93
28F1068	26-540	26	3.95	3.15	2.64	2.11	2.00
28F1072	30-540	30	4.11	3.28	2.73	2.19	2.07
28F1073	31-540	31	4.67	3.75	3.12	2.49	2.37
			4.83	3.86	3.21	2.58	2.44

Series 541. 2 to 30 contacts. Base: 1 3/8" wide. Barrier: 1 3/8" by 1 1/16" high. Body 3/4" wide by 3/8" high. Web 7/64" thick at base. 6-32x1/4" screw. Shpg. wt. 5 oz.

28F1020	2-541	2	.72	.60	.48	.39	.38
28F1021	3-541	3	.87	.70	.59	.46	.44
28F1022	4-541	4	1.04	.82	.69	.54	.51
28F1023	5-541	5	1.17	.92	.79	.63	.61
28F1024	6-541	6	1.40	1.11	.93	.75	.67
28F1025	7-541	7	1.50	1.19	1.01	.80	.76
28F1026	8-541	8	1.63	1.30	1.09	.86	.83
28F1028	10-541	10	1.93	1.54	1.28	1.04	1.00
28F1029	11-541	11	2.06	1.66	1.39	1.10	1.06
28F1030	12-541	12	2.27	1.81	1.50	1.19	1.13
28F1031	13-541	13	2.38	1.91	1.59	1.27	1.20
28F1032	14-541	14	2.55	2.02	1.69	1.35	1.28
28F1033	15-541	15	2.69	2.16	1.80	1.44	1.35
28F1034	16-541	16	2.82	2.26	1.89	1.51	1.44
28F1036	18-541	18	3.13	2.50	2.10	1.67	1.59
28F1038	20-541	20	3.44	2.74	2.29	1.84	1.74
28F1074	21-541	21	3.57	2.87	2.38	1.91	1.82
28F1077	24-541	24	4.04	3.24	2.70	2.16	2.04
28F1078	25-541	25	4.20	3.36	2.79	2.24	2.13
28F1079	26-541	26	4.34	3.48	2.90	2.32	2.21
28F1083	30-541	30	4.95	3.95	3.30	2.65	2.50

Series 542. 2 to 20 contacts. Base: 1 5/8" wide. Barrier: 1 5/8" wide by 7/8" high. Body 7/8" wide by 1/2" high. Shpg. wt., 5 oz.

28F1039	2-542	2	.79	.63	.51	.42	.40
28F1040	3-542	3	.97	.79	.66	.50	.48
28F1041	4-542	4	1.17	.92	.79	.63	.61
28F1042	5-542	5	1.35	1.09	.90	.72	.69
28F1043	6-542	6	1.55	1.24	1.05	.83	.79
28F1044	7-542	7	1.76	1.41	1.17	.92	.88
28F1045	8-542	8	1.95	1.55	1.29	1.05	1.00
28F1046	9-542	9	2.14	1.71	1.44	1.14	1.09
28F1047	10-542	10	2.34	1.88	1.55	1.24	1.18
28F1048	11-542	11	2.55	2.02	1.69	1.35	1.28
28F1049	12-542	12	2.72	2.18	1.82	1.46	1.39
28F1050	13-542	13	2.93	2.34	1.95	1.55	1.49
28F1051	14-542	14	3.11	2.49	2.07	1.66	1.58
28F1052	15-542	15	3.30	2.65	2.22	1.77	1.66
28F1053	16-542	16	3.51	2.80	2.34	1.88	1.79
28F1054	17-542	17	3.72	2.96	2.47	1.97	1.88
28F1057	20-542	20	4.28	3.43	2.87	2.29	2.18

JUMPERS FOR 500 SERIES

Stock No.	Type No.	For Use With	1-24	25-49	50-99	100-249	250-499
28F744	540-J	540	.38	.34	.28	.24	.23
28F745	541-J	541	.47	.37	.30	.25	.24
28F746	542-J	542	.50	.39	.34	.26	.25

QUICK CLAMP TERMINALS

Stock No.	Type No.	For Use With	For A.W.G.	1-24	25-49	50-99	100-249	250-499
28F740	QC-1	141,541	14-22	.18	.14	.13	.12	.11
28F741	QC-2	142,542	8-16	.18	.14	.13	.12	.11

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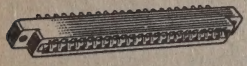
TRW CINCH CONNECTORS — Printed Circuit Board Connectors

P.C. CONNECTORS

Molded of diallyl phthalate type SDG-F. Barriers accept polarization keys. Terminals on .100 centers. Handle 1/16" thick single or double sided boards. Gold plated. 3 amps. 600 VDC.

Stock No.	Type No.	No. of Contacts	1-24	25-49	50-99	100-249	250-499
CONVENTIONAL SOLDER							
29F1323	50-30C-10	15/30	3.37	2.70	2.25	1.79	1.70
29F1324	50-44C-10	22/44	3.98	3.17	2.65	2.12	2.00
29F1325	50-72C-10	36/72	5.18	4.14	3.45	2.76	2.61
29F1326	50-80C-10	40/80	5.46	4.37	3.64	2.90	2.75
29F1327	50-86C-10	43/86	5.80	4.64	3.86	3.09	2.91
DIP SOLDER							
29F1328	50-30C-20	15/30	3.37	2.70	2.25	1.79	1.70
29F1329	50-44C-20	22/44	3.98	3.17	2.65	2.12	2.00
29F1330	50-72C-20	36/72	5.18	4.14	3.45	2.76	2.61
29F1331	50-80C-20	40/80	5.46	4.37	3.64	2.90	2.75
29F1332	50-86C-20	43/86	5.80	4.64	3.86	3.09	2.91
WIRE WRAP							
29F1333	50-30C-30	15/30	3.42	2.75	2.30	1.84	1.75
29F1334	50-44C-30	22/44	4.03	3.22	2.70	2.17	2.05
29F1335	50-72C-30	36/72	5.23	4.19	3.50	2.81	2.66
29F1336	50-80C-30	40/80	5.51	4.42	3.69	2.96	2.80
29F1337	50-86C-30	53/86	5.85	4.69	3.91	3.14	2.97

DIP SOLDER TERMINAL PC CONNECTORS



Bifurcated bellows contacts. Accepts single or double 1/16" thick sided boards. Dip solder terminations: .125". 5 amps.

Stock No.	Type No.	No. of Contacts	1-24	25-49	50-99	100-249	250-499
29F1338	50-12S-30-2*	6/12	1.33	1.06	.90	.71	.67
29F1339	50-20S-30-2*	10/20	1.78	1.43	1.18	.96	.92
29F1340	50-24S-30-2*	12/24	2.02	1.69	1.34	1.07	1.02
29F1341	50-30S-30-2*	15/30	2.36	1.87	1.58	1.26	1.18
29F1342	50-36S-30-2*	18/36	2.70	2.15	1.79	1.43	1.37
29F1343	50-44S-30-2*	22/44	3.15	2.52	2.10	1.67	1.60
29F1344	50-50S-30-2*	25/50	3.76	3.00	2.50	2.01	1.91
29F1345	50-12S-30-1#	6/12	1.33	1.06	.90	.71	.67
29F1346	50-20S-30-1#	10/20	1.78	1.43	1.18	.96	.92
29F1300	50-24S-30-1#	12/24	2.02	1.69	1.34	1.07	1.02
29F1301	50-30S-30-1#	15/30	2.36	1.87	1.58	1.26	1.18
29F1302	50-36S-30-1#	18/36	2.70	2.15	1.79	1.43	1.37
29F1303	50-44S-30-1#	22/44	3.15	2.52	2.10	1.67	1.60
29F1304	50-50S-30-1#	25/50	3.76	3.00	2.50	2.01	1.91

(*) Between Contact Type. (#) In Contact Type

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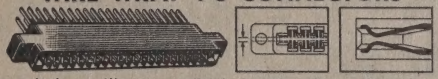
WIRE WRAP PC CONNECTORS



Bifurcated cantilever contact construction. Accepts 1/16" thick single or double sided boards. Withdrawal shorting protection. 3 amps. 900 VAC RMS. 1200 VDC. Contact Res: 16 mV max. Total insertion force: 20 lbs. max.

Stock No.	Type No.	No. of Contacts	1-24	25-49	50-99	100-249	250-499
.550" TAIL LENGTH							
29F1305	50-20E10-1	10/20	2.92	2.33	1.95	1.56	1.47
29F1308	50-30E10-1	15/30	3.05	2.44	2.04	1.63	1.55
29F1311	50-36E10-1	18/36	3.40	2.72	2.27	1.81	1.72
29F1314	50-44E10-1	22/44	4.08	3.27	2.72	2.17	2.06
29F1317	50-50E10-1	25/50	4.25	3.40	2.84	2.27	2.15
29F1320	50-60E10-1	30/60	4.67	3.73	3.11	2.49	2.37
.755" TAIL LENGTH							
29F1306	50-20F10-1	10/20	2.92	2.33	1.95	1.56	1.47
29F1309	50-30F10-1	15/30	3.05	2.44	2.04	1.63	1.55
29F1312	50-36F10-1	18/36	3.40	2.72	2.27	1.81	1.72
29F1315	50-44F10-1	22/44	4.08	3.27	2.72	2.17	2.06
29F1318	50-50F10-1	25/50	4.25	3.40	2.84	2.27	2.15
29F1321	50-60F10-1	30/60	4.67	3.73	3.11	2.49	2.37
1.051" TAIL LENGTH							
29F1307	50-20G10-1	10/20	2.92	2.33	1.95	1.56	1.47
29F1310	50-30G10-1	15/30	3.05	2.44	2.04	1.63	1.55
29F1313	50-36G10-1	18/36	3.40	2.72	2.27	1.81	1.72
29F1316	50-44G10-1	22/44	4.08	3.27	2.72	2.17	2.06
29F1319	50-50G10-1	25/50	4.25	3.40	2.84	2.27	2.15
29F1322	50-60G10-1	30/60	4.67	3.73	3.11	2.49	2.37
28F1158	50-PK-2*		.064	.051	.043	.037	.034

(*) Polarizing key. Permits use of all contact positions.

STANDARD EDGE CONNECTORS FOR 1/16" PRINTED CIRCUIT BOARDS

Bifurcated contacts provide added contact reliability where vibration and irregularities are involved. Insulation is glass-filled diallyl phthalate, type SDG-F per MIL-M-14. Contacts are phosphor bronze with 30 micro-inches gold.

Stk. No.	Type	Cont. Pos.	Cont.	1-24	25-49	50-99	100-249	250-499
SINGLE READOUT WITH SOLDER TAB CONTACTS								
29F952	50-6A-20	6	6	1.33	1.06	.90	.71	.67
29F953	50-10A-20	10	10	1.78	1.43	1.18	.96	.90
29F954	50-12A-20	12	12	2.02	1.69	1.34	1.07	1.02
29F955	50-15A-20	15	15	2.36	1.87	1.58	1.26	1.80
29F956	50-18A-20	18	18	2.70	2.15	1.79	1.43	1.37
29F957	50-22A-20	22	22	3.15	2.52	2.10	1.67	1.60
29F978	50-25A-20	25	25	3.65	2.91	2.43	1.95	1.85
DOUBLE READOUT WITH SOLDER TAB CONTACTS (Contact positions have two contacts)								
29F958	50-12A-30	6	12	1.33	1.06	.90	.71	.67
29F959	50-20A-30	10	20	1.78	1.43	1.18	.96	.92
29F960	50-24A-30	12	24	1.96	1.64	1.30	1.04	.99
29F961	50-30A-30	15	30	2.29	1.82	1.53	1.22	1.15
29F962	50-36A-30	18	36	2.62	2.09	1.74	1.39	1.33
29F963	50-44A-30	22	44	3.06	2.45	2.04	1.62	1.55
29F979	50-50A-30	25	50	3.76	3.00	2.50	2.01	1.91

MIL SPEC. EDGE CONNECTORS

Meets Military Specification MIL-C-21097B. These date-coded connectors have beryllium copper contacts with 50 micro-inches gold.

Stk. No.	Type	MIL No.	1-24	25-99	50-99	100-249	250-499
SINGLE READOUT WITH SOLDER TAB CONTACTS							
28F1112	50-6A-20M	M21097/1.001	1.71	1.37	1.13	.91	.87
28F1113	50-10A-20M	M21097/1.037	2.39	1.91	1.60	1.28	1.21
28F1114	50-15A-20M	M21097/1.073	3.23	2.59	2.16	1.73	1.65
28F1115	50-18A-20M	M21097/1.109	3.76	3.00	2.50	2.01	1.91
28F1116	50-22A-20M	M21097/1.145	4.31	3.45	2.86	2.29	2.18
DOUBLE READOUT WITH SOLDER TAB CONTACTS							
28F1117	50-12A-30M	M21097/1.019	1.71	1.37	1.13	.91	.87
28F1118	50-20A-30M	M21097/1.055	2.39	1.91	1.60	1.28	1.21
28F1119	50-30A-30M	M21097/1.091	3.14	2.51	2.10	1.68	1.60
28F1120	50-36A-30M	M21097/1.127	3.65	2.91	2.43	1.95	1.85
28F1121	50-44A-30M	M21097/1.163	4.31	3.45	2.86	2.30	2.18

Stk. No.	Type	Cont. Pos.	Cont.	1-24	25-49	50-99	100-249	250-499
DOUBLE READOUT WITH DIP SOLDER CONTACTS								
29F964	50-12B-10	6	12	1.33	1.06	.90	.71	.67
29F965	50-20B-10	10	20	1.78	1.43	1.18	.96	.92
29F966	50-24B-10	12	24	1.96	1.64	1.30	1.04	.99
29F967	50-30B-10	15	30	2.29	1.82	1.53	1.22	1.15
29F968	50-36B-10	18	36	2.62	2.09	1.74	1.39	1.33
29F969	50-44B-10	22	44	3.06	2.45	2.04	1.62	1.55
SINGLE READOUT WITH DIP SOLDER CONTACTS								
28F1151	50- 6B-10	6	6	1.33	1.06	.90	.71	.67
28F1152	50-10B-10	10	10	1.78	1.43	1.18	.96	.92
28F1153	50-15B-10	15	15	2.36	1.87	1.38	1.26	1.18
28F1154	50-18B-10	18	18	2.70	2.15	1.79	1.43	1.37
28F1155	50-22B-10	22	22	3.06	2.45	2.04	1.62	1.55
28F1156	50-25B-10	25	25	3.65	2.91	2.43	1.95	1.85

POLARIZING KEYS

For use with above edge connectors

Stk. No.	Type	Description	1-24	25-49	50-99	100 249	250-499
28F1157	50-PK-1	in-contact	.07	.05	.04	.033	.032
28F1158	50-PK-2	between-contact	.064	.051	.043	.037	.034

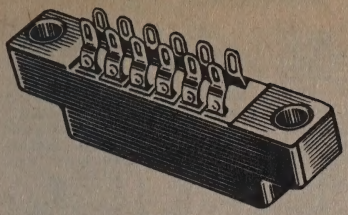
TYKON EDGE CONNECTORS

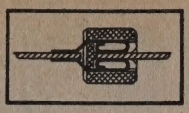
High density (.050" centers) edge connectors for .062" printed circuit boards. Applications include diode on insulating substrates, memory planes and almost any type of modular plug-in unit. Furnished with conventional wiring tails suitable for welding or soldering.

Stock No.	Type No.	Description	1-24	25-49	50-99	100-249	250-499
29F980	50-12A-40	6 dbl. row contacts	3.63	2.89	2.41	1.93	1.83
29F981	50-20A-40	10 dbl. row contacts	4.47	3.57	2.98	2.38	2.26
29F982	50-30A-40	15 dbl. row contacts	5.52	4.30	3.69	2.94	2.80
29F983	50-40A-40	20 dbl. row contacts	6.58	5.26	4.38	3.50	3.33
29F984	50-50A-40	25 dbl. row contacts	7.63	6.10	5.08	4.08	3.86
29F985	50-MC	Mounting Clip	.22	.16	.14	.13	.12
29F986	50-PK	Polarizing Key	.19	.15	.14	.13	.12

Edge Connectors and Terminal Strips

TRW CINCH CONNECTORS

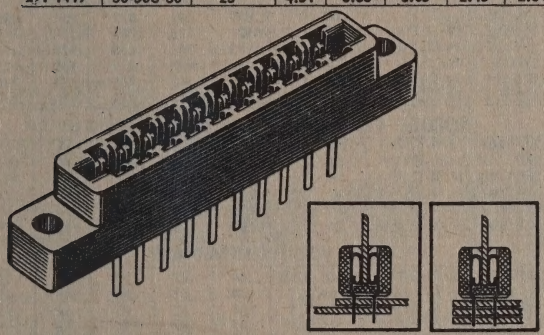




NEW CARD EXTENDER SERIES CONTACTS ON .156" CENTERS

Permit end-to-end connection of PC boards. The termination side of the connector has solder tab terminals formed so there is .050" spacing between rows. Insertion of a standard 1/16" board between the rows allows soldering of the terminals to the printed circuit conductor paths to form a permanent, vibration-proof attachment. The contact side accepts a PC board in the conventional manner. The specifications are the same as given for the extended dip solder tail series.

Stk. No.	Type	No. of contact positions	1-24	25-49	50-99	100-249	250-499
29F1413	50-12S-30	6	1.69	1.36	1.11	.90	.84
29F1414	50-20S-30	10	2.00	1.65	1.40	1.28	1.12
29F1415	50-24S-30	12	2.35	1.97	1.57	1.26	1.18
29F1416	50-30S-30	15	2.93	2.35	1.96	1.56	1.48
29F1417	50-36S-30	18	3.24	2.62	2.19	1.77	1.69
29F1418	50-44S-30	22	3.83	3.08	2.58	2.07	1.98
29F1419	50-50S-30	25	4.51	3.63	3.05	2.45	2.34



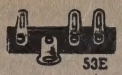
NEW EXTENDED DIP SOLDER TAIL SERIES CONTACTS ON .156" CENTERS

Have 15/64" terminations that are sufficiently long to pass through two or three PC boards. The connector can be used to connect two PC boards at right angles to a third PC board, or to provide the equivalent of a double-sided or multilayer board by making a "sandwich" of two or three boards. Each of these connectors is designed for minimum card wear and low insertion force, and each incorporates bifurcated contacts for positive electrical contact, even under conditions of high vibration or when used with slightly irregular boards. Contacts of the dip solder terminal connectors are made from phosphor bronze. Beryllium copper is used in the card extender contacts. All contact surfaces are plated with 30 micro-inches minimum of gold. Insulator in both designs is glass-filled diallyl phthalate, type SDG-F per MIL-M-14. Specifications. Electrical: Rated Voltage: AC RMS; adj. terminals 830V (Sea Level) 300 V (3.4 Hg. 50,000 ft.); 200 V (1.3 Hg. 70,000 feet). Current: 5.0 amps. Contact Resistance: .005 ohms at rated current. Insulation Resistance: 5000 megohms. Environmental: (Per MIL-C-21097 and MIL-STD-202, latest versions): Shock: 3 blows of 50G, Method 202B. Temp. Cycling: 5 continuous cycles per Method 107B, Test Condition B; Beryllium copper -65°C to 125°C; Phosphor bronze -65°C to 105°C.

Stk. No.	Single Read-out Type	No. of contact positions	1-24	25-49	50-99	100-249	250-499
29F1420	50-6S-10	6	1.33	1.06	.90	.71	.67
29F1421	50-10S-10	10	1.78	1.43	1.18	.96	.92
29F1422	50-12S-10	12	2.02	1.69	1.34	1.07	1.02
29F1423	50-15S-10	15	2.36	1.87	1.58	1.26	1.18
29F1424	50-18S-10	18	2.70	2.15	1.79	1.43	1.37
29F1425	50-22S-10	22	3.15	2.52	2.10	1.67	1.60
29F1426	50-25S-10	25	3.76	3.00	2.50	2.01	1.91

Stk. No.	Double Read-out Type	No. of contact positions	1-24	25-49	50-99	100-249	250-499
29F1427	50-12S-20	6	1.33	1.06	.90	.71	.67
29F1428	50-20S-20	10	1.78	1.43	1.18	.96	.92
29F1429	50-24S-20	12	2.02	1.69	1.34	1.07	1.02
29F1430	50-30S-20	15	2.36	1.87	1.58	1.26	1.18
29F1431	50-36S-20	18	2.70	2.15	1.79	1.43	1.37
29F1432	50-44S-20	22	3.83	3.08	2.58	2.07	1.98
29F1433	50-50S-20	25	4.41	3.53	2.95	2.36	2.24

LUG TYPE TERMINAL STRIPS



Solder coated steel lugs on 3/8" centers with .140 mtg. holes. Bakelite strips 1/16" thick and 3/8" wide. Shpg. wt., 1 oz.

Stock No.	Type No.	Description	Mtg. Ctr.	1-24	25-49	50-99	100-249	250-499
28F650	51	1 Lug	.....	.08	.06	.05	.04	.03
29F567	51A	2 Lugs; 1 Gnd.	.....	.08	.06	.05	.04	.03
29F568	51B	1 Lug	.....	.08	.06	.05	.04	.03
29F569	51C	2 Lugs; 1 Gnd.	.....	.08	.06	.05	.04	.03
29F570	51F	1 Lug	.....	.08	.06	.05	.04	.03
28F651	52	2 Lugs	.....	.08	.06	.05	.04	.03
29F574	52A	3 Lugs; 1 Gnd.	.....	.08	.06	.05	.04	.03
29F575	52B	2 Lugs	.....	.08	.06	.05	.04	.03
29F576	52C	3 Lugs; 1 Gnd.	.....	.08	.06	.05	.04	.03
28F652	53	3 Lugs	1½"	.09	.08	.07	.05	.04
29F582	53E	3 Lugs	.....	.09	.08	.07	.05	.04
29F583	53F	4 Lugs; 1 Gnd.	.....	.09	.08	.07	.05	.04
28F653	54	4 Lugs	1⅞"	.09	.08	.07	.05	.04
29F585	54A	6 Lugs; 2 Gnd.	1⅞"	.09	.08	.07	.05	.04
29F586	54B	4 Lugs	.....	.09	.08	.07	.05	.04
29F587	54C	5 Lugs; 1 Gnd.	.....	.09	.08	.07	.05	.04
28F654	55	5 Lugs	2¼"	.10	.09	.08	.07	.05
29F588	55A	7 Lugs; 2 Gnd.	2¼"	.10	.09	.08	.07	.05
29F590	55C	7 Lugs; 2 Gnd.	1½"	.10	.09	.08	.07	.05
28F655	56	6 Lugs	2⅝"	.10	.09	.08	.07	.05
29F591	56A	8 Lugs; 2 Gnd.	2⅝"	.10	.09	.08	.07	.05
29F593	56C	8 Lugs; 2 Gnd.	1⅞"	.10	.09	.08	.07	.05

SCREW TYPE TERMINAL STRIPS

Ideal for breadboard layouts. Solder coated brass term. .136" dia. mtg. holes. 1-6 lug strips 1/16" bakelite, 7-10 lug strips, 3/32" bakelite. Screws are captive to prevent removal. Terminals spaced on 7/16" centers.

Stk.No.	Type	Term.	Mtg. Ctr.	1-24	25-49	50-99	100-249	250-499
29F551	17-1	1	7/8"	.12	.10	.09	.08	.06
29F552	17-2	2	1 5/16"	.13	.12	.10	.09	.08
29F553	17-3	3	1¾"	.15	.13	.12	.10	.09
29F554	17-4	4	2 3/16"	.20	.17	.14	.13	.12
29F555	17-5	5	2⅝"	.23	.18	.15	.14	.13
29F556	17-6	6	3½"	.28	.23	.19	.17	.15
29F557	17-7	7	3½"	.34	.27	.23	.19	.18
29F558	17-8	8	3 5/16"	.35	.29	.24	.20	.19
29F559	17-9	9	4⅜"	.44	.33	.28	.23	.22
29F560	17-10	10	4 3/16"	.46	.35	.30	.24	.23

JONES SERIES 2000 TERMINALS

Sakelite insulation with cadmium steel brackets. Terminals are made of .019" tinned brass on 5/16" centers. Wt., 3 oz.

Stk. No.	Type	Term.	1-24	25-49	50-99	100-249	250 499
28F680	2002	2	.12	.11	.10	.09	.08
28F681	2003	3	.14	.12	.11	.10	.09
28F682	2004	4	.15	.14	.12	.11	.10
28F683	2005	5	.15	.14	.12	.11	.10
28F684	2006	6	.17	.15	.13	.12	.11
28F685	2007	7	.17	.15	.13	.12	.11
28F686	2008	8	.20	.16	.14	.13	.12
28F687	2009	9	.21	.17	.15	.14	.13
28F688	2010	10	.21	.17	.15	.14	.13
28F689	2011	11	.23	.19	.17	.15	.14
28F690	2012	12	.23	.19	.17	.15	.14
28F691	2013	13	.26	.22	.19	.16	.15

SERIES 170 TERMINAL BLOCKS

.032" brass tin plated Solder Term. Black molded bakelite. Size: 3/8" W. x 1/4" H. Mtg. on 3/8" ctrs.

Stock No.	Type	Contact	1-24	25-49	50-99	100-249	250-499
29F740	2-170	2	.30	.25	.22	.20	.19
29F741	3-170	3	.42	.32	.27	.23	.22
29F742	4-170	4	.48	.40	.30	.25	.24
29F743	5-170	5	.54	.44	.38	.28	.27
29F744	6-170	6	.62	.48	.42	.32	.29
29F745	7-170	7	.69	.54	.46	.38	.34
29F746	8-170	8	.75	.60	.50	.42	.40
29F747	9-170	9	.83	.67	.54	.44	.43
29F748	10-170	10	.91	.71	.60	.48	.46

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TRW CINCH CONNECTORS Integrated Circuit and Transistor Sockets

TO-5 AND TO-18 SEMICONDUCTOR SOCKETS

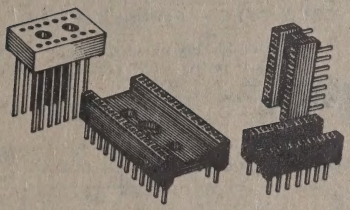
- LOW PROFILE .250"
- DIP SOLDER TERMINATIONS

1 amp. 750 VAC. 1020 VAC for SDG material. Contact Material: Beryllium copper except Type No. 3&4, phosphor bronze. Contact Plating: chromate .0003" cadmium, Type No. 3&4; .003" tin over .0001" copper, 6&8 MSS; .00003" gold over copper, ICS. Insulator Material: Mica filled phenolic except 6-MSS-1, Flourocarbon resin; ICS, Diallyl phthalate. (SDG).

Stock No.	Type No.	Socket Size	No. of Dim. Con-tacts	Draw-ing	1-24	25-49	50-99	100-249	250-499
29F1406	3-MSS	TO-5	3	1	.210	1.68	1.40	1.12	1.06
29F1407	4-MSS	TO-5	4	1	.435	.348	.290	.232	.220
29F1408	6-MSS	TO-5	6	3	.600	.480	.400	.320	.304
29F1409	6-MSS-1	TO-5	6	3	1.253	1.002	.835	.668	.635
29F1410	8-MSS	TO-5	8	3	.72	.576	.480	.384	.365
29F541	6-ICS	TO-5	6	4,6	.61	.48	.41	.34	.32
29F542	8-ICS	TO-5	8	4,5	.72	.59	.49	.39	.38
29F521	10-ICS	TO-5	10	4,7	.81	.64	.54	.44	.41
29F1411	3-MSS-2	TO-18	3	2	.30	.24	.20	.16	.152
29F1412	4-MSS-2	TO-18	4	2	.413	.330	.275	.22	.209

INTEGRATED CIRCUIT SOCKETS

- DIP SOCKETS
- 1 AMP RATING
- LOW CAPACITANCE



Ideal for testing and prototype purposes as well as production applications. Protect leads and hermetic seals. Positive electrical contact. Low contact resistance. Resistive to corrosive atmosphere and extremes in temperature and humidity. Withstanding Voltage: 1800 VRMS, dip solder tails; 1000 VAC RMS, wire wrap tails. Temp. Range: -65°C to 150°C. Insulations: (see tables at right) 1-GP Black Phenolic. 2-Diallyl Phthalate. 3-Black Glass Nylon. 4-White Glass Nylon. Lead Plating: 5-Electro Tin. 6-Gold.

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DIMENSIONAL DATA

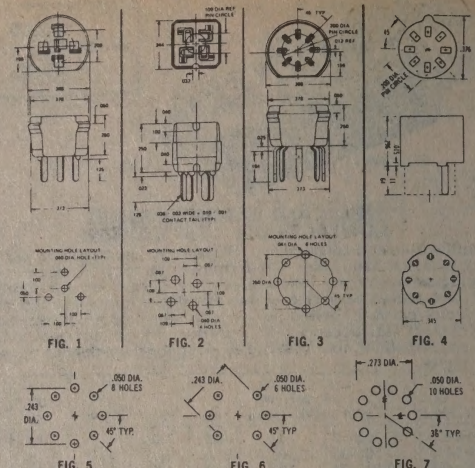


FIG. 1 FIG. 2 FIG. 3 FIG. 4

FIG. 5 FIG. 6 FIG. 7

SOLDER TERMINALS STANDARD THROAT

Stock No.	Type No.	Con-tacts	Plat-ing	1-24	25-49	50-99	100-249	250-499
29F545	14-DIP	14	1,5	.859	.687	.572	.458	.435
29F546	14-DIP-1	14	2,6	1.12	.895	.746	.596	.567
29F547	16-DIP	16	1,5	.953	.762	.635	.508	.483
29F548	16-DIP-1	16	2,6	1.23	.983	.820	.655	.623
29F650	24-DIP	24	1,5	1.426	1.147	.961	.775	.738
29F651	24-DIP-1	24	2,6	1.685	1.350	1.134	.914	.869

SOLDER TERMINALS SHALLOW THROAT

29F1400	14-N-DIP	14	1,5	.859	.687	.572	.458	.435
29F1401	14-N-DIP-1	14	2,6	1.12	.895	.746	.596	.567
29F1402	16-N-DIP	16	1,5	.953	.762	.635	.508	.483
29F1403	16-N-DIP-1	16	2,6	1.23	.983	.820	.655	.623
29F1404	24-N-DIP	24	1,5	1.426	1.147	.961	.775	.738
29F1405	24-N-DIP-1	24	2,6	1.685	1.350	1.134	.914	.869

WIRE WRAP TERMINALS

28F1159	14-W-DIP	14	3,5	.84	.67	.57	.45	.43
28F1160	14-W-DIP-1	14	4,5	.84	.67	.57	.45	.43
28F1161	14-W-DIP-2	14	3,6	1.09	.87	.72	.58	.55
28F1162	14-W-DIP-3	14	4,6	1.09	.87	.72	.58	.55
28F1163	16-W-DIP	16	3,5	1.03	.82	.68	.55	.51
28F1164	16-W-DIP-1	16	4,5	1.03	.82	.68	.55	.51
28F1165	16-W-DIP-2	16	3,6	1.28	1.03	.86	.68	.65
28F1166	16-W-DIP-3	16	4,6	1.28	1.03	.86	.68	.65

GENERAL PURPOSE TRANSISTOR SOCKET

Type 2TS-4. Triangular base layout. 2"x.1" (JETEC-30) contact centers, as well as three-contact-in-line. (.048x.192 contact centers) Casing: Bakelite; contacts: phosphor bronze, cadmium plated.

Stock No.	Type	1-24	25-49	50-99	100-249	250-499
38F687	2TS-4	.18	.147	.124	.112	.102

MICA-FILLED SUB-MINIATURE SOCKETS

2H3 2H5 8SM

For test equipment, instruments, radios etc. Molded mica-filled low loss Phenolic; silver plated beryllium copper contacts. 2H5-for transistor or 4 prong tubes.
*Mounting Ring included. (**) Mtg. ring for 8SM.

Stk. No.	Type	Mfr. No.	Prongs	1-24	25-49	50-99	100-249	250-499
38F639	2H3*	46A20928	3	.30	.26	.22	.18	.17
38F630	2H5*	46A11953	5	.26	.21	.17	.16	.15
38F631	2H6*	46A11955	6	1.24	.98	.83	.66	.64
38F632	2H7*	46A11957	7	.46	.38	.30	.25	.24
38F629	8SM*	46A13886	8	.68	.56	.46	.38	.37
29F719	2MR**	20K13702	....	.101	.086	.072	.057	.043

TRANSISTOR SOCKET

2TS-1

2TS-2

Laminated. Vacuum wax impregnated. Mount. holes; .136" dia. 2TS-2: sames as 2TS-1 exc. integral eyelets for chasis mount.

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499
38F684	2TS-1	6-20 Threaded Mtg. Holes	1.34	.112	.102	.090	.080
38F685	2TS-2	Unthreaded	1.34	.112	.102	.090	.080

POWER TRANSISTOR INSULATOR WAFERS

2W-1 2W-2 2W-3

Hard anodized aluminum. High thermal conductivity, high dielectirc resistance. High abrasion and corrosion resistance.

Stk. No.	Type	Mfr. No.	Description	1-24	25-49	50-99	100-249	250-499
29F654	2W1	294457	For Mot 2N-179 2N-176, 2N-554	.67	.67	.67	.67	.44
29F655	2W2	294665	For Delco 2N174	.62	.62	.62	.62	.39
29F656	2W3	294666	For Tex. Insl. 2N-389	1.13	1.13	1.13	1.13	.79

Tube and Special Purpose Sockets

TRW CINCH CONNECTORS

MILITARY TYPE TUBE SOCKETS

Max. Volt: 500 VAC RMS. Current: 1 A. Oper. Temp: 100°C. Chassis Opening: ⅝" dia., 7-pin, ¾" 9-pin. Insl. Res: 1000 megs min. Withstand Volt: 2000 VAC min. Mica Filled Phenolic-Mil-M-14F, Type MFE; Steatite Ceramic Mil-1-10, Grade 14. Contacts: Phosphor Bronze-QQP-330, Beryllium Copper-QQ-G-523. Saddles, bases, strap nuts, center shields Brass-QQ-B-626 or QQ-B-613. Finishes: Cadmium-QQ-P-416a, Silver-QQ-S-365, Nickel-QQ-N-290. Passivation-Mil-STD-171.

7 PIN SOCKETS

Stk. No.	Type	MIL-S-12888A	CAST'O MAT'L		1-24	25-49	50-99	100-249	250-499
29F660	7JM-2	TS102PO1	MFE	S	.342	.257	.225	.182	.171
29F1171	7JC-2	TS102CO1	Ceramic	S	.46	.375	.299	.246	.235
29F1172	7JMN-1	TS102PO2	MFE	T	.268	.225	.178	.154	.141
29F1173	7JMN-2	TS102PO2	MFE	T	.268	.225	.178	.154	.141
29F1174	7JCN-2	TS102CO2	Ceramic	T	.439	.364	.289	.235	.225
29F1175	7JCN-1	TS102CO2	Ceramic	T	.439	.364	.289	.235	.225
29F1176	7JM-3	TS102PO3	MFE	B	.268	.225	.128	.154	.141
29F1177	7JC-3	TS102CO3	Ceramic	B	.439	.364	.289	.235	.225

9 PIN SOCKETS

29F1178	9JM-2	TS103PO1	MFE	S	.36	.27	.23	.20	.18
29F1179	9JC-2	TS103CO1	Ceramic	S	.48	.39	.32	.25	.24
29F1180	9JMN-2	TS103PO2	MFE	T	.34	.25	.22	.18	.17
29F1181	9JMN-1	TS103PO2	MFE	T	.34	.25	.22	.18	.17
29F1182	9JCN-1	TS103CO2	Ceramic	T	.50	.41	.36	.26	.25
29F1183	9JM-4	TS103PO3	MFE	B	.34	.25	.22	.18	.17
29F1184	9JM-3	TS103PO3	MFE	B	.34	.25	.22	.18	.17
29F1185	9JC-3	TS103CO3	Ceramic	B	.50	.41	.36	.26	.25

ROUND RELAY

Beryllium copper, silver-plated contacts with hot tinned tails. Steel saddle. 1 5/16" mtg. centers. Casting of mica insulation.

Stk. No.	Type	Cont.	1-24	25-49	50-99	100-249	250-499
29F710	14RS	14	.95	.77	.65	.50	.48
29F988	20RS-1	20	2.40	1.92	1.60	1.28	1.22
29F989	16RS-1	16	1.93	1.55	1.29	1.03	.98
29F990	14RS-1	14	1.60	1.28	1.07	.86	.82

MOLDED CONNECTOR PLUGS AND SOCKETS

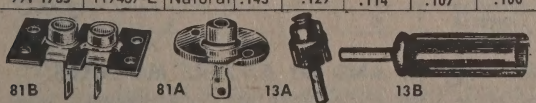
8PB 11PB 11RB

Stk. No.	Type	Mfr. No.	Contacts	1-24	25-49	50-99	100-249	250-499
29F701	8PB	54B16021	8 plugs	.27	.23	.20	.17	.16
29F702	11PB	54B13795	11 plugs	.37	.26	.23	.20	.18
29F703	11RB	54A13783	11 sockets	.37	.28	.24	.20	.19

PRINTED CIRCUIT TEST JACK

Designed for permanent, soldered assembly to printed circuit boards. Gold over silver-plated contacts. Contacts provide low resistance for insertions of .080 Dia. probes. Nylon bodies. 5 amps max. 3000 volts peak for test voltage.

Stk. No.	Type	Color	1-24	25-49	50-99	100-249	250-499
99F1725	119437-A	White	.143	.129	.114	.107	.100
99F1726	119437-B	Red	.143	.129	.114	.107	.100
99F1727	119437-C	Black	.143	.129	.114	.107	.100
99F1728	119437-D	Brown	.143	.129	.114	.107	.100
99F1729	119437-E	Green	.143	.129	.114	.107	.100
99F1730	119437-F	Orange	.143	.129	.114	.107	.100
99F1731	119437-G	Blue	.143	.129	.114	.107	.100
99F1732	119437-H	Yellow	.143	.129	.114	.107	.100
99F1733	119437-J	Grey	.143	.129	.114	.107	.100
99F1734	119437-K	Purple	.143	.129	.114	.107	.100
99F1735	119437-L	Natural	.143	.129	.114	.107	.100



81B 81A 13A 13B

PHONO JACKS AND PLUGS

81A. Single prong phono jack. 1 1/16" mounting centers. 81B. Two phono jacks. 1/16" bakelite panel. 1 3/16" mtg. centers. Spaced on 7/16" centers. Panel Size: 1½"x1". 13A. Plug. For 81A and 81B jacks. Shpg. wt. 3 oz. 13B. Motorola antenna plug for 81C, 81F. Shpg. wt. 4 oz.

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
39F797	81A	.16	.13	.12	.11	.10
39F795	81B	.22	.18	.15	.13	.12
39F796	13A	.102	.090	.079	.067	.057
39F396	13B	.191	.158	.134	.112	.102

MINIATURE SOCKETS

7AB1 7EB 7JM-3

7 PIN MINIATURE SOCKETS-MOLDED SADDLE TOP MOUNT

Stk. No.	Type	Desc.	1-24	25-49	50-99	100-249	250-499
38F633	7AB1	Black	.165	.131	.118	.107	.094
38F634	7AM1	Mica	.201	.154	.131	.118	.107

7 PIN—MOLDED SADDLE TYPE—BOTTOM MOUNT

38F636	7EB	Black	.141	.118	.107	.094	.083
38F637	7EM	Mica-Filled	.165	.131	.118	.107	.094

9 PIN MOLDED SADDLE TYPE TOP MOUNT

38F677	9AB	Black	.162	.128	.116	.105	.092
38F678	9AM	Mica-Filled	.20	.15	.14	.13	.12

9 PIN MOLDED SADDLE TYPE BOTTOM MOUNT

38F679	9EB	Black	.162	.128	.116	.105	.092
38F680	9EM	Mica-Filled	.20	.15	.14	.13	.12

7 PIN—SHIELD BASE TYPE

38F674	7XB1	Black	.214	.161	.139	.128	.118
38F675	7XM1	Mica-Filled	.246	.203	.171	.150	.139
38F676	7XC	Ceramic	.51	.42	.36	.27	.26

9 PIN MINIATURE SOCKETS—SHIELD BASE TYPE

38F681	9XB	Black	.24	.20	.17	.15	.14
38F682	9XM	Mica	.26	.22	.18	.16	.15
38F683	9XC	Ceramic	.41	.32	.26	.22	.21

MOLDED TUBE SOCKETS

Brass solder coated contacts. *Black, †Mica.

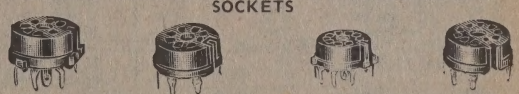
8AB MOLDED OCTAL 1-5/16" MOUNTING CENTERS

Stk. No.	Type	Mtg. Hole	1-24	25-49	50-99	100-249	250-499
38F670*	8AB	.136 D.	.162	.128	.116	.105	.092
38F671†	8AM	.136 D.	.20	.15	.14	.13	.12

MOLDED OCTAL 1½" MOUNTING CENTERS

38F672*	8EB	.143 D.	.162	.128	.116	.105	.092
38F673†	8EM	.140 D.	.20	.15	.14	.13	.12

CONVENTIONAL STAND-OFF TYPE PRINTED CIRCUIT SOCKETS



7PC-B 7PC-B1 9PC-B 9PC-B1

Stand-off sockets resting on shoulder of contact tail providing air gap for cooling and eliminating moisture. Designed for 1/16" printed circuit boards having bottom circuitry. Center shield and tabs * or none.**

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
29F604	7PC-B*	.139	.118	.107	.096	.086
29F605	7 PC-B1**	.118	.107	.096	.086	.075
29F507	9 PC-B*	.162	.128	.116	.105	.092
29F608	9 PC-B1**	.162	.128	.116	.105	.092

PRINTED CIRCUIT SOCKETS WITH SHIELD BASES

Attached bayonet-type shield base ground tab. Use with 1/16" printed curcuit boards. Castings low loss mica-filled phenolic (MFE). Contacts phosphor bronze, hot-tinned finish. Center shield, ground tab are brass, hot-tinned, Base is brass, nickel-plated.

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499
29F602	7PC-M2	7-pin Min.	1.11	.89	.74	.60	.58
29F603	9PC-M2	9-pin Min.	1.22	.97	.82	.65	.63

VIDICON SOCKETS

Type 7VT, 7 contact socket for RCA Vidicon Tube Nos. 6198 and 7038. Casting material is mica. Contacts are silver-plated phosphor bronze. JETEC No. E8-11.

Stk.No.	Type	1-24	25-49	50-99	100-249	250-499
29F997	7VT	2.87	2.28	1.91	1.53	1.46
29F999	8VT	2.87	2.28	1.91	1.53	1.46

110-250 VOLT 2 PRONG SOCKET

15 amps 110V, 10 amps 250V high dielectric black bakelite. 25/64x25/32" hole. .144 diam. mtg. holes on 1⅛" centers. Shpg. wt. 4 oz.

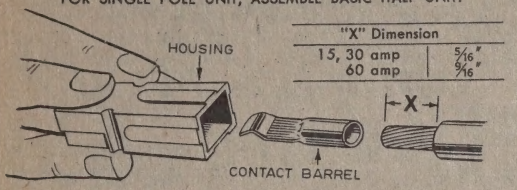
Stk. No.	Type	Mfr. No.	1-24	25-49	50-99	100-249	250-499
39F394	2R2	54A12844	.23	.19	.17	.15	.14

SPC Technology "A" Mode* Connectors

*Amperage Module. A unique concept in electronic connectors. This patented design offers these significant features:

- Meets Current Requirements from 15 through 600 Amps
- High Voltage Protection—Rated 600 Volts
- Self-Mating—No Separate Male and Female Units
- Stackable—Insulation Cases Fit Like Building Blocks With Slide-Lok Action that Permits Multipole Assembly
- Mountable—Case Designed for Screw Mounting of Assemblies
- Extremely Low Contact Resistance—400 Micro-ohms
- Snap Action—Positive Connect and Disconnect
- Self Cleaning of Contacts with Each Make and Break
- Maximum Conductivity from Silver Plated Copper Contacts
- High Reliability Index—15,000 Cycle Mechanical Life
- Color Coded Cases—Simplify Wiring
- U.L. Recognized and C.S.A. Listed
- High Dielectric, Impact Resistant Polycarbonate Case
- Non-Pitting Current Carrying Surfaces
- Vibration Protected—Full Current Flow under Vibration

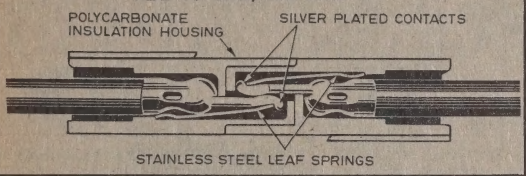
DESIGN & ASSEMBLE "A" MODE TO YOUR OWN CONFIGURATION FOR SINGLE POLE UNIT, ASSEMBLE BASIC HALF UNIT:



1. Strip wire per chart above.
2. Solder or crimp* wire into contact barrel.
3. Insert† contact into housing until it snaps into place.

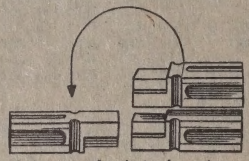
*See "A" Mode Crimp Tools for important requirements.
†Use #13N2017 insertion & removal tool for 15, 30, 60A sizes.

COMPLETE CONNECTION—SNAP TOGETHER 2 HALF UNITS HEAD TO HEAD, ONE INVERTED

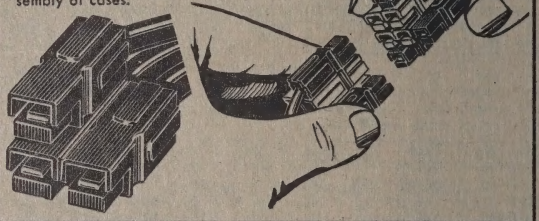


MULTIPOLE CONNECTOR

1. Strip wire for each pole desired.
2. Solder or crimp into contact barrel.
3. Slide together as many cases as desired.
4. Snap crimped contact in place in each insulation case.
5. Snap connector halves together, one inverted.



6. Mount if desired, using mounting holes formed by assembly of cases.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Characteristics	15 AMP	30 AMP	60 AMP
NOMINAL AMPERAGE:	15	30	60
SIZE (inches):	5/16x5/16x3 1/32	5/16x5/16x3 1/32	5/8x5/8x1 7/8
HOUSING MATERIAL:	Polycarbonate	Polycarbonate	Polycarbonate
STANDARD COLOR:	Yellow	Red	Blue
CONTACT MATERIAL:	Copper, Silver Plated	Copper, Silver Plated	Copper, Silver Plated
SPRING MATERIAL:	300 Series Stainless Steel	300 Series Stainless Steel	300 Series Stainless Steel
OPERATING TEMPERATURE RANGE:	—20°C to 105°C	—20°C to 105°C	—20°C to 105°C
CURRENT RATING:	15 Amp on 16 AWG Wire produces 19°C Rise	30 Amp on 12 AWG Wire produces 30°C Rise	60 Amp on 6 AWG Wire produces 30°C Rise
VOLTAGE RATING:	600	600	600
BREAKDOWN VOLTAGE TO MOUNTING:	6000 DC	6000 DC	10,000 DC
WIRE SIZE ACCOMMODATION:	16 to 20 AWG	12 to 18 AWG	6 to 12 AWG
MAX. WIRE INSULATION DIAMETER	.137"	.137"	.437"
MATING FORCE (one pair)	Approx. 2 lbs.	Approx. 2 lbs.	Approx. 10 lbs.
EXTRACTION FORCE (one pair)	Approx. 2 lbs.	Approx. 2 lbs.	Approx. 10 lbs.
CONTACT RETENTION FORCE:	Approx. 25 lbs.	Approx. 25 lbs.	Approx. 50 lbs.
CONTACT INSERTION FORCE:	Approx. 3 lbs.	Approx. 3 lbs.	Approx. 4 lbs.
CONTACT RESISTANCE (AVERAGE):	With 5/8" of 16 AWG wire 875 Microhms	With 5/8" of 12 AWG wire 600 Microhms	With 1 1/4" of 6 AWG wire 400 Microhms
VIBRATION RESISTANCE:	Excellent	Excellent	Excellent
CONNECT-DISCONNECT:			
a. No Load	15,000	15,000	15,000
b. Under Load	For disconnect use only	For disconnect use only	For disconnect use only
IMPACT RESISTANCE:	High	High	High
ENVIRONMENTAL RESTRICTIONS:	Protected—No Hydrocarbon Fluids	Protected—No Hydrocarbon Fluids	Protected—No Hydrocarbon Fluids

ENGINEERING DESIGN TEST KITS

Designer packages including instructions, for engineering evaluation and prototype testing. *Each package contains six silver plated contacts and six insulation cases.

Stk. No.	Amps	Color	Units/Kit*	Per Kit
13N2014	15	Yellow	6	2.40
13N2015	30	Red	6	3.00
13N2016	60	Blue	6	9.00

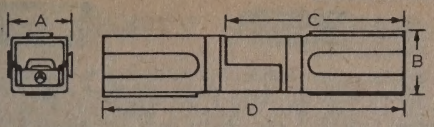
"A" MODE CONNECTOR STANDARD PACKAGES—15, 30 AND 60 AMPERE MODULES

Sold only in multiples of standard pkgs. For smaller quantity see Engineering Design Test Kits, above. Each connector includes silver plated contact and insulation case. Contact Newark for larger quantity prices.

Stock No.	Amps	Color	AWG Wire Size	Std. Pkg.	PRICE PER PACKAGE 1-9	10-24	25-49	50-99	100-249
13N2000	15	Yellow	16-20	100	35.00	33.00	30.00	28.00	22.00
13N2001	30	Red	12-18	100	45.00	41.00	38.00	35.00	28.00
13N2002	30	Green	12-18	100	45.00	41.00	38.00	35.00	28.00
13N2003	30	Black	12-18	100	45.00	41.00	38.00	35.00	28.00
13N2004	30	White	12-18	100	45.00	41.00	38.00	35.00	28.00
13N2005	60	Blue	6-12	25	33.75	31.25	28.75	27.50	22.00
13N2006	60	Red	6-12	25	33.75	31.25	28.75	27.50	22.00
13N2007	60	Black	6-12	25	33.75	31.25	28.75	27.50	22.00

SPC Technology "A" Mode Connectors

DIMENSIONAL SPECIFICATIONS—INCHES



Rating	A	B	C	D
15 Amp	5/16	5/16	3 1/32	1 3/8
30 Amp	5/16	5/16	3 1/32	1 3/8
60 Amp	5/8	5/8	1 7/8	3 13/64
120 Amp	7/8	7/8	2 3/4	4 5/8
180 Amp	1 1/8	1 1/8	3 1/4	5 1/2
600 Amp	2 3/8	2 3/8	6	9 13/16

PHYSICAL AND ELECTRICAL CHARACTERISTICS—120, 180 AND 600 AMP MODULES

Characteristic	120 Amp	180 AMP	600 Amp
NOMINAL AMPERAGE:	120	180	600
SIZE (INCHES):	3/8x3/8x2 3/4	1 1/8x1 1/4x3 1/4	2 3/4x2 3/8x6
HOUSING MATERIAL:	Polycarbonate	Polycarbonate	Polycarbonate
STANDARD COLOR:	Blue	Blue	Blue
CONTACT MATERIAL:	Copper, Silver Plated	Copper, Silver Plated	Copper, Silver Plated
SPRING MATERIAL:	300 Series Stainless Steel	300 Series Stainless Steel	300 Series Stainless Steel
OPERATING TEMPERATURE RANGE:	—20°C to 105°C	—20°C to 105°C	—20°C to 105°C
CURRENT RATING:	120 AMP on 2 AWG Wire produces 30°C Rise	180 AMP on 1/0AWG Wire produces 30°C Rise	600 AMP on 600 MCM Cable produces 30°C Rise
VOLTAGE RATING:	600	600	600
BREAKDOWN VOLTAGE TO MOUNTING:	10,000V DC	10,000V DC	10,000V DC
WIRE SIZE ACCOMMODATION:	6 to #2AWG	#4 to 1/0AWG	250 to 600 MCM
MAX. WIRE INSULATION DIAMETER:	.600	.900	1.750
MATING FORCE (one pair):	10 LBS.	15 LBS.	60 LBS.
EXTRACTION FORCE (one pair):	10 LBS.	15 LBS.	40 LBS.
CONTACT RETENTION FORCE:	100 LBS.	150 LBS.	240 LBS.
CONTACT INSERTION FORCE:	6 LBS.	10 LBS.	60 LBS.
CONTACT RESISTANCE (AVERAGE):	With 1" of #2 AWG wire 100 Microhms	With 1 1/2" of 1/0 AWG wire 65 Microhms	With 2" of 600 MCM AWG wire 25 Microhms
VIBRATION RESISTANCE:	Excellent	Excellent	Excellent
CONNECT-DISCONNECT:			
A. No load:	15,000	15,000	15,000
B. Under Load:	For Disconnect Use Only	For Disconnect Use Only	For Disconnect Use Only
IMPACT RESISTANCE:	High	High	High
ENVIRONMENTAL RESTRICTIONS:	Protected-No Hydro-Carbon Fluids	Protected-No Hydro-Carbon Fluids	Protected-No Hydro-Carbon Fluids

"A" MODE STANDARD PACKAGES—120, 180 AND 600 AMP MODULES

Each connector includes silver plated contact and insulation case. Sold only in multiples of standard pkgs.

Stock No.	Amps	Color	AWG Wire Size	Std. Pkg.	PRICE PER PACKAGE 1	2	3-4	5-9	10-Up
13N2008	120	Blue	2-6	20	75.00	70.00	65.00	60.00	50.00

Stock No.	Amps	Color	AWG Wire Size	Std. Pkg.	PRICE PER PACKAGE 1-3	4-5	6-9	10-19	20-Up
13N2009	180	Blue	0-4	10	52.50	47.50	44.00	40.00	35.00
13N2010	180	Black	0-4	10	52.50	47.50	44.00	40.00	35.00
13N2011	180	White	0-4	10	52.50	47.50	44.00	40.00	35.00
13N2012	180	Red	0-4	10	52.50	47.50	44.00	40.00	35.00

Stock No.	Amps	Color	AWG Wire Size	Std. Pkg.	EACH 1-9	10-24	25-49	50-Up
13N2013	600	Blue	600MCM	1	44.00	40.00	36.00	34.00

12

[A] INSERTION AND REMOVAL TOOL FOR CONTACTS

For use with 15, 30 and 60 amp contacts.
13N2017. Net.....6.25

"A" MODE CRIMPING TOOLS

"A" Mode crimping tools are designed to operate on the indent principle; which results in locking the wire in the barrel of the contact without deforming or flattening the contact barrel. Crimping devices that flatten or deform the barrel would prevent proper insertion and locking of the contact in the insulation case.

[B] HAND CRIMP TOOL FOR 15 AND 30 AMP CONTACTS

Quickly and easily crimps contacts.
13N2018.....39.00

[C] RATCHET TYPE HAND CRIMP TOOLS

Controlled crimp cycle—jaws will not open until full crimp indent has been achieved.
13N2019. For 15 and 30 Amp Contacts.....149.00
13N2020. For 60 Amp Contacts.....149.00

[D] PNEUMATIC BENCH MOUNTED CRIMP TOOLS

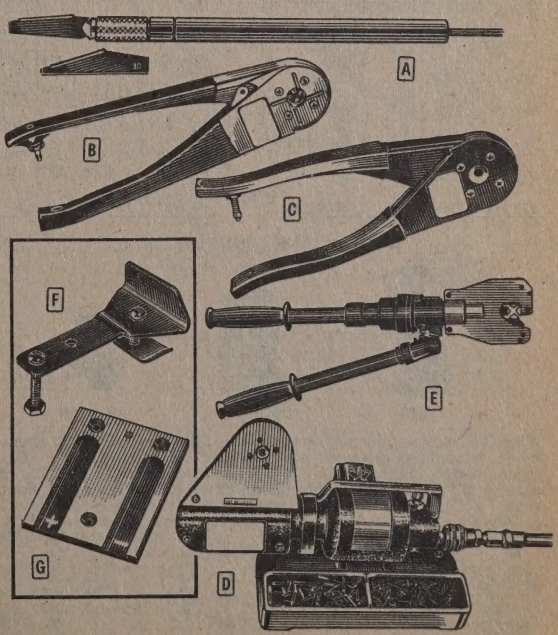
80N350. For 15 and 30 Amp Contacts.....575.00
80N351. For 60 Amp Contacts.....575.00

[E] PORTABLE HYDRAULIC CRIMP TOOL

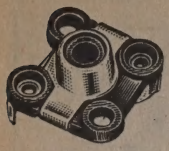
For 120 and 180-amp contacts. Controlled crimp cycle.
80N352.....440.00

MOUNTING FOR 600-AMP CONNECTOR

For secure installation of two pairs of connectors. Order handle and bracket.
13N2022. (Fig. F.) Handle.....6.50
13N2021. (Fig. G.) Bracket.....6.50



"4-LEAF CLOVER JACK"



Offers dual contact surfaces for min. shunt resistance. Tip spring with shunt form dual contact around pin of phono plug upon insertion. High di-electric body for low leakage. Requires no hand adjusting. Mates with any phono jack with a ⅛" diameter. Mounts on ¾" centers in a $^{13}/_{32}$" hole, in panels $^{13}/_{64}$" thick. Depth behind panel, ⅜". Shpg. wt. 2 oz.

Stk. No.	Type	Circuit	1-24	25-49	50-99	100-249	250-499	500-999
26F863	3511	Open	.21	.19	.18	.14	.13	.126
26F865	3512	Closed	.24	.22	.20	.16	.152	.144
26F866	3512A	Closed-Grd.	.24	.22	.20	.16	.152	.144

EXTENSION JACKS

A

B

Clamp-type terminals provide solid cable anchor. Solder lug terminals mechanically interlock. Shielded types have nickel-plated brass shell. All fit standard phone plugs, except * special jack for thin-shank (.206" dia) plugs. Shpg. wt. ea., 4 oz.

HANDLE TYPE—BLACK

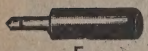
Stock No.	Mfr. Type	Fig.	No. Cond.	Lug Type	1-24	25-49	50-99	100-249	250-499	500-999
39F670	80	A	2	Screw	.87	.80	.725	.58	.551	.522
39F671	88	A	2	Solder	.78	.72	.65	.52	.49	.47
22F269	830	A	3	Screw	1.14	1.05	.95	.76	.722	.684

HANDLE TYPE—SHIELD

39F672	120	B	2	Screw	1.14	1.05	.95	.76	.722	.684
22F247	121	....	2	Solder	1.20	1.10	1.00	.80	.76	.72
39F785	126	B	2	Solder	1.26	1.16	1.05	.84	.798	.756
39F673	128	B	2	Solder	1.05	.96	.875	.70	.665	.63
39F757	1230	B	2	Screw	1.47	1.35	1.23	.98	.931	.882
39F772	S-128*	B	2	Solder	1.11	1.02	.925	.74	.703	.666

"TINI-JAX" MINIATURE PHONE JACKS AND PLUGS

E


F

"Tini-Jax" is a sub-min. phone jack weighing less than ⅛ ounce. Mounts in ¼" dia. hole in panels up to ⅛" thick. "Tini-Plugs" all are sub-min. 2 conductor phone plugs designed for use with the above jacks. For use with cables up to $^{3}/_{16}$" O.D. Available in black or red plastic handles or shielded brass nickel plated handle.

Stock No.	Mfr. Type	Fig.	Description	1-24	25-49	50-99	100-249	250-499	500-999
39F744	41	E	open circuit jack	.33	.30	.275	.22	.209	.198
39F745	42A	E	closed circuit jack	.36	.33	.30	.24	.228	.216
39F689	43A	....	closed circuit jack	.54	.50	.45	.36	.342	.324
39F746	750	F	Blk. plastic handle	.54	.50	.45	.36	.342	.324
39F747	755	F	Red plastic handle	.54	.50	.45	.36	.342	.324
39F748	780	F	Shielded	.75	.69	.625	.50	.475	.45
22F248	125	....	Shielded	.90	.83	.75	.60	.57	.54

MICROPHONE CONNECTORS

2501F

2501MT

5501MP

Microphone type connectors used with miniaturized audio equipment. Accepts single conductor shielded cables up to $^{3}/_{16}$". OD. nickel plated brass bodies. Connectors are about ½ the size of standard. 5501F is removable for quick change of female to male type. Type 5501MP mounts back of panel in $^{3}/_{16}$", dia. hole.

Stock No.	Type	Description	1-24	25-49	50-99	100-249	250-449	500-999
22F396	2501F	female	.48	.44	.40	.32	.304	.288
22F397	2501MP	male	.36	.33	.30	.24	.228	.216
22F398	2501M	male	.39	.36	.325	.26	.247	.234
39F776	5501F	female	.48	.44	.40	.32	.304	.288
39F778	5501MP	male,panel	.36	.33	.30	.24	.288	.216

"LITTEL-PLUG" PHONE PLUGS

A

B

For 2 and 3-conductor cables. Fit standard jack, except S-250 and S-280. Solder types have cable clamp. †Shielded plugs nickel-plated brass handles. Size, $2^{57}/_{64}$"x½". Shpg. wt., 3 oz. *Special thin-shank (.206 dia.) plug. Mates with Switchcraft S-11, S-12B, S-13B jacks above. **Special two-conductor plug with wide insulator between tip and sleeve for use in 3-conductor jack.

Fig A.

Stock No.	Mfr. Typ.	Descrip.	No. Cond.	Lug Type	1-24	25-49	50-99	100-250	250-499	500-999
39F761	245	Red Plastic	2	Screw	.57	.523	.475	.38	.361	.342
39F674	255	Red Plastic	2	Solder	.54	.495	.45	.36	.342	.324
39F676	269	Red Plastic	3	Solder	.81	.743	.675	.54	.513	.486
39F760	240	Blk. Plastic	2	Screw	.57	.523	.475	.38	.361	.342
39F763	250	Blk. Plastic	2	Solder	.54	.495	.45	.36	.342	.324
39F675	260	Blk. Plastic	3	Screw	.90	.825	.75	.60	.57	.54
39F771	267	Blk. Plastic	3	Solder	.81	.743	.675	.54	.513	.486
39F677	S-250*	Blk. Plastic	2	Solder	.57	.523	.475	.38	.361	.342

Fig. B

39F765	270	Shielded†	2	Screw	.81	.743	.675	.54	.513	.486
39F764	280	Shielded†	2	Solder	.78	.715	.65	.52	.494	.468
39F766	290	Shielded†	3	Screw	1.05	.963	.875	.70	.665	.63
39F767	297	Shielded†	3	Solder	.99	.908	.825	.66	.627	.594
39F678	288**	Shielded†	2	Solder	.81	.743	.675	.54	.513	.486
39F762	S-280*	Shielded†	2	Solder	.78	.715	.65	.52	.494	.468
22F275	170	Shielded†	2	Screw	1.23	1.13	1.03	.82	.779	.738

PHONE PLUGS

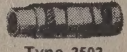
For two or three conductors. Fit all standard phone jacks. Shpg. wt., 5oz. *Solder term.

Stock No.	Mfr's. Type	Cond.	Handle Type	Handle Length	1-24	25-49	50-99	100-249	250-499	500-999
39F679	40	2	Black	$2^{1}/_{16}$"	.60	.55	.50	.40	.38	.36
39F580	70	2	Shield	$2^{1}/_{16}$"	.96	.88	.80	.64	.608	.576
39F681	160	2	Shield	1"	.78	.715	.65	.52	.494	.468
39F682	60*	3	Black	$2^{1}/_{16}$"	.81	.743	.675	.54	.513	.486
39F683	90*	3	Shield	1"	1.02	.935	.85	.68	.646	.612

PHONO PLUGS AND JACKS

Type 3501FP

Type 3502


Type 3503

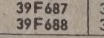
Type 3501MC

Type 3501FR

Model 3501FP. Standard phono jack mounts through panel and chassis with ¼"-32 nut. Fits panels up to ⅛" thick. Outside dia. $^{7}/_{16}$". Shpg. wt., 3 oz.
Model 3501FR. Standard phono jack mounts from rear. Uses ⅜"-32 threaded locknut on panels up to $^{13}/_{64}$" thick. $^{9}/_{16}$" mtg. hole dia. Shpg. wt., 3 oz.
Model 3502. Terminals may be crimped with a pliers for all temp. connection. "Handle" can be removed to expose terminals. Pin ⅝" long. Shpg. wt., 3 oz.
Model 3503. Removable handle, shielded cable clamp. Durable nickel plated body and handle. Max. cable dia. $^{11}/_{64}$". Jack length $^{17}/_{32}$". Shpg. wt., 3 oz.
Model 3501MC. Phono Plug that provides a convenient cable clamp. Eliminates problem of shielded cable "breaking" loose from old style Phono Plugs.
Model 3501M Phono Connector, (same as A3501MC except less cable clamp)

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499	500-999
39F684	3501FP	.24	.22	.20	.16	.152	.144
39F686	3501FR	.30	.275	.25	.20	.19	.18
39F685	3502	.33	.303	.275	.22	.209	.198
22F250	3503	.42	.385	.35	.28	.266	.252
39F687	3501MC	.09	.083	.075	.06	.057	.054
39F688	3501M	.06	.055	.05	.04	.038	.036

SWITCHCRAFT CONNECTORS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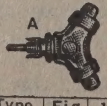
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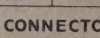
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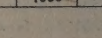
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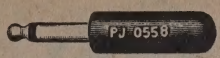
Stk. No.	Type	Fig.	1-24	25-49	50-99	100-249	250-499	500-Up
22F265	330F	A	1.29	1.18	1.08	.86	.817	.774
22F267	336A	C	1.26	1.16	1.06	.84	.798	.756
22F268	345A	D	.93	.853	.775	.62	.589	.558
22F270	349A	E	.78	.715	.65	.52	.494	.468

Plugs and Jacks

SWITCHCRAFT INC.

MIL-P-642(A) DESIGN PHONE PLUGS

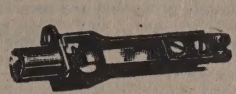
"Little Plugs", meet JAN specs. Handle—Black. Lug type—Screw. Fit standard phone jacks. 2 oz.



Stk. No.	Mfr's. Type	JAN Type	Signal Corps	Cond.	1-24	25-49	50-99	100-249	250-499	500-999
39F792	440	PJ-055B	PL-55	2	.90	.83	.75	.60	.57	.54
39F791	480	PJ-068	PL-68	3	2.16	1.98	1.80	1.44	1.37	1.30
"LITTEL-PLUGS" — MIL DESIGN										
22F391	482	PJ051R	PL51	3	2.40	2.20	2.00	1.60	1.52	1.44

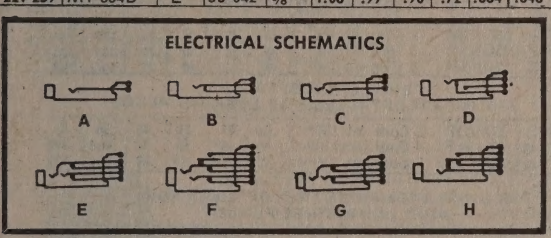
"MT-JAX"

Long frame type. Welded cross bar palladium contacts in all switching circuits. Mating plug: (*) PJ-055. (**) PJ-051.



Stock No.	Mfr's. Type	Sch.	Mil. Spec.	Ht.	1-24	25-49	50-99	100-249	250-499	500-999
22F225	MT-331*	A	JJ-086	7/16"	.78	.715	.65	.52	.494	.468
22F256	MT-332A*	B	JJ-024	1/2"	.90	.825	.75	.60	.57	.54
22F257	MT-332B**	C	JJ-022	9/16"	.90	.825	.75	.60	.57	.54
22F259	MT-334B**	E	JJ-042	5/8"	1.08	.99	.90	.72	.684	.648

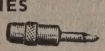
ELECTRICAL SCHEMATICS



"MICRO-JAX" AND "MICRO-PLUG" SERIES

TR-2A. "Micro-Jax." Ultra Miniaturized jacks. A 2 conductor single closed circuit design with keyed nylon insulation, interlock springs and solder lugs. Size: 7/16" L, 1/4" Dia. THD .101". **Type 850.** Ultra-min. plug. Features screw-on black aluminum handle. Clamp Lug. Cable up to 7/64" Dia. Size: 1 1/64" L; 1/4" O.D.

TR-2A


850

Stk. No.	Mfr's. Type	1-24	25-49	50-99	100-249	250-499	500-999
22F394	TR-2A	.39	.358	.325	.26	.247	.234
22F395	850	.51	.468	.425	.34	.323	.306

"TINI-TELEPHONE" JACKS

Miniature telephone jacks designed to be mounted on TT-Jack Panels. "TT-Jax" meet all material requirements of the military specifications for full size long-frame telephone jacks.

TWO-CONDUCTOR TYPES

Stk. No.	Mfr's. Type	Circuitry	1-24	25-49	50-99	100 249	250-499	500-999
39F2295	TT-31	A	.72	.66	.60	.48	.456	.432
39F2296	TT-32A	B	.87	.798	.725	.58	.551	.522
THREE-CONDUCTOR TYPES								
39F2297	TT-32B	C	.84	.77	.70	.56	.532	.504
39F2298	TT-34B	E	1.02	.935	.85	.68	646	.612
TWIN-JACKS								
39F2299	TT-89	.....	3.00	2.75	2.50	2.00	1.90	1.80

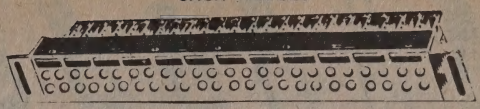
"HI-D JAX" PHONE JACKS

Compact jacks; mate with 1/4" plugs. Mounts on 5/8" centers. For P.C. board mounting. Mounts on 3/8" hole, in panels 5/32" thick. Depth behind panel, 13/32". Wt. 7/8 oz.

TWO-CONDUCTOR TYPES

Stock No.	Mfr's. Type	Schem. No	Mating Plug	1-24	25-49	50-99	100-249	250-499	500 999
39F656	111	A	250	.33	.303	.275	.22	.209	.198
39F657	112A	B	250	.36	.33	.30	.24	.228	.216
THREE-CONDUCTOR TYPES									
39F658	112B	C	267	.39	.358	.325	.26	.247	.234
39F659	113B	D	267	.66	.605	.55	.44	.418	.396
39F660	113F	E	267	.51	.468	.425	.34	.323	.306
39F661	114B	F	267	.57	.523	.475	.38	.361	.342

JACK PANELS



Polished Black phenolic panels, reinforced with steel, supports "T-Jax" or "MT-Jax". Slotted mounting brackets for standard 19" relay racks. Less jacks.
Series 1200. Single row 1 3/4" wide for 24 Jacks. Spaced so no shorting results. Shpg. wt., 3 1/4 lbs.
Series 2400. Double row Panel, 2 1/8" wide for 48 Jacks. Jacks spaced 5/8" to permit use of double plug. Shpg. wt., 5 lbs.
Series 2600. Double row Panel 1 3/4" wide for 52 Jacks. Jacks spaced 5/8" centers. Shpg. wt., 5 lbs.

Stk. No.	Type	1-24	25-49	50-99	100-249
22F252	1200	9.15	8.39	7.63	6.10
22F1022	1232A	25.20	23.10	21.00	16.80
22F253	2400	9.45	8.66	7.88	6.30
22F1021	2432A	44.10	40.43	36.75	29.40
22F254	2600	11.40	10.45	9.50	7 60
22F1020	2632A	49.80	45.65	41.50	33.20

FLAT PLUGS

Does not interfere with operation or placement of equipment. Screw-type terminals. Accept standard phone jacks. Wt. 4 oz.

Stk. No.	Mfr's. Type	Cond.	1-24	25-49	50-99	100-249	250-499	500-999
39F768	220	2	.84	.77	.70	.56	.532	.504
39F769	230	3	1.02	.935	.85	.68	.646	.612

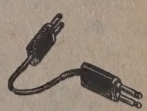
"LITTLE JAX" PHONE JACKS

Mount in 3/8" hole. C-11 equals Jan JJ-034, C12A, equals JJ-089, C-12B equals JJ-033. Special jack for thin-shank (.206 dia.) plugs. Also mates with S-250 and S-280 plugs below. *S-11, S-12B, S-13B sleeve bushing to fit WE plug 309 and Signal Corps plug PL-68. All mate with 440 plug.

Stock No.	Mfr. Type	No. Cond.	Circuit Type	1-24	25-49	50-99	100-249	250-499	500-999
39F782	11	2	Open	.33	.303	.275	.22	.209	.198
39F662	C-11	2	Open	.48	.44	.40	.32	.304	.288
39F663	S-11*	2	Open	.36	.33	.30	.24	.228	.216
39F783	12-A	2	Sgl C1.	.36	.33	.30	.24	.228	.216
39F664	C12-A	2	Sgl-C1.	.57	.523	.475	.38	.361	.342
39F665	12-B	3	Open	.42	.385	.35	.28	.266	.252
39F666	S-12B*	3	Open	.54	.495	.45	.36	.342	.324
39F667	C-12B	3	Open	.57	.523	.475	.38	.361	.342
39F668	13B	3	Sgl.-Cl.	.60	.55	.50	.40	.38	.36
39F669	S-13B*	3	Sgl.-Cl.	.75	.688	.625	.50	.475	.45

SERIES 17Q PATCH CORD

Uses Series 89Q two-conductor cord with Switchcraft No. 413 (PJ-241). Two leads wired tip to tip. No. 413 three circuit plug, two tip circuits, plug fingers, self-aligning. Lengths 6" to 10"



Stk. No.	Mfr's. Type	Length	1-24	25-49	50-99	100-249	250-499	500-999
39F690	17QD17	2'	7.59	6.96	6.33	5.06	4.81	4.55
39F692	17PD17	2'	7.59	6.96	6.33	5.06	4.81	4.55

SERIES 18Q PATCH CORD

Same as above except uses Series 89Q with Switchcraft No. 482(PH 051). No 482 is three-conductor plug which has one piece tip rod, one piece sleeve and body. Lengths 6" to 10'

Stk. No.	Mfr's. Type	Length	1-24	25-49	50-99	100-249	250-499	500-999
39F694	18QD18	2'	8.25	7.56	6.88	5.50	5.23	4.95
39F696	18QH18	4'	8.91	8.17	7.43	5.94	5.64	5.35

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SWITCHCRAFT INC.

Audio Connectors

A B C D E F G H I AA BB

Exact replacement plugs and recepticles for most foreign built tape recorders, radios, computers, and test equipment. Designed for all low level circuitry. Nickel plated barrel with plastic "snap-on" shells.

Molded phenolic in all inserts, and silver plated contact pins provide low mechanical interference, reduce noise and lower contact resistance, lock-ring coupling to prevent shock. Exclusive automatic grounding and polarization provision.

MALE PLUGS

FIG. A—STRAIGHT CORD WITH 30° LOCK RING PIN

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499	500-999
22F454	05CL3M	3 Pins at 180°	1.05	.96	.875	.70	.665	.63
22F455	05CL5M	5 Pins at 180°	1.17	1.07	.975	.78	.741	.702
22F456	09CL4M	4 Pins at 210°	1.11	1.02	.925	.74	.703	.666
22F457	12CL5M	5 Pins at 240°	1.17	1.07	.975	.78	.741	.702

FIG. B—STRAIGHT CORD PLUG WITH SHIELDED BARREL

22F458	05GM3M	3 Pins at 180°	.66	.605	.55	.44	.418	.396
22F459	05GM5M	5 Pins at 180°	.78	.715	.65	.52	.494	.468
22F465	09GM4M	4 Pins at 210°	.72	.66	.60	.48	.456	.432
22F466	12GM5M	5 Pins at 240°	.78	.715	.65	.52	.494	.468

FIG. C—STRAIGHT CORD PLUG WITH EXTENDED BARREL

22F467	05BL3M	3 Pins at 180°	.99	.908	.825	.66	.627	.594
22F468	05BL5M	5 Pins at 180°	1.11	1.02	.925	.74	.703	.666
22F469	12BL5M	5 Pins at 240°	1.11	1.02	.925	.74	.703	.666

FEMALE PLUGS

FIG. D—STRAIGHT CORD PLUG WITH EXTENDED SOCKET

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499	500-999
22F473	07FL3F	3 Cont. at 180°	.96	.88	.80	.64	.608	.576
22F474	14FL5F	5 Cont. at 240°	1.08	.99	.90	.72	.684	.648

FIG. E—STRAIGHT CORD WITH LOCK-FLANGE

22F475	06EL3F	3 Cont. at 180°	.99	.908	.825	.66	.627	.594
22F476	06EL5F	5 Cont. at 180°	1.11	1.02	.925	.74	.703	.666
22F477	13EL5F	5 Cont. at 210°	1.11	1.02	.925	.74	.703	.666

MALE PLUGS

FIG. F—STRAIGHT CORD PLUG WITH SNAP-LOCK PLASTIC SHELL

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499	500-999
22F478	05LK3M	3 Pins at 180°	.54	.495	.45	.36	.342	.324
22F479	05LK5M	5 Pins at 180°	.66	.605	.55	.44	.418	.396
22F480	09LK4M	4 Pins at 210°	.60	.55	.50	.40	.38	.36
22F481	12LK5M	5 Pins at 240°	.66	.605	.55	.44	.418	.396

FIG. G—STRAIGHT CORD PLUG WITH SHORT PLASTIC SHELLS

22F534	05QK3M	3 Pins at 180°	.36	.33	.30	.24	.228	.216
22F535	05QK5M	5 Pins at 180°	.48	.44	.40	.32	.304	.288
22F536	12QK5M	5 Pins at 240°	.48	.44	.40	.32	.304	.288

FEMALE RECEPTACLES

FIG. H—RECEPTACLES FOR LOCKING PLUGS

22F537	57HA3F	3 Cont. at 180°	.60	.55	.50	.40	.38	.36
22F543	60HA4F	4 Cont. at 210°	.66	.605	.55	.44	.418	.396
22F544	61HA5F	5 Cont. at 240°	.72	.66	.60	.48	.456	.432

FIG. I—FLANGE MOUNT RECEPTACLE FOR SHIELDED BARREL PLUGS

Stk. No.	Type	Description	1-24	25-49	50-99	100-249	250-499	500-999
22F545	57GA3F	3 Cont. at 180°	.42	.385	.35	.28	.266	.252
22F546	57GB5F	5 Cont. at 180°	.54	.495	.45	.36	.342	.324
22F547	60GA4F	4 Cont. at 210°	.48	.44	.40	.32	.304	.288
22F548	61GA5F	5 Cont. at 240°	.54	.495	.45	.36	.342	.324

CONTROL AND SWITCHING PLUGS WITH SNAP-ON SHELLS

22F566	01QK2M	Male Fig BB	.24	.22	.20	.16	.152	.144
22F567	02QK2F	Female Fig AA	.30	.275	.25	.20	.19	.18

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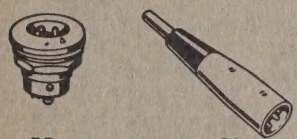

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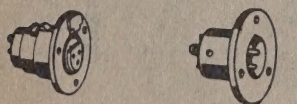


EE FF

II GG

HH LL

"QUICK GROUND" CONNECTORS

Feature a separate "Ground-Terminal" electrically integral with the connector shell. Ground continuity between mating plugs automatically accomplished through the exclusive "Ground Contactors." Possible loss of insert screw is eliminated by "Captive Design". Insert Screw, Socket and pin assemblies utilize "wedge-action" to insure firm, reliable positioning in connector shell. Q-G series 3 and 4-contact audio connectors offer 4 and 5-contact versatility when "Ground Terminal" is utilized. Can be used interchangeably with Cannon type (XLR-3), XLR-4) and Amphenol type (91-850) Series.

Stk. No.	Type	Description	No. Pins	Fig.	1-24	25-49	50-99	100-249	250-499	500-Up
27F066	A3F	Straight Female Plug	3	CC	1.47	1.35	1.23	.98	.931	.882
27F067	A4F	Straight Female Plug	4	CC	1 83	1.68	1.53	1.22	1.16	1.10
39F2274	A5F	Straight Female Plug	5	CC	3.15	2.89	2.63	2.10	2.00	1.89
27F068	A3M	Straight Male Plug	3	CC	1.26	1.16	1.05	.84	.798	.756
27F069	A4M	Straight Male Plug	4	CC	1.35	1.24	1.13	.90	.855	.81
39F2275	A5M	Straight Male Plug	5	CC	2.55	2.34	2.13	1.70	1.62	1.53
39F2276	B3F	Panel Locknut Socket-Fem.	3	...	3.00	2.75	2.50	2.00	1.90	1.80
39F2277	B4F	Panel Locknut Socket-Fem.	4	...	3.15	2.89	2.63	2.10	2.00	1.89
39F2278	B5F	Panel Locknut Socket-Fem.	5	...	4.35	3.99	3.63	2.90	2.76	2.61
27F062	B3M	Panel Locknut Socket	3	DD	1.80	1.65	1.50	1.20	1.14	1.08
27F065	B4M	Panel Locknut Socket	4	DD	1.89	1.73	1.58	1.26	1.20	1.13
39F2279	B5M	Panel Locknut Socket-Male	5	DD	3.09	2.83	2.58	2.06	1.96	1.85
27F060	C3M	Panel Flange Socket-Male	3	EE	.96	.88	.80	.64	.608	.576
27F064	C4M	Panel Flange Socket Male	4	EE	1.05	.963	.875	.70	.665	.63
39F2280	C5M	Panel Flange Socket Male	5	EE	2.25	2.06	1.88	1.50	1.43	1.35
27F059	C3F	Female Flange Socket	3	FF	1.92	1.76	1.60	1.28	1.22	1.15
27F063	C4F	Female Flange Socket	4	FF	2.01	1.84	1.68	1.34	1.27	1.21
27F2281	C5F	Female Flange Socket	5	FF	3.15	2.89	2.63	2.10	2.00	1.89
27F070	D3F	Female Flange Socket	3	GG	1.98	1.82	1.65	1.32	1.25	1.19
27F071	D4F	Female Flange Socket	4	GG	2.07	1.90	1.73	1.38	1.31	1.24
27F2282	D5F	Female Flange Socket	5	GG	3.21	2.94	2.68	2.14	2.03	1.93
27F072	D3M	Male Flange Socket	3	HH	1.20	1.10	1.00	.80	.75	.72
39F2283	D5M	Male Flange Socket	5	HH	2.19	2.01	1.83	1.46	1.39	1.31
39F2284	R3F	Right-Angle Fem. Plug	3	....	3.30	3.03	2.75	2.20	2.09	1.98
39F2285	R4F	Right-Angle Fem. Plug	4	....	3.75	3.44	3.13	2.50	2.38	2.25
39F2286	R5F	Right-Angle Fem. Plug	5	....	5.10	4.68	4.25	3.40	3.23	3.06
39F2287	R3M	Right-Angle Male Plug	3	....	3.06	2.81	2.55	2.04	1.94	1.84
39F2288	R4M	Right-Angle Male Plug	4	....	3.15	2.89	2.63	2.10	2.00	1.89
39F2289	R5M	Right-Angle Male Plug	5	....	4.50	4.13	3.75	3.00	2.85	2.70
27F1000	G3MS	Male Wall Plate, S. Steel	3	....	3.12	2.86	2.60	2.08	1.98	1.87
27F1003	H3MS	Male Wall Plate, S. Steel	3	II	4.38	4.02	3.65	2.92	2.77	2.63
27F1008	K3FS	Female Wall Plate, S. Steel	3	LL	3.24	2.97	2.70	2.16	2.05	1.94
27F1010	AC3	AC Receptacle (ungrounded)	3	...	.48	.44	.40	.32	.304	.288

Panels, Connectors, Terminal Blocks

ADC

JACK PANELS

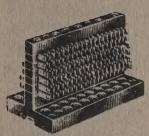
PJ-30
DOUBLE PANEL

PJ-33
SINGLE PANEL

Panels are compact and lightweight. Standard size offers 24, 26, 48, 52, 78, or 96 jacks in Bantam sized panel. Spaced to prevent cross patching of adjacent circuits when using double plugs. Panels are molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with 5/8" spacing. Mounting brackets and designation strips furnished with each panel. Fit standard relay rack. All double panel except (*) single panel

Stk. No.	Type	Holds	Hgt.	1-9
57F106	PJ-31	48 jacks, less jacks	2 1/8"	9.45
57F107	PJ-341	48 PJ-318 jacks w/jacks	2 1/8"	43.95
57F108	PJ-30	52 jacks, less jacks	13/4"	12.00
57F109	PJ-340	52 PJ-318 jacks w/jacks	13/4"	49.50
57F110*	PJ-33	24 jacks, less jacks	13/4"	9.15
57F111*	PJ-343	24 PJ-318 jacks w/jacks	13/4"	27.15
57F1187	PJ-731	96 jacks, less jacks	13/4"	19.20
57F1188	PJ-737	96 PJ-818 jacks w/jacks	13/4"	90.00
57F1189	PJ-739	96 PJ-839 jacks w/jacks	13/4"	111.00

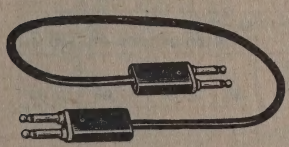
TERMINAL BLOCKS



The one piece base and individual terminal separators molded. Interchangeable with popular telephone type blocks 100A through 100D and L3A through L6A. Terminals are .040 brass. Rows of terminals are graduated in length for ease of writing and the top row of terminals is identified by numbering. The PJ-106 terminal block provides 120 terminals six rows of 20 terminals each.

Stock No.	Type	Rows of Terms.	No. of Terms.	Height	NET
57F100	PJ-101	1	20	1 29/32	3.45
57F101	PJ-102	2	40	2 1/4	4.65
57F102	PJ-103	3	60	2 19/32	5.85
57F103	PJ-104	4	80	2 15/16	7.05
57F104	PJ-105	5	100	3 9/32	8.25
57F105	PJ-106	6	120	3 5/8	9.45

PATCH CORDS



Shielded cords made of tinned copper conductor wire. Cords, as well as cord assemblies with PJ-1 double plugs. PJ-055B or PJ-051R single plugs and standard black patch cords with shields grounded both ends.

Cord with PJ-051R Plugs

Stk. No.	Type	Lgth.	1-24
57F133	PJ-82	2-feet	7.50
57F134	PJ-84	4-feet	8.10
57F135	PJ-86	6-feet	8.70

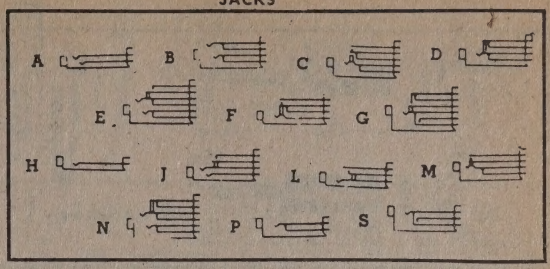
Cord with PJ-1 Plugs

Stock No.	Type	Lgth.	1-24	Stock No.	Type	Lgth.	NET
....	....	....	....	57F142	PJ-13	3-feet	7.80
57F140	PJ-11	1-foot	7.50	57F143	PJ-14	4-feet	8.10
57F141	PJ-12	2-feet	7.59	57F145	PJ-16	6-feet	9.09

Cord With PJ-055B Plugs

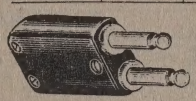
Stock No.	Type	Lgth.	1-9	Stock No.	Type	Lgth.	1-9
57F213	PJ-471	6-inch	5.04	57F216	PJ-474	3-feet	5.76
57F214	PJ-472	1-foot	5.25	57F217	PJ-475	4-feet	6.03
57F215	PJ-473	2-feet	5.43	57F218	PJ-476	6-feet	6.33

JACKS



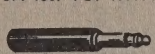
Unique one-piece frame, which provides both dimensional stability and maximum strength. Connecting lugs are hot-tinned. Coin silver contacts are welded to springs. Insulation is XXX phenolic to meet military requirements. Shpg. wt., 3 oz.

Stock No.	Type	Config.	Stack Ht.	Cont.	NET
57F112	PJ238	A	9/16"	3	.75
57F113	PJ240	E	3/4"	3	1.23
57F114	PJ241	J	3/4"	3	1.02
57F115	PJ242	N	3/4"	3	1.26
57F116	PJ339	B	9/16"	3	.96
57F119	PJ318	P	1/2"	2	.75
57F121	PJ338	G	13/16"	2	1.35
57F122	PJ418	P	1/2"	2	.78
57F123	PJ115	L	5/8"	2	.90
57F125	PJ117	D	9/16"	2	.90
57F126	PJ123	H	7/16"	2	.69
57F128	PJ203	S	9/16"	2	.87
57F1194	PJ-803	S	13/32"	2	.96
57F1195	PJ-818	P	13/32"	2	.84
57F1196	PJ-823	H	27/64"	2	.72
57F1197	PJ-838	A	35/64"	3	.81
57F1198	PJ-839	B	17/32"	3	1.05
57F1199	PJ-841	J	43/64"	3	1.23



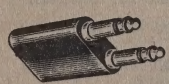
PJ-327. Twin plug. Provides two electrically independent, 2 conductor plugs in a phenolic shell. Self aligning plug sleeves are on 5/8" ctrs. For MIL-P-642A & WE 327.
57F163. NET 4.80

PJ-1. Equivalent, WE-241, heavy duty die cast frame. Black phenolic shell. Self aligning plug prongs on 5/8" center for use with all standard jack panels. Two tip conductors, plus sleeve connection common to both sleeves.
57F130. 1-24 ..... 2.91



PJ-051R. WE-310. Designed for use with 1/4" tip, ring and sleeve jacks. Molded insulation, red plastic shell. Three conductor.
57F131. 1-24 ..... 1.80

PJ-055B. (old style PJ-5). WE-47, fits 1/4" phone jacks. Black plastic shell. Screw terminals. Two conductor.
57F129. 1-24 ..... .84



PJ-6. Equivalent. WE-213. Designed for applications requiring two separate 3 conductor circuits. Self aligning plug prongs on 11/16" centers.
57F132. 1-24 ..... 5.40

BANTAM PATCH CORDS

Plastic jacketed, shielded tinned copper conductor. Plugs of connector are brass and a molded polystyrene insulation which also aids strain relief.

2 CONDUCTOR-SINGLE PLUG

Stk. No.	Type	Length	1-24
57F187	PJ-704	24"	3.78

2 CONDUCTOR-DOUBLE PLUG

57F192	PJ-754	24"	4.74

3 CONDUCTOR-SINGLE PLUG

57F196	PJ-712	12"	4.14
57F197	PJ-714	24"	4.50
57F198	PJ-716	36"	4.56
57F199	PJ-718	48"	4.62

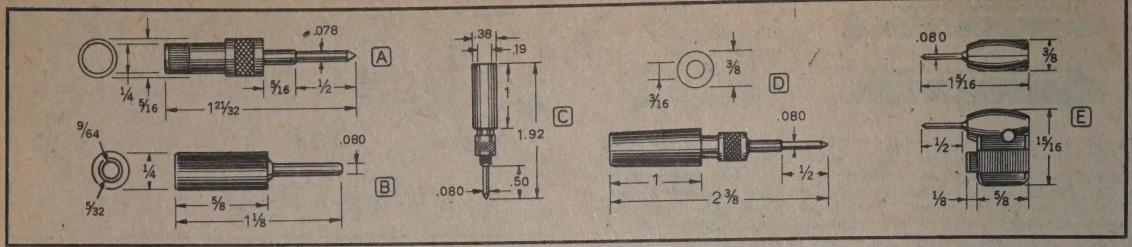
3 CONDUCTOR-DOUBLE PLUG

Stk. No.	Type	Length	1-24
57F1190	PJ-762	12"	6.21
57F1191	PJ-764	24"	6.57
57F1192	PJ-766	36"	6.60
57F1193	PJ-768	48"	6.78

12

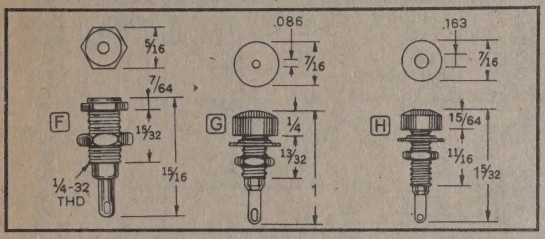
SPC Technology-Voltrex Plugs and Jacks

TIP PLUGS



Stk. No.	Color	Fig.	Description	Each 1-99	PER 100 100-299	300-499	500-Up
39N850	.....	A	Nickel-plated brass Solderless. Wire fastens under collar.	.18	15.00	13.50	12.15
35N689 35N690	Red Black	B	Hollow solder type. Brass. Insul. handle.	.15	12.00	10.80	9.72
39N852 39N853	Red Black	D	Solderless. Nickel-plated brass. Plast. Insul	.20	17.00	15.30	13.77

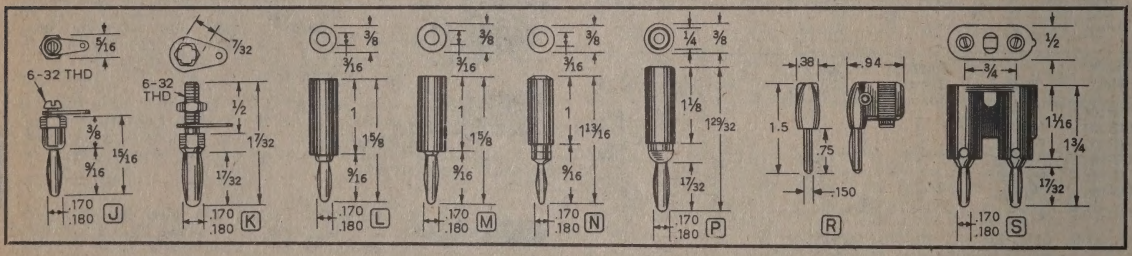
Stk. No.	Color	Fig.	Description	Each 1-99	PER 100 100-299	300-499	500-Up
35N775 35N776 35N777 35N778	Red Black Green Yellow	C	Insulated solderless plug. Nickel plated brass. 1" molded handle.	.20	17.00	15.30	13.77
39N963 39N964	Red Black	E	Meter plug, insul. Push-button wire connector.	.36	30.00	27.00	24.30



TIP JACKS

Stk. No.	Color	Fig.	Description	Each 1-99	PER 100 100-299	300-499	500-Up
39N855	.....	F	Nickel plated brass. 1/4" mtg., panels to 3/8".	.18	15.00	13.50	12.00
39N856 39N857 39N858 39N859	Red Black Green Yellow	G	Bakelite insul. head. Nickelplated brass. For 5/16" hole, panels to 3/8".	.18	15.00	13.50	12.50
35N2760 35N2761 35N2762 35N2763	Red Black Green Yellow	H	Accepts tip or banana plug. Bakelite insul. head. Nickel plated brass.	.24	20.00	18.00	16.20

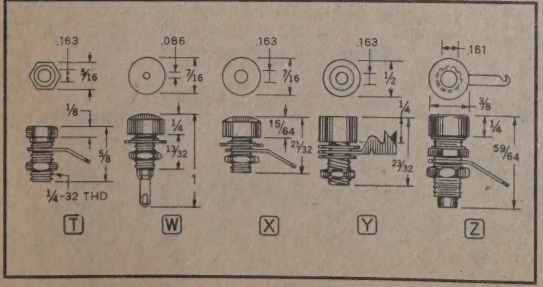
BANANA PLUGS



Stk. No.	Color	Fig.	Description	Each 1-99	PER 100 100-299	300-499	500-Up
39N890	.....	J	Nickel plated brass. Screw and tinned lug.	.24	22.00	21.00	18.00
38N291	.....	K	Threaded shank type. Lug and hex nut.	.30	25.00	22.50	20.30
39N944 39N940 39N941 39N942	Red Black Yellow Green	L	Insul. Wire can be soldered to internal stud. Stud can be used for solderless conn.	.27	25.00	22.50	19.80
39N863 39N864 39N865 39N866	Red Black Green Yellow	M	Insul. Side set screw for solderless conn. Molded Bakelite handle.	.30	25.00	22.50	20.30

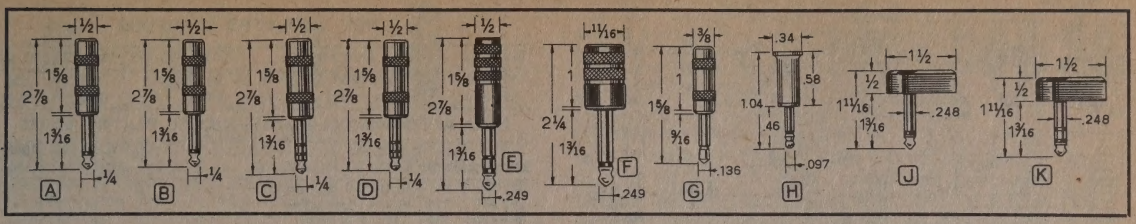
Stk. No.	Color	Fig.	Description	Each 1-99	PER 100 100-299	300-499	500-Up
39N934 39N935 39N936 39N937 39N938 39N939	Red Black Yellow Green Blue White	N	Bakelite insul. handle. Knurled collar holds wire.	.36	30.00	27.00	25.00
35N635 39N640	Red Black	P	Insul. handle. Threaded spacer solderless conn.	.54	45.00	40.50	36.50
39N965 39N966	Red Black	R	Meter plug, insul. Pushbutton conn.	.48	40.00	36.00	32.40
39N896	Black	S	Dual plug, insul. Std. 3/4" ctrs. Stackable.	.80	EACH .73	.69	.61

BANANA JACKS



Stk. No.	Color	Fig.	Description	Each 1-99	PER 100 100-299	300-499	500-Up
39N867	.....	T	All metal. For 1/4" hole, panels to 3/8".	.18	15.00	13.50	12.50
35N2760 35N2761 36N2762 35N2763	Red Black Green Yellow	W	Accepts banana or tip plug. Bakelite insul. Hex nut and fiber washer.	.24	20.00	18.00	16.20
39N868 39N869 39N870 39N871	Red Black Green Yellow	X	Bakelite insul. head. For 5/16" hole, panel to 3/8". Solder lug, hex nut, insul. washer.	.18	15.00	13.50	12.00
39N967 39N968	Red Black	Y	Shockproof, recessed jack. Insul. washer.	.22	18.00	16.20	14.40
39N972 39N973	Red Black	Z	Molded Nylon head, insul. washer. Panels to 1/4".	.30	25.00	22.50	20.00

SPC Technology-Voltrex Plugs and Jacks



STANDARD PHONE PLUGS

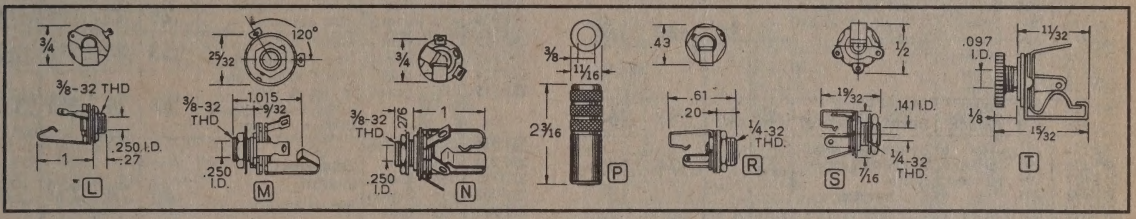
Stk. No.	Fig.	Handle	No. Cond.	Lug Type	1-24	25-49	50-99	100-249	250-499
39N674	A	Red	2	Solder	.54	.495	.45	.36	.342
39N763	A	Black	2	Solder	.54	.495	.45	.36	.342
39N764	A	Metal	2	Solder	.78	.715	.65	.52	.494
39N761	B	Red	2	Screw	.57	.523	.475	.38	.361
39N760	B	Black	2	Screw	.57	.523	.475	.38	.361
39N765	B	Metal	2	Screw	.81	.743	.675	.54	.513
39N676	C	Red	3	Solder	.81	.743	.675	.54	.513
39N771	C	Black	3	Solder	.81	.743	.675	.54	.513
39N767	C	Metal	3	Solder	.99	.908	.825	.66	.629
39N675	D	Black	3	Screw	.90	.825	.75	.60	.57
39N766	D	Metal	3	Screw	1.05	.963	.875	.70	.665

STANDARD PHONE PLUGS (CONT'D)

Stk. No.	Fig.	Handle	No. Cond.	Lug Type	1-24	25-49	50-99	100-249	250-499
39N682	E	Black	3	Solder	.81	.743	.675	.54	.513
39N683	F	Metal	3	Solder	1.02	.935	.85	.68	.646
39N768	J	Black	2	Screw	.84	.77	.70	.56	.532
39N769	K	Black	3	Screw	1.02	.935	.85	.68	.646

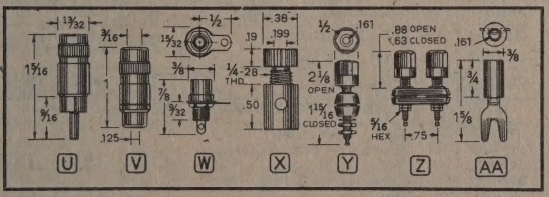
MINIATURE PHONE PLUGS (*Ultra-miniature)

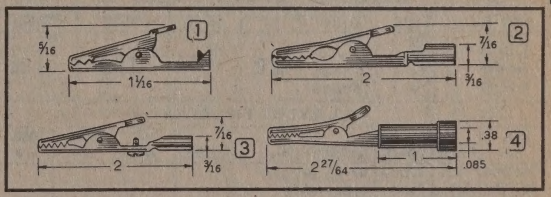
39N747	G	Red	2	Solder	.54	.495	.45	.36	.342
39N746	G	Black	2	Solder	.54	.495	.45	.36	.342
39N748	G	Metal	2	Solder	.75	.688	.625	.50	.475
22N395	H*	Black	2	Solder	.51	.468	.425	.34	.323



PHONE JACKS

Stk. No.	Fig.	Description	1-24	25-49	50-99	100-249	250-499
39N782	L	Standard jack, 2-cond., open circuit	.33	.303	.275	.22	.209
39N662	M	Standard jack, 2-cond., open circ., Mil JJ-034	.48	.44	.40	.32	.304
39N665	N	Standard jack, 3-cond., open circuit	.42	.385	.35	.28	.266
39N671	P	Extension jack, 2-cond., open circ., solder term.	.78	.715	.65	.52	.494
39N670	P	Extension jack, 2-cond., open circ., screw term.	.87	.798	.725	.58	.551
39N744	R	Miniature, 2-cond., open circ.	.33	.303	.275	.22	.209
39N745	S	Miniature, 2-cond., closed circ.	.36	.33	.30	.24	.228
22N394	T	Ultra-miniature, 3-cond., closed circ.	.39	.358	.325	.26	.247





PHONO PLUGS AND JACKS

Stk. No.	Fig.	Description	1-24	25-49	50-99	100-249
39N685	U	Phono plug, solder type.	.33	.303	.275	.22
22N250	V	Extension jack. Clamp or solder.	.42	.385	.35	.28
39N684	W	Phono jack. Solder lug.	.24	.22	.20	.16

BINDING POSTS (†One red, one black)

Stk. No.	Fig.	Color	Description	1-99	100-400	500-900	1000-Up
38N293	X	. . .	Metal. For ph. tip, ban. plug, wire.	.28	.23	.207	.186
				Each	PER 100		
				1-99	100-400	500-900	1000-Up
35N844	Y	Red	Insul. 30A, 2000V.	.60	50.00	45.00	40.50
35N749	Y	Black					
35N845	Z	Black	Dual post. Insul.				
35N846	Z	Red	¾" ctrs. Drilled	1.10	95.00	85.50	77.00
35N847	Z	†	for phone tips.				

INSULATED SPADE LUG

39N977	AA	Red	Fits post or term.	.168	14.00	12.60	11.34
39N978		Black	Accepts ban. plug or solder.				

ALLIGATOR CLIPS

MINIATURE—SOLDER TERMINALS

Stk. No.	Fig.	Description	1-9	10-99	100-499
28N528	1	Cad. plated steel	.09	.062	.053
28N529	1	Copper	.11	.076	.065

2-INCH CLIPS—ACCEPT WIRE OR BAN. PLUG

28N500	2	Solder type. Steel	.13	.078	.067
28N501	3	Screw type. Steel	.13	.09	.077
28N502	3	Screw type. Copper	.19	.136	.116

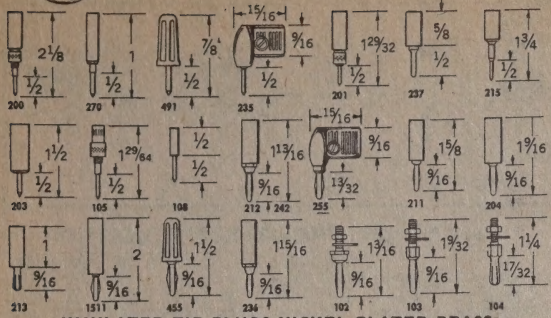
STANDARD CLIP WITH INSULATED HANDLE

28F604	4	Red. Acc. tip plug.	.43	.363	.326
28F605	4	Black. Acc. tip plug.			

FLEXIBLE INSULATORS FOR ALLIGATOR CLIPS

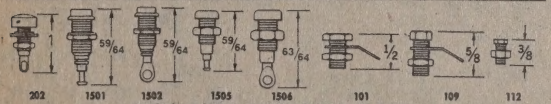
Stk. No.	Color	For Clip	1-9	10-99	100-499
28N472	Red	28N528, 28N529	.050	.033	.029
28N473	Black	28N528, 28N529	.050	.033	.029
28N492	Red	28N500, 501, 503, 604, 605	.060	.044	.037
28N493	Black	28N500, 501, 502, 604, 605	.060	.044	.037

H. H. Smith Connectors



INSULATED TIP PLUGS NICKEL PLATED BRASS

Stk. No.	Type	Color	Description	1-99	100-499	500-999	1000-Up
39F852	200	Red	Solderless				
39F853	200	Black	Threaded type.	.23	.19	.171	.152
39F848	200	Green	Bake-				
39F849	200	Yel.	lite handle				
39F846	270	Red	Sub-min.1 23/32" l.	.26	.22	.198	.176
39F847	270	Black	Fibre hndl.				
35F769	491	White	Short tip type				
35F770	491	Red	1. Nylon	.22	.18	.160	.140
35F771	491	Black	handle.				
35F772	491	Green					
35F773	491	Blue					
35F774	491	Yel.					
39F963	235	Red	meter type	.40	.33	.297	.264
39F964	235	Black	Bakelite handle.				
35F775	201	Red	Solderless insul.				
35F776	201	Black	Threaded type.	.23	.19	.171	.152
35F777	201	Green	Bake-				
35F778	201	Yel.	lite handle.				
35F689	237R	Red	Ins. Insulated	.17	.14	.126	.112
35F690	237B	Black	tip plug Solder type				
35F785	215	Red	Adapter. Banana	.23	.19	.171	.152
35F786	215	Black	to Tip plug				
35F687	203	Red	Insulated short	.20	.17	.153	.136
35F688	203	Black	tip plug				



INSULATED PHONE TIP JACKS

Stk. No.	Type	Color	1-9	10-49	50-99	100-Up
39F856	202	Red				
39F857	202	Black				
39F858	202	Green	.20	.17	.153	.136
39F859	202	Yellow				

ALL NYLON TIP JACKS

Stk. No.	Type	Color	Description	1-99	100-499	500-999	1000-Up
35F700	1501	White	Wrap around				
35F701	1501	Red	type. With				
35F702	1501	Black	metal shell.	.40	.33	.297	.264
35F703	1501	Green	Meets MS-				
35F704	1501	Blue	16108. Rev. C				
35F705	1501	Yel.					
35F706	1502	White	Spade				
35F707	1502	Red	terminal type.				
35F708	1502	Black	With metal	.56	.47	.423	.376
35F709	1502	Green	Shell. Meets				
35F710	1502	Blue	MS-16108.				
35F711	1502	Yel.	Rev. C				
35F750	1505	White	Wrap around				
35F751	1505	Red	type. Fits all				
35F752	1505	Black	Standard	.29	.24	.216	.192
35F753	1505	Green	phone tip				
35F754	1505	Blue	plugs.				
35F755	1505	Yel.	L. 59/64".				
35F756	1506	White	Spade				
35F757	1506	Red	terminal type.				
35F758	1506	Black	Fits all	.40	.33	.297	.264
35F759	1506	Green	standard				
35F760	1506	Blue	phone tip				
35F761	1506	Yel.	plugs L 63/64"				

NON-INSULATED BANANA JACKS

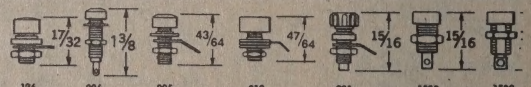
Stk. No.	Type	Description	1-99	100-299	300-499	500-Up
39F867	109	5/8" H.	.20	.17	.153	.136
35F865	101	1/2" H.				

NON INSULATED TIP PLUGS

Stk. No.	Type	Description	1-99	100-299	300-499	500-Up
39F850	105	Sr. type 1 29/32" l.	.20	.17	.153	.136
39F854	108	Ph. cord repl. tip	.04	.03	.030	.026

INSULATED BANANA PLUGS—NICKEL PLATED BRASS

Stk. No.	Type	Color	Description	1-99	100-499	500-999	1000-Up
39F934	212	Red	4 leaved				
39F935	212	Black	phosphor				
39F936	212	Yel.	bronze				
39F937	212	Green	nickel	.40	.33	.297	.264
39F938	212	Blue	plated				
39F939	212	White	springs.				
39F844	242	Red	Same as 212				
39F845	242	Black	except 4 leaved beryl. copper	.43	.36	.324	.228
39F944	211	Red	Bakelite				
39F940	211	Black	handle.Phosphor	.34	.28	.252	.224
39F941	211	Yel.	bronze spring.				
39F942	211	Green	Nickel-plated.				
39F863	204	Red	With side wire				
39F864	204	Black	locking set	.34	.28	.252	.224
39F865	204	Green	screw. 4 leaved				
39F866	204	Yel.	phosphor bronze spring.				
39F957	213	Red	Split type with	.26	.22	.198	.176
39F958	213	Black	side screw.				
39F965	255	Red	Meter type	.53	.44	.396	.352
39F966	255	Black	Bakelite handle.				
35F914	1511	Red	Stack type plugs				
35F915	1511	Black	in top & side. 4 leaved phosphor bronze spring.	.47	.39	.351	.312
35F779	455	White					
35F780	455	Red	Solderless.1½"				
35F781	455	Black	overall.	.34	.28	.252	.224
35F782	455	Green	Nylon handle.				
35F783	455	Blue					
35F784	455	Yel.					
35F635	236	Red	Solderless.4-leave	.60	.50	.450	.400
35F640	236	Black	phosphor bronze, nickel-plated. Hex. brass.				



MINIATURE BANANA JACKS

Stk. No.	Type	Color	Description	1-99	100-499	500-999	1000-Up
35F867	196	Black	Insulated	.34	.28	.252	.224
35F868	196	Red	Insulated				
35F2736	112	metal	non-insul	.12	.10	.090	.080

INSULATED BANANA JACKS

Stk. No.	Type	Color	Description	1-99	100-499	500-999	1000-Up
39F967	219	Red	Recessed				
39F968	219	Black	W/lockwasher				
39F969	219	Yel.	and brass	.24	.20	.180	.160
39F970	219	Green	tinned lug.				
39F971	219	Blue					
39F868	205	Red	W/brass				
39F869	205	Black	tinned lug.	.20	.17	.153	.136
39F870	205	Green					
39F871	205	Yel.					
39F972	221	Red	All Nylon				
39F973	221	Black	Mounts in ¼"				
39F974	221	Yel.	hole in panels	.34	.28	.252	.224
39F975	221	Green	up to 5/16"				
39F976	221	Blue	thick.				

ALL NYLON BANANA JACKS

35F712	1508*	White	Accepts std.				
35F713	1508	Red	banana plug.				
35F714	1508	Black	Mounts in 5/16"				
35F715	1508	Green	hole in panels	.17	.14	.126	.112
35F716	1508	Blue	up to 5/16" thick				
35F717	1508	Yel.	thick. 29/32" L.				
35F869	1509	Black	*Full round				
35F870†	1509+	Red	†double "D"				

NON-INSULATED BANANA PLUGS

Stk. No.	Type	Description	1-99	100-299	300-499	500-Up
38F290	102	1 leaved spring	.34	.28	.252	.224
38F291	103	4 leaved spring				
32F292	104	Split type cross slotted body	.23	.19	.171	.152

H. H. Smith Connectors

265

257

220-230

1517

BINDING POSTS

Molded bakelite head with molded in brass threaded insert. Com plete with 8-32 threaded screw ½" long and nickel plated brass lockwasher. ½" head dia. Accepts phone tips up to #10 gauge wire. Head screws down to clamp wire in place.

Stk. No.	Type	Color	Description	per 100 1-99	100-499	500-999	1000-Up
35F827	265	Red	Binding Post	.34	.28	.252	.224
35F832	265	Black	Binding Post				

5-way captive, molded plastic head and nickel plated brass body. Accepts phone tip plug, spade lug, banana plug, alligator clip or wire strand. Insulating washer supplied. 2 hex nuts † Supplied 8-32 x ½ long threaded stud. * Nylon body. ‡ 6/32x3/8 stud.

35F749	*257	Blk.	Molded Nylon 5 way with insul. washer	.66	.55	.495	.440
35F844	*257	Red	Brass gold plated	.66	.55	.495	.440
38F296	† 220	Red	5 way Grnd.	.30	.25	.225	.200
38F297	† 220	Blk.	5 way Grnd.	.30	.25	.225	.220
35F629	‡ 230	Red	Same as 220†	.30	.25	.225	.220
35F630	‡ 230	Blk.	Same as 220†	.30	.25	.225	.220
67F4000	*1517	Red	Molded nylon	.66	.55	.495	.440
67F4001	*1517	Blk.	Molded nylon	.66	.55	.495	.440

Miniature. brass, gold plated bodies, rated for 5 amps. Mount in both ¼" round or "D" holes. All accept .080" phone tip #6 spade lug; m niature banana plug, alligator clip or wire.

3015

3016

Stk. No.	Type	Color	Description	1-49	50-99	100-249	250-Up
35F2745	3015	Red	5-way single post wrap around. Molded Nylon Head & washer. Mil-P-20693A. Brass gold plated body. Mtgs. in ¼" round or "D" hole. 2 hex nuts.	.66	.55	.495	.440
39F1801	3015	Black					
35F2746	3016BB	Black Black	5-way dual posts. Molded nylon heads per Mil-P-20693A				
35F2747	3016RB	Red-Black	Brass gold plated body. Mtgs. in 2¼" round or double "D" hole. ½" centers panels up to ¼" thick.	1.00	.83	.747	.664
35F2748	3016RR	Red Red					

Type 136. Round head & body. Brass nickel plated. Rated 15 amps AC for 10°C. Temp. rise. Accepts std. phone tips or banana plug.

136

Stk. No.	Type	1-49	50-99	100-249	250-Up
38F293	136	.31	.26	.234	.208

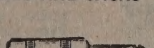
1-11/16" INSULATED SPADE LUG

Accepts banana jack. .020" Electro tinned steel.

Stk. No.	Type	Color	Ea. 1-9	10-49	50-99	100-Up
39F977	218	Red	.19	.16	.144	.128
39F978	218	Black				

TELEPHONE PLUGS AND JACKS

Type 226. Telephone plug Brass, nickel plated. Has tubular insulation. Tested at 1000 VAC. Fits 276 jack and all standard phone jacks. Solder terminals.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276

Type 276. Telephone jack. Brass, nickel plated bushing. Has Bakelite insulation. Come with brass hex nut and with steel mounting washer, 2-conductor osed. Mounts in 3/8" hole in panels up to 5/32" thick.

Stk. No.	Type	Description	1-49	50-99	100-249	250-Up
35F787	276	2-Conductor Closed	.47	.39	.351	.312
35F788	226	2-Circuit Solder	.95	.79	.711	.632

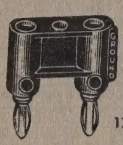
DUAL ASSEMBLIES

Molded black styrene washer, cross slotted to accept std. phone tips in post either forward, or side ways. Mts. in two ½" holes on ¾" mtg. ctrs. in panels up to ¼" thick. Supplied with 4 hex nuts and 2 washers, 284,269 connectors have captive type nylon heads with brass insert. Both accept standard dual banana plug.

284

269

Stk. No.	Type	Color	1-99	100-499	500-999	1000-Up
39F1654	284BB	2 black heads	.92	.77	.693	.616
39F1656	284RB	1 black—1 red head	.92	.77	.693	.616
35F845	269BB	2 black heads	1.26	1.05	.945	.840
35F846	269RR	2 red heads	1.26	1.05	.945	.840
35F847	269RB	1 black—1 red head	1.26	1.05	.945	.840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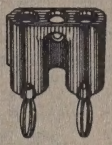
DUAL BANANA PLUGS


210

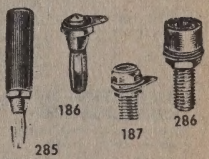
1749 Dual banana plugs on ½" centers for side stacking. Set screw connection. * ¾" centers.

DUAL BANANA PLUG TIPS

Stk. No.	Type	Accepts	1-49	50-99	100-249	250-Up
35F2739	1749	dual banana jack	.86	.72	.648	.576
67F4002	* 210	Plug. Red	.96	.80	.720	.640
67F4003	* 210	Plug. Blk.				

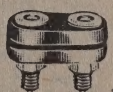
GIANT BANANA PLUGS AND JACKS

TYPE 285 AND 186 PLUGS. Hex brass, nickel plated body, 6 leaved, phosphor bronze, nickel plated spring.
TYPE 286 JACK. Supplied with hex nut fibre washer, lockwasher, screw and tinned copper lug. Mtgs. in ½" hole ¾" thick hex nut and brass tinned lug. Mtg. hole ⅜", ½" thick, ins. head. Type 187 JACK. With hex nut and brass tinned lug, uninsulated.


285 186 187 286

Stk. No.	Type	Color	Description	1-49	50-99	100-249
32F829	285	Red	Insul. plug	1.06	.88	.792
32F830	285	Black		1.06	.88	.792
38F295	186	Nickl Platd.	Screw and lug 15/32"	.60	.50	.450
35F789	187	Brass	mts. in ⅜" hole	.53	.44	.396
35F946	286	Black	ins., ⅜" hole	.73	.61	.549
35F947	286	Red	mts. in ⅜" hole	.73	.61	.549
67F4004	100	Brass	6/32" int. thread	.34	.28	.252
67F4005	401	Brass	6-32 x ⅜"	.34	.28	.252
67F4006	403	Brass	6/32 x ½	.34	.28	.252
67F4007	404	Brass	6/32 x ¼	.34	.28	.252
67F4008	405	Brass	8/32 x ⅜	.34	.28	.252
67F4009	406	Brass	8/32 x ½	.34	.28	.252
67F4010	407	Brass	8/32 x ¾	.34	.28	.252

DUAL BANANA JACK AND ADAPTER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1753

1755

Dual assemblies rated for 5 amps. Mount in two ¼" round single or double "D" holes on ½" centers with panel thickness up to ¼". Brass nickel plated bodies. Supplied with hex nuts. ½" centers.

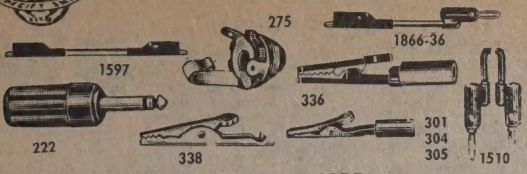
Stk. No.	Type	Description	1-9	10-49	50-99	100-Up
35F2738	3019	dual banana jack	.79	.66	.594	.528
35F2744	*1753	dual tip jack	.97	.81	.729	.648
35F2742	*1755	binding post jack	2.70	2.25	2.03	1.80

RIGHT ANGLE PRINTED CIRCUIT TEST JACK

Molded Nylon Body. Berylium copper spring. Silver underplate, gold over plate. Mounts in .052 holes, 400 centers in boards up to 3/16" thick. Double entry. Accepts probes .074-.084.

Stk. No.	Type	Color	1-99	100-299	300-499	500-Up
35F672	430	Black	.16	.13	.117	.104
39F1800	430	Red	.16	.13	.117	.104

H. H. Smith Connectors and Test Leads



MINIATURE PATCH CORDS

Min. Alligator clips both ends. Black or red vinyl boots.

Stk. No. Red	Stk. No. Black	Type	L.	1-24	25-49	50-99	100-Up
35F893	35F894	1597-12	12"	.76	.63	.57	.50
35F895	35F896	1597-18	18"	.77	.64	.58	.51
35F897	35F898	1597-24	24"	.78	.65	.59	.52
35F899	35F900	1597-36	36"	.80	.67	.60	.54
35F901	35F902	1597-48	48"	.83	.69	.62	.55
35F903	35F904	1597-60	60"	.85	.71	.64	.57

STANDARD PHONE PLUG AND JACK

Stk. No.	Type	Description	Each 1-49	50-99	100-249	250-Up
35F404	222	Phone Plug (Black)	.95	.79	.71	.63
35F405	222	Phone Plug (Red)	.95	.79	.71	.63
35F406	275	Std. Phone Jack	.40	.33	.30	.26

INSULATED JUMBO ALLIGATOR CLIPS

Solder connection with plastic handle. 5/8" jaw opening.

Stk. No.	Type	Color	1-99	100-499	500-999	1000-Up
35F848	397	Red	.38	.32	.29	.27
35F849	397	Black	.38	.32	.29	.27

MINIATURE ALLIGATOR CLIPS

3/16" jaw openings Solder conn. & ears for crimp.

35F670	338	.....	.07	.06	.05	.04

STANDARD ALLIGATOR CLIPS

Plastic handle. Accepts std. banana plug in rear.

35F671	301	Red	.12	.10	.09	.08
35F683	301	Blk.	.12	.10	.09	.08

ALLIGATOR CLIP ADAPTERS

Plastic handle. 1/2" jaw opening.

Stk. No.	Type	Color	Description	Each 1-99	100-499	500-999	1000-Up
28F604	304	Red	Adapts to phone tip plug	.48	.40	.36	.32
28F605	304	Blk.					
35F948	305	Red	Adapts to std. phone tip or banana plug	.52	.43	.39	.34
35F949	305	Blk.					
39F1652	336	Red	As 304 except all insulated	.52	.43	.39	.34
39F1653	336	Blk.					
39F1650	337	Red	As 336 but insulated clip only.	.53	.44	.40	.35
39F1651	337	Blk.					

BANANA PLUG MOLDED CROSS PATCH CORDS

Consist of 10,000 V. black PVC flexible wire cabled to two molded plastic banana plugs. Interconnects unlimited number of multiple circuits. Contacts for banana plugs on top and side. (*) With 1 8/32" or (†) 13/32" spring plug.

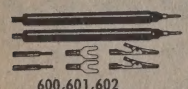
Red	Black	Type	Lt.	1-9	10-24	25-49	50-99
35F910	35F911	1510-8*	8"	1.56	1.35	1.22	1.08
35F912	35F913	1515-8†	8"	1.68	1.40	1.26	1.12
35F833	35F834	1510-12*	12"	1.56	1.30	1.17	1.04
35F835	35F836	1515-12†	12"	1.56	1.30	1.17	1.04
35F791	35F792	1510-24*	24"	1.62	1.35	1.22	1.08
35F793	35F794	1515-24†	24"	1.62	1.35	1.22	1.08
35F795	35F796	1510-36*	36"	1.68	1.40	1.26	1.12
35F797	35F798	1515-36†	36"	1.68	1.40	1.26	1.12

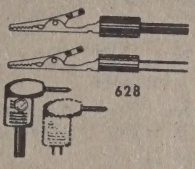
JUMPERS (STD. INS. ALLIGATOR CLIPS BOTH ENDS)

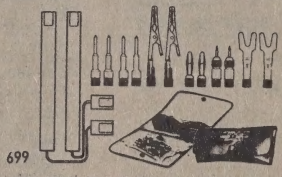
Stk. No.	Type	Color	Length	1-24	25-49	50-99	100-Up
35F677	1596-12	Red	12"	.76	.63	.57	.50
35F684	1596-12	Black	12"	.76	.63	.57	.50
35F678	1596-36	Red	36"	.80	.67	.60	.54
35F685	1596-36	Black	36"	.80	.67	.60	.54

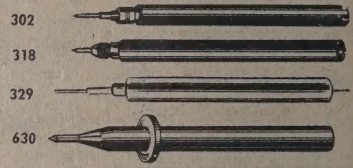
STANDARD INS. ALLIGATOR CLIP TO BANANA PLUG

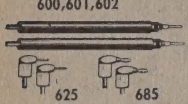
Red	Black	Type	1-24	25-49	50-99	100-Up
35F722	35F723	1866-36	1.26	1.05	.95	.84

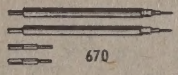


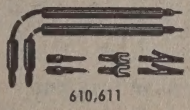












SOLDERLESS TIP TEST LEADS

Type 600, 601, 602. Molded Butyrate handles, red and black, 4" lgth. Brass, nickel plated tip. 50" leads. Shpg. wt. 3 oz.

Stk No.	Type	Desc.	1-11	12-49
35F872	600	Phone tips	1.38	1.15
35F873	601	Spade lugs	1.38	1.15
35F874	602	Alligator clips	1.44	1.20

METER TEST LEADS

Type 625, 685. Solderless prod. Molded Butyrate handle. Brass nickel plated tip and body. Plastic elbow, red and black. Four leaved, phospher bronze, nickel plated spring. 50" leads.

Stk. No.	Type	Desc	1-11	12-49
35F932	625	Phone Tip	1.98	1.65
35F862	685	Banana Tip	2.22	1.85

Type 626, 686. Same as 625, 685 except steel nickel plated needle prods.

Stk. No.	Type	Desc.	1-11	12-49
35F933	626	Phone Tip	1.98	1.65
35F402	686	Banana Tip	2.22	1.85

ALLIGATOR CLIP TEST LEAD

Type 628. Molded Butyrate, red and black handles. Red and black plastic elbows, phone tip. Steel, cadmium plated clips. Brass, nickel plated tips.

Stk. No.	Type	1-11	12-49
35F403	628	1.62	1.35

ALLIGATOR CLIP TEST LEAD PAIR

Steel, cadmium plated clips on both ends. Prices per pair. Shpg. Wt., 4 oz.

Stk. No.	Type	Length	1-11	12-49
35F942	604	12"	1.08	.90
35F943	605	24"	1.14	.95
35F944	606	36"	1.16	.97
35F945	607	48"	1.20	1.00

SLIM HANDLE TEST LEADS

Type 670. Machined Butyrate, red and black, 3/16" O.D., handles. Solder type phone tips. 50" lead.

Stk. No.	Type	1-11	12-49
35F937	670	1.14	.95

"UNIVERSAL" TEST LEAD

Type 699. Fifty leads in one. All parts adapt into prod or tip handle. With plastic folding case. Shpg. Wt., 3 oz.

Stk. No.	Type	1-11	12-49
35F1655	699	5.40	4.50

TEST LEAD KITS

Type 610, 611. Supplied with pair of leads, one end tests prods, other end ins. banana plugs. Two each- phone tips, alligator clips, spade lugs. 50", 5000 volt rubber covered test lead wire. Shpg. Wt., 6 oz.

Stk. No.	Type	Prods	1-11	12-49
35F929	610	*Phone Tip	2.70	2.25
35F682	611	Needle tip	2.70	2.25

(*)Solderless

SOLDERLESS TEST PROD THREADED TYPE

Type 302. Molded Butyrate handle. Brass, nickel plated plug. 12 Amps AC for 10° temp. rise. 4 1/2" handle. Shpg. wt., 3 oz. Type 303. As above except 5 1/2" handle.

Stk. No.	Type	Color	1-24	25-49
35F930	302R	Red	.40	.33
35F638	302B	Black	.40	.33
35F680	303R	Red	.43	.36
35F681	303B	Black	.43	.36

PHONO NEEDLE TEST PRODS

Type 317. Molded Butyrate handle. Brass, nickel plated plug. 12 Amps AC for 10° temp. rise. Removable chuck for needle replacement. 4" handle. Shpg. wt., 3 oz. Type 318. As above except 5 1/2" handle.

Stk. No.	Type	Color	1-24	25-49
35F939	317B	Black	.43	.36
35F940	317R	Red	.43	.36
35F906	318B	Black	.50	.42
35F907	318R	Red	.50	.42

HEAVY DUTY TEST PRODS

Type 319. Molded Butyrate handle. Brass, nickel plated plug. 12 Amps AC for 10° temp. rise. 4" handle. Shpg. wt., 3 oz. Type 329. As above except 5 1/2" handle.

Stk. No.	Type	Color	1-24	25-44
35F908	319R	Red	.40	.33
35F909	319B	Black	.40	.33
35F842	329R	Red	.43	.36
35F843	329B	Black	.43	.36

HIGH VOLTAGE TEST PROBE

Type 630. Rating 12 amps. AC for 10° temp. rise. Cont. duty 15 KV 60 cycle AC. Shpg. wt., 3 oz.

Stk. No.	Type	Color	1-9	10-49
35F931	630R	Red	1.04	.87
35F639	630B	Black	1.04	.87

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H. H. Smith Spacers

¼" O.D. ROUND ALUMINUM

Lgth. In.	#4 (.115) Stk. No.	Type	#6 (.140) Stk. No.	Type	#8 (.171) Stk. No.	Type	Pkg. of 100
.125	67F4011	8480	67F4019	8500	67F4027	8520	5.00
.250	67F4012	8481	67F4020	8501	67F4028	8521	6.00
.375	67F4013	8482	67F4021	8502	67F4029	8522	7.00
.500	67F4014	8483	67F4022	8503	67F4030	8523	8.00
.625	67F4015	8484	67F4023	8504	67F4031	8524	9.00
.750	67F4016	8485	67F4024	8505	67F4032	8525	10.00
.875	67F4017	8486	67F4025	8506	67F4033	8526	11.00
1.000	67F4018	8487	67F4026	8507	67F4034	8527	12.00

¼" HEX ALUMINUM

.125	67F4035	8560	67F4043	8580	67F4052	8600	6.00
.250	67F4036	8561	67F4045	8581	67F4053	8601	7.00
.375	67F4037	8562	67F4046	8582	67F4054	8602	8.00
.500	67F4038	8563	67F4047	8583	67F4055	8603	9.00
.625	67F4039	8564	67F4048	8584	67F4056	8604	10.00
.750	67F4040	8565	67F4049	8585	67F4057	8605	11.00
.875	67F4041	8566	67F4050	8586	67F4058	8606	12.00
1.000	67F4042	8567	67F4051	8587	67F4059	8607	13.00

¼" O.D. ROUND THREADED ALUMINUM

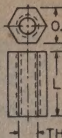
Lght. In.	4-40 Thread Stk. No.	Type	6-32 Thread Stk. No.	Type	8-32 Thread Stk. No.	Type	Pkg. of 100
.125	67F4060	8320	67F4076	8340	67F4092	8360	6.00
.250	67F4061	8321	67F4077	8341	67F4093	8361	7.00
.375	67F4062	8322	67F4078	8342	67F4094	8362	8.00
.500	67F4063	8323	67F4079	8343	67F4095	8363	9.00
.625	67F4064	8324	67F4080	8344	67F4096	8364	10.00
.750	67F4065	8325	67F4081	8345	67F4097	8365	11.00
.875	67F4066	8326	67F4082	8346	67F4098	8366	12.00
1.000	67F4067	8327	67F4083	8347	67F4099	8367	14.00
1.250	67F4068	8328	67F4084	8348	67F4100	8368	16.00
1.500	67F4069	8329	67F4085	8349	67F4101	8369	18.00
1.750	67F4070	8330	67F4086	8350	67F4102	8370	20.00
2.00	67F4071	8331	67F4087	8351	67F4103	8371	22.00
2.50	67F4072	8332	67F4088	8352	67F4104	8372	24.00
3.00	67F4073	8333	67F4089	8353	67F4105	8373	26.00
3.50	67F4074	8334	67F4090	8354	67F4106	8374	28.00
4.00	67F4075	8335	67F4091	8355	67F4107	8375	36.00

¼" HEX THREADED ALUMINUM

.125	67F4108	8400	67F4116	8420	67F4124	8440	7.00
.250	67F4109	8401	67F4117	8421	67F4125	8441	8.00
.375	67F4110	8402	67F4118	8422	67F4126	8442	9.00
.500	67F4111	8403	67F4119	8423	67F4127	8443	10.00
.625	67F4112	8404	67F4120	8424	67F4128	8444	11.00
.750	67F4113	8405	67F4121	8425	67F4129	8445	12.00
.875	67F4114	8406	67F4122	8426	67F4130	8446	13.00
1.000	67F4115	8407	67F4123	8427	67F4131	8447	14.00

ALUMINUM AND BRASS SPACERS

Round



Hex

Aluminum spacers are Iridite 14-2 per MIL-C-5541. Brass spacers are cadmium plated. On threaded spacers ¾" and longer, tap is ⅜" from each end; on smaller threaded spacers, thread is continuous through entire length. Clearance hole on non-threaded units: #4, #6 or #8.

¼" O.D. ROUND BRASS

Lgth. In.	#4 (.115) Stk. No.	Type	#6 (.140) Stk. No.	Type	#8 (.171) Stk. No.	Type	Pkg. of 100
.125	67F4132	8700	67F4133	8701	67F4134	8702	4.10
.250	35F533	2340	35F536	2100	35F541	2105	4.60
.375	35F534	2341	35F537	2101	35F563	2106	5.40
.500	35F535	2342	35F538	2102	35F564	2107	6.30
.750	67F4135	2343	35F539	2103	67F4137	2108	9.00
1.000	67F4136	2344	35F540	2104	35F565	2109	10.70

¼" HEX BRASS

.125	67F4138	8790	67F4139	8791	67F4140	8792	4.20
.250	67F4141	2380	35F875	2300	67F4147	2305	4.70
.375	67F4142	2381	67F4146	2301	67F4148	2306	5.90
.500	67F4143	2382	35F876	2302	67F4149	2307	6.40
.750	67F4144	2383	35F877	2303	67F4150	2308	9.40
1.000	67F4145	2384	35F878	2304	67F4151	2309	10.90

¼" O.D. ROUND THREADED BRASS

Lgth. In.	4-40 Thread Stk. No.	Type	6-32 Thread Stk. No.	Type	8-32 Thread Stk. No.	Type	Pkg. of 100
.125	67F4152	8760	67F4153	8761	67F4154	8762	4.70
.250	35F883	2370	35F553	2120	35F556	2125	5.30
.375	35F884	2371	35F561	2121	35F557	2126	6.20
.500	35F551	2372	35F554	2122	35F558	2127	7.40
.750	35F552	2373	35F555	2123	35F559	2128	11.20
1.000	35F885	2374	35F562	2124	35F560	2129	12.60

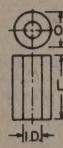
¼" HEX THREADED BRASS

.125	67F4155	8820	67F4156	8821	67F4157	8822	5.00
.250	67F4158	2330	35F871	2320	67F4164	2325	5.80
.375	67F4159	2331	67F4163	2321	67F4165	2326	7.20
.500	67F4160	2332	35F872	2322	67F4166	2327	8.10
.750	67F4161	2333	35F873	2323	67F4167	2328	12.30
1.000	67F4162	2334	35F874	2324	67F4168	2329	13.30

FIBRE SPACERS

Per MIL-F-1148A, Grade CH, ¼" O. D.

Versatile fibre bushings are ideal for use in raising sub-panels, chassis, tuning capacitors, transformers, etc. Clearance hole: #4, #6, or #8 as indicated.



Lgth. In.	#4 (.115) Stk. No.	Type	#6 (.140) Stk. No.	Type	#8 (.171) Stk. No.	Type	Pkg. of 100
.125	67F4169	8880	67F4170	8881	67F4171	8882	4.10
.250	67F4172	2335	35F547	2130	35F550	2140	5.00
.375	67F4173	2336	67F4183	2131	67F4184	2141	6.20
.500	67F4174	2337	35F567	2132	35F568	2142	7.30
.625	67F4177	8895	67F4178	8896	67F4179	8897	8.40
.750	67F4175	2338	35F548	2133	35F566	2143	9.90
.875	67F4180	8904	67F4181	8905	67F4182	8906	11.50
1.000	67F4176	2339	35F549	2134	67F4185	2144	12.30

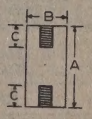
¼" O.D. PHENOLIC THREADED SPACERS

Good mechanical strength; resists chemicals and abrasions. Excellent dielectric and low moisture absorption. PBE Grade MIL-P-79A. Natural color. On spacers ¾" and longer, tap is ⅜" from each end; others continuous.

Lgth. In.	4-40 Thread Stk. No.	Type	6-32 Thread Stk. No.	Type	8-32 Thread Stk. No.	Type	Pkg. of 100
.250	67F4186	8660	67F4187	8661	67F4188	8662	8.70
.375	67F4189	8666	67F4190	8667	67F4191	8668	10.00
.500	67F4192	8672	67F4193	8673	67F4194	8674	12.00
.625	67F4195	8678	67F4196	8679	67F4197	8680	13.70
.750	67F4198	8684	67F4199	8685	67F4200	8686	16.00
.875	67F4201	8690	67F4202	8691	67F4203	8692	17.70
1.000	67F4204	8696	67F4205	8697	67F4206	8698	19.00

CERAMIC STANDOFFS

Mil Spec standoffs made of Grade L-5 ceramic; to MIL-1-10 requirements. Outside is glazed. Threaded as indicated.



Stock No.	Type No.	Thread	Dimensions A	B	C	Pkg. of 100
67F4207	2600	6-32	½"	⅜"	5/32"	18.00
67F4208	2601	6-32	5/8"	⅜"	3/16"	20.00
67F4209	2602	6-32	¾"	⅜"	¼"	21.00
67F4210	2603	6-32	1"	⅜"	⅜"	22.00
67F4211	2604	6-32	1¼"	⅜"	⅜"	24.00
67F4212	2605	6-32	1½"	⅜"	⅜"	25.00
67F4213	2606	6-32	2"	⅜"	⅜"	26.00
67F4214	2607	8-32	5/8"	½"	3/16"	20.00
67F4215	2608	8-32	¾"	½"	¼"	21.00
67F4216	2609	8-32	1"	½"	¼"	22.00
67F4217	2610	8-32	1¼"	½"	⅜"	24.00
67F4218	2611	8-32	1½"	½"	⅜"	27.00
67F4219	2612	8-32	2"	½"	⅜"	33.00
67F4220	2613	8-32	2½"	½"	⅜"	34.00
67F4221	2614	8-32	3"	½"	⅜"	35.00

COMMERCIAL CERAMIC STANDOFFS

Stock No.	Type No.	Thread	Dimensions A	B	C	Pkg. of 100
67F4222	2640	6-32	¼"	¼"	Thru	15.00
67F4223	2641	6-32	½"	¼"	5/32"	16.00
67F4224	2642	6-32	⅜"	⅜"	5/32"	17.00
67F4225	2643	6-32	½"	⅜"	3/16"	18.00
67F4226	2644	6-32	½"	½"	7/64"	20.00
67F4227	2645	6-32	¾"	½"	¼"	21.00
67F4228	2646	6-32	1"	½"	⅜"	23.00
67F4229	2647	6-32	1½"	½"	9/16"	27.00
67F4230	2648	6-32	2½"	½"	½"	30.00
67F4231	2649	¼-20	2½"	¾"	¾"	45.00
67F4232	2650	¼-20	4"	¾"	¾"	60.00

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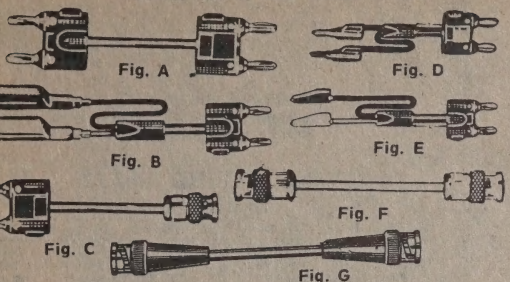
Larger Quantity Prices on Request

Patch Cords, Test Leads

POMONA ELECTRONICS

PLUGS, CLIPS, AND CONNECTORS



¾" double banana plug cabled to a variety of plugs, connectors, clips and tips as indicated below. The double banana plug permits parallel multiple stacking and has a clearly marked ground connection. Color of plug body matches cable color, av. wt., 5 oz. *Two conductor twisted 18 ga. (65x36) wire. Vinyl jacket and insulation. Nom. cap. 30 mmf/ft., gray color. **Shielded microphone cable. Polyethylene insulation. Vinyl jacket. Nom. cap. 25 mmf/ft., gray color. Coaxial cable, clr. blk. †50 ohm RG58C/U, ‡75 ohm RG59 B/U, §93 ohm RG62 A/U.

WITH DOUBLE PLUGS EACH END—Fig. A.

Stk. No.	Type	Length	1-9	10-24	25-49	50-99
34F801	2BA-36*	36"	4.95	4.46	4.21	3.47
34F803	2BB-36**	36"				
34F805	2BC-36†	36"				

WITH ALLIGATOR CLIPS — Fig. B.

34F807	2BA-AL-36*	36"	5.95	5.36	5.06	4.17
34F809	2BB-AL-36**	36"				
34F811	2BC-AL-36†	36"				

WITH UG88E/U MALE BNC CONNECTOR—Fig. C.

34F813	2BB-BNC-36**	36"	5.95	5.36	5.06	4.17
34F815	2BC-BNC-36†	36"	5.95	5.36	5.06	4.17

WITH .080 DIA. PHONE TIP PLUG—Fig. D.

34F821	2BC-PP-36†	36"	7.50	6.75	6.38	5.25

WITH MINIGATOR CLIPS—Fig. E

34F823	2BA-MG-36*	36"	5.95	5.36	5.06	4.17
34F825	2BB-MG-36**	36"				
34F827	2BC-MG-36†	36"				

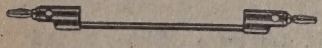
UG88E/U MALE BNC CONNECTOR BOTH ENDS— Fig. F

34F842	BNC-C24†	24"	5.95	5.36	5.06	4.17
34F843	BNC-C36†	36"	5.95	5.36	5.06	4.17

CRIMP BNC BOTH ENDS—Fig. G

35F1072	2249-C-12†	12"	4.85	4.37	4.12	3.40
35F1073	2249-C-24†	24"				
35F1074	2249-C-36†	36"				
35F1075	2249-C-48†	48"				
35F1076	2249-C-60†	60"				
35F1077	2249-E-12‡	12				
35F1078	2249-E-24‡	24				
35F1079	2249-E-36‡	36				
35F1080	2249-E-48‡	48				
35F1081	2249-E-60‡	60				
35F1082	2249-M-12§	12	5.95	5.36	5.06	4.17
35F1083	2249-M-24§	24				
35F1084	2249-M-36§	36				
35F1085	2249-M-48§	48				
35F1086	2249-M-60§	60				

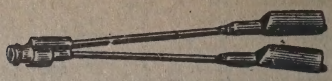
STACK-UP CONNECTING LEADS



Model B. Fits all standard banana jacks. Permit stack-up and side connections.

Stk. No.	Type	Length	Color	1-24	25-49	50-99	100-249
34F875	B-4	4"	Red	1.60	1.44	1.36	1.12
34F876	B-4	4"	Black				
34F877	B-8	8"	Red				
34F878	B-8	8"	Black				
34F879	B-12	12"	Red				
34F880	B-12	12"	Black				
34F881	B-18	18"	Red				
34F882	B-18	18"	Black				
34F848	B-24	24"	Red				
34F849	B-24	24"	Black				
34F850	B-36	36"	Red				
34F851	B-36	36'	Black				

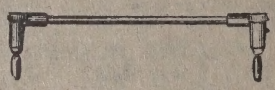
BREAK-OUT CABLE



Model 2630. BNC jack — aligator clips. 2.18-AWG stranded leads. Cable and clips are color coded, 1 red & 1 black. 500V peak. Operating temp. range:—25 to 85°C. 7" long.
Model 2631. Same as 2630, except with minigator clips.

Stk. No.	Type	1-24	25-49	50-99	100-249
34F964	2630	3.45	3.10	2.93	2.42
34F965	2631	3.45	3.10	2.93	2.42

STACK-UP 90° PATCH CORDS



Model 2864. 18 AWG Cable, rated 15 amps, 90° banana plug at each end. Volt, 10,000 VDC. Operating temp range: 0-105°C. Plugs fit standard banana jacks. Heat treated beryllium spring. Nickel plate finish.

Stk. No.	Type	Length	Color	1-24	25-49	50-99	100-249
34F940	2864-12	12"	Red	1.60	1.44	1.36	1.12
34F941	2864-12	12"	Black				
34F942	2864-18	18"	Red				
34F943	2864-18	18"	Black				
34F944	2864-24	24"	Red				
34F945	2864-24	24"	Black				

MINIATURE STACK-UP CONNECTING LEADS

Model 1081. Miniature patch cords for use with .104 dia. banana jacks. For miniaturization of test equipment and high density packaging. WIRE: 20AWG. Strand. RATED: 5 A. Cont., 10 A. Int. 5,000 V.D.C. OPER. TEMP.: 0 C to +105°C.

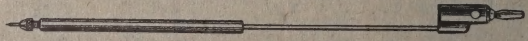
Stk. No.	Type	Length	Color	1-24	25-49	50-99	100-249
34F891	1081-4	4"	Red	1.60	1.44	1.36	1.12
34F892	1081-4	4"	Black				
34F893	1081-12	12"	Red				
34F894	1081-12	12"	Black				
34F895	1081-24	24"	Red				
34F896	1081-24	24"	Black				
34F897	1081-36	36"	Red				
34F898	1081-36	36"	Black				

NEEDLE TIP PROBE TO BANANA JACK

Type 1705, 1705-2. Sharp replaceable needle tip for encapsulated circuits. Banana jack in handle connected to tip. Pin tip is steel nickel plated. Jack is .166" dia. brass nickel plated. Length: 5½"

Stock No.	Model No.	Color	1-24	25-49	50-99	100-249
35F1087	1705	Black	1.75	1.58	1.49	1.23
35F1088	1705-2	Red				

MINIATURE NEEDLE PROBE TO STACKING BANANA



Type 3861. Also has replaceable steel, nickel-plated tip. Tough thermo plastic is molded directly onto probe tip. 20 AWG wire, overall length, 48". Plug is one piece beryllium copper Temp. range: -25°C to +105°C.

Stock No.	Model No.	Color	1-24	25-49	50-99	100-249
35F1089	3861-48	Black	1.95	1.76	1.66	1.37
35F1090	3861-48	Red				

TEST LEAD HOLDER

Model 1508. Patch cords and cable assembles can be filed for instant selection. Accepts cables up to .210" diameter. Cold rolled steel with orange baked enamel finish. Wt. 5 oz.

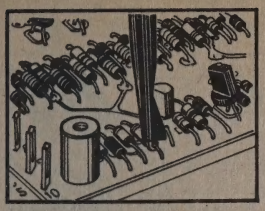
Model 2708. RG cable holder. Similar to 1508, but with .450" slots for coax cable. Blue finish. 11" Lx3.5" W; p slots.

Stk. No.	Type	1-24	25-49	50-99	100-249
34F956	1508	3.25	2.93	2.76	2.28
34F957	2708				

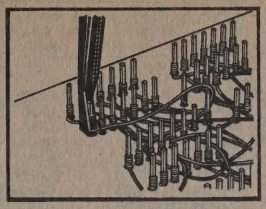
12

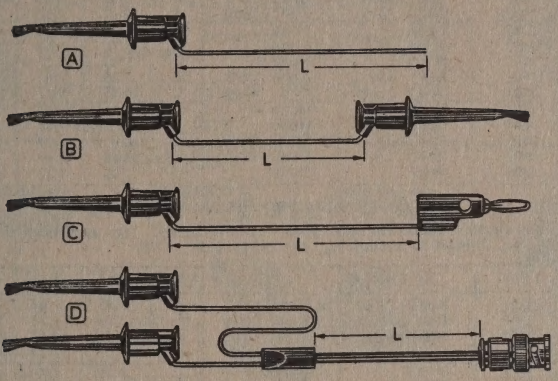
POMONA Test Leads and Clips

IC TEST CLIPS



- Miniature Test Clips
- Completely Insulated to Point of Connection





A SINGLE-END MINI TEST CLIP

No connector on one end to permit connection of various components. Nylon insulation molded directly to clip for added durability. Gold-plated beryllium copper tip for maximum sensitivity. Wire is 22 AWG, stranded 26x36. Extra flexible polyvinyl insulation, .052″ outside diameter. Hook-type tip connects quickly without damage from sharp teeth. For use in −25°C to +105°C temperature range.

Stk. No.	Type	Lgth.	Color	1-24	25-49	50-99
35F1020	3780-8	8″	Red	.90	.81	.77
35F1021	3780-12	12″	Red	.90	.81	.77
35F1022	3780-24	24″	Red	.90	.81	.77
35F1023	3780-36	36″	Red	.90	.81	.77
35F1024	3780-48	48″	Red	.95	.86	.81
35F1025	3780-60	60″	Red	1.00	.90	.85
35F1026	3780-8	8″	Black	.90	.81	.77
35F1027	3780-12	12″	Black	.90	.81	.77
35F1028	3780-24	24″	Black	.90	.81	.77
35F1029	3780-36	36″	Black	.90	.81	.77
35F1030	3780-48	48″	Black	.95	.86	.81
35F1031	3780-60	60″	Black	1.00	.90	.85

B DOUBLE-ENDED MINI TEST CLIP

Miniature clip has connectors at both ends for quick connections between test points. Connects quickly without damage from sharp teeth. Both ends have gold-plated beryllium copper hook tips for high conductivity. Nylon insulation molded directly onto wire for added strength. 22 AWG, stranded tinned copper wire. Polyvinyl insulation has .052″ O.D. Designed for operation in −25°C to +105°C temperature range.

Stk. No.	Type	Lgth.	Color	1-24	25-49	50-99
35F1032	3781-8	8″	Red	1.50	1.35	1.28
35F1033	3781-12	12″	Red	1.50	1.35	1.28
35F1034	3781-18	18″	Red	1.50	1.35	1.28
35F1035	3781-24	24″	Red	1.50	1.35	1.28
35F1036	3781-36	36″	Red	1.50	1.35	1.28
35F1037	3781-48	48″	Red	1.55	1.40	1.32
35F1038	3781-60	60″	Red	1.60	1.44	1.36
35F1039	3781-8	8″	Black	1.50	1.35	1.28
35F1040	3781-12	12″	Black	1.50	1.35	1.28
35F1041	3781-18	18″	Black	1.50	1.35	1.28
35F1042	3781-24	24″	Black	1.50	1.35	1.28
35F1043	3781-36	36″	Black	1.50	1.35	1.28
35F1044	3781-48	48″	Black	1.55	1.40	1.32
35F1045	3781-60	60″	Black	1.60	1.44	1.36

C MINI CLIP TO STACKING BANANA PLUG

Mini test clip lead adapts equipment using standard banana jacks. 22 AWG wire, stranded 26x36. Banana plug one-piece nickel-plated beryllium copper. Operating temp. −25°C to +105°C. PVC insulation, .052″ O.D.

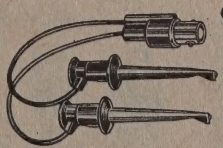
Stk. No.	Type	Lgth.	Color	1-24	25-49	50-99
35F1046	3782-12	12″	Red	1.50	1.35	1.28
35F1047	3782-24	24″	Red	1.50	1.35	1.28
35F1048	3782-36	36″	Red	1.50	1.35	1.28
35F1049	3782-48	48″	Red	1.55	1.40	1.32
35F1050	3782-60	60″	Red	1.60	1.44	1.36
35F1051	3782-12	12″	Black	1.50	1.35	1.28
35F1052	3782-24	24″	Black	1.50	1.35	1.28
35F1053	3782-36	36″	Black	1.50	1.35	1.28
35F1054	3782-48	48″	Black	1.55	1.40	1.32
35F1055	3782-60	60″	Black	1.60	1.44	1.36

D MINI TEST CLIPS TO BNC MALE

For use with equipment having BNC receptacles. Gold-plated beryllium copper hook tip test clips, one red, one black. Shielded coax. cable, .195″ O.D., cap. 28.5 pf/ft. Non-tarnish BNC male connector.

Stock No.	Type	Lgth.	1-9	10-24	25-49
35F1056	3787-C-18	18″	5.95	5.36	5.06
35F1057	3787-C-24	24″	5.95	5.36	5.06
35F1058	3787-C-36	36″	5.95	5.36	5.06
35F1059	3787-C-48	48″	5.95	5.36	5.06
35F1060	3787-C-60	60″	5.95	5.36	5.06

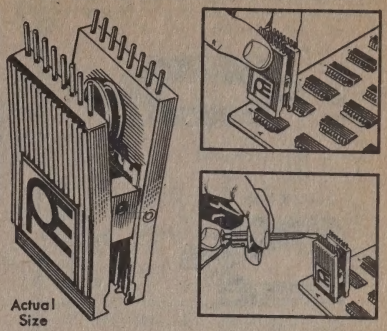
CLIPS TO BNC RECEPTACLE

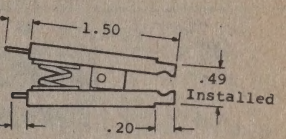


Model 3788. Molded breakout converts coaxial cable with a male plug to test cable with clips. Clips are gold-plated beryllium copper with hook tips. Nylon insulation molded directly onto one black, one red wire. Wire 22 AWG tinned copper, PVC insulation .052″ O.D. Connector BNC receptacle UG-1094/U. Length, 7″.

Stock No.	Type	1-24	25-49	50-99
35F1061	3788	3.75	3.38	3.19

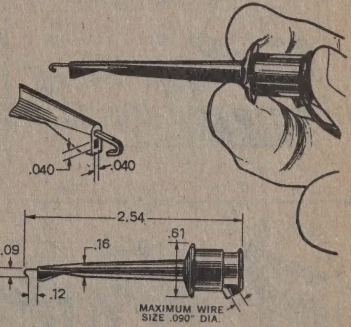
"DIP-CLIP" IC TEST CLIP FOR 14 OR 16 DUAL-IN-LINE PACKAGES





Model 3916. "Dip Clip" is specially designed to allow the attachment of test probes to 14 or 16 lead DIPS. Design reduces possibility of accidental shorting while testing live circuits. Gold-plated phosphor-bronze contacts have spring-loaded wiping action to assure good electrical connection. Positive control finger design gives positive positioning to prevent accidentally overloading sensitive circuits. Once connected, numerous test probes may be quickly connected for convenient hands-free testing in the laboratory or in the field.

35F1064. 1-49. NET 4.95
50-99. NET 4.46



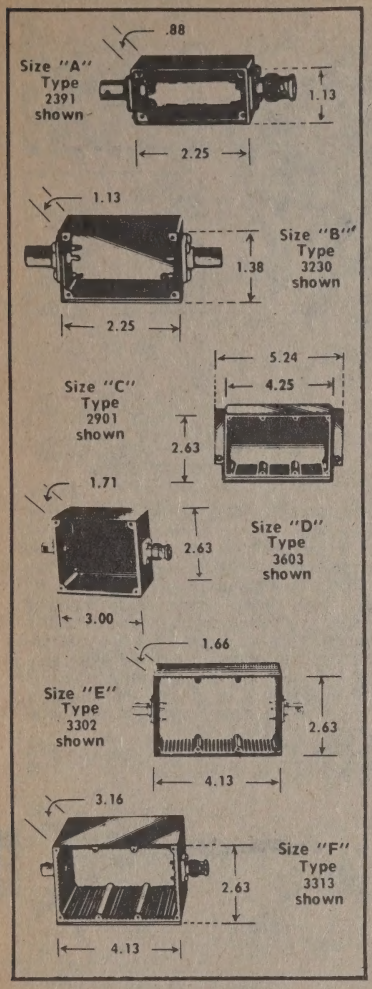
"The Grabber" MINI TEST CLIP

Model 3925. Plunger type action gives it the name "the grabber." Its gold-plated contact hook can be connected quickly to component leads and the specially designed tip slides down over .025″ square gun wrap terminals. Nylon insulation molded directly onto clip and wire to provide strong, reliable integral unit. Clip is completely insulated to point of connection, yet provides positive connection that won't pop off. No sharp teeth to nick or damage wires. Beryllium copper conductor alloy 170 per QQ-C-533; gold plated per MIL-G-45204. Type II for maximum sensitivity in making measurements in low power equipment. Stainless steel spring assures long life and strong, trouble-free connections. Rugged molded nylon insulator resists hard usage, conforms to MIL-P-20693.

Stock No.	Type	1-24	25-49	50-99	100-249
35F1062	3925 RED	.75	.68	.64	.53
35F1063	3925 BLK.	.75	.68	.64	.53

POMONA ELECTRONICS

Housings and Adapters



SHIELDED "BLACK BOXES"

Die cast aluminum. Blue baked enamel finish except *(unfinished). Covers and screws supplied. BNC jacks are UG290A/U. BNC plugs are UG1104A/U. **Has BNC jack in top center also. # has red and black banana jack binding posts with solder turret terminals in top center also.

Stk. No.	Type	1st End	2nd End	Size	1-24	25-49	50-99	100-249
34F952	2390	BNC Jack	BNC Jack	A	6.85	6.17	5.82	4.80
34F953	2391	BNC Jack	BNC Plug	A	7.85	7.07	6.67	5.50
35F3500	2392**	BNC Jack	BNC Jack	A	9.50	8.55	8.08	6.65
35F3501	2393#	BNC Jack	BNC Plug	A	10.85	9.77	9.22	7.60
34F954	2397	None	None	A	1.70	1.53	1.45	1.19
35F3502	*2400	None	None	A	1.70	1.53	1.45	1.19
35F3503	3230	BNC Jack	BNC Jack	B	6.85	6.17	5.82	4.80
35F3504	3231	BNC Jack	BNC Plug	B	7.85	7.07	6.67	5.50
35F3505	3232**	BNC Jack	BNC Jack	B	9.50	8.55	8.08	6.65
35F3506	3233#	BNC Jack	BNC Plug	B	10.85	9.77	9.22	7.60
34F955	2417	None	None	B	1.70	1.53	1.45	1.19
35F3507	*2428	None	None	B	1.70	1.53	1.45	1.19
35F3508	2901	None	None	C	5.85	5.27	4.97	4.10
34F966	2902	BNC Jack	BNC Jack	C	9.85	8.87	8.37	6.90
35F3509	2903	BNC Jack	BNC Plug	C	10.85	9.77	9.22	7.60
35F3510	*2906	None	None	C	5.85	5.27	4.97	4.10
35F3511	3601	None	None	D	3.85	3.47	3.27	2.70
35F3512	3602	BNC Jack	BNC Jack	D	8.85	7.97	7.52	6.20
35F3513	3603	BNC Jack	BNC Plug	D	9.85	8.87	8.37	6.90
35F3514	*3606	None	None	D	3.85	3.47	3.27	2.70

SHIELDED BLACK BOXES WITH CARD GUIDES

Extruded aluminum. Blue finish except * (unfinished). Top and bottom covers and screws supplied. Slotted to accept 1/16" circuit boards.

Stk. No.	Type	1st End	2nd End	Size	1-24	25-49	50-99	100-249
34F947	3301	None	None	E	7.85	7.07	6.67	5.50
35F3515	3302	BNC Jack	BNC Jack	E	10.85	9.77	9.22	7.60
34F946	3303	BNC Jack	BNC Plug	E	11.85	10.67	10.07	8.30
35F3516	*3306	None	None	E	7.85	7.07	6.67	5.50
35F3517	3311	None	None	F	9.50	7.97	7.52	6.20
35F3518	3312	BNC Jack	BNC Jack	F	12.85	11.57	10.92	9.00
35F3519	3313	BNC Jack	BNC Plug	F	13.85	12.47	11.77	9.70
35F3520	*3316	None	None	F	9.50	8.55	8.08	6.65

MOUNTING BOARDS AND SHIELDING DIVIDERS FOR BOXES WITH CARD GUIDES

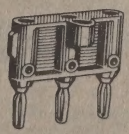
Stk. No.	Type	For Use With	Dimensions A	Dimensions B	No. of Holes	Material	1-24	25-49	50-99
34F948	3323	Fig. E	2.3.	1.50	12x7	Glass-Epoxy (GEE)	.65	.59	.55
35F3521	3326	Fig. E	2.39	1.50	23x15	Glass-Epoxy (GEE)	.85	.77	.72
35F3522	3327	Fig. F	2.39	1.50		Aluminum Shielding Divider	.95	.86	.81
35F3523	3328	All	5.25	2.50		Bottom plate for mtg.	1.25	1.13	1.06
35F3525	3551	Fig. F	2.39	3.00	12x15	Glass-Epoxy (GEE)	1.50	1.35	1.28
35F3526	3553	Fig. F	2.39	3.00	23x30	Glass-Epoxy (GEE)	1.75	1.58	1.49
35F3524	3558	Fig. F	2.39	3.00		Aluminum Shielding Divider	1.25	1.13	1.06

NON SHIELDED BLACK BOXES

Stock No.	Type	Dimensions Length	Width	Depth	Connections	1-24	25-49	50-99	100-249
35F3527	2103	2.25	1.00	1.00	None	.85	.77	.72	.60
35F3528	2104	2.38	1.53	1.53	None	.85	.77	.72	.60
35F3529	2105	1.75	1.44	.69	None	.85	.77	.72	.60
34F951	2224	2.38	1.53	1.53	Upper: Banana Jacks (2)	3.45	3.10	2.93	2.42
34F950	2098	1.75	1.44	.69	Lower: Banana plugs (2)	3.45	3.10	2.93	2.42

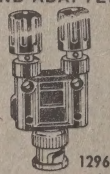
PLUGS AND ADAPTERS

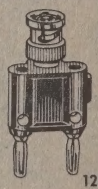
MDP


2970

MDP-X

1269


1296


1270

1452

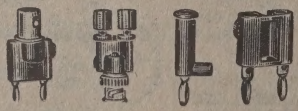
3430

1297

MDP. Double banana plugs to separate cables. 2970. Triple banana plug to 3 separate cables. MDP-X. Jacks and plugs for 4 isolated terms. MDP-S. Int. bonded shorting bar. 1269. BNC jack to dbl. banana plug. 1296. Binding post to BNC plug. 1270. BNC plug to banana plug. 1452. Binding post to BNC receptacle. 3430. Binding post to BNC plug. 1297. BNC to phone plug.

Stk. No	Model	Color	1-24	25-49	50-99	100-249
34F856	MDP	Red	.85	.77	.72	.60
34F857	MDP	Black	.85	.77	.72	.60
35F1065	2970	Red	1.25	1.13	1.06	.88
35F1066	2970	Black	1.25	1.13	1.06	.88
34F858	MDP-S	Natural	1.25	1.13	1.06	.88
34F859	MDP-X	Red	3.25	2.93	2.76	2.26
34F860	1269	Black	3.25	2.93	2.76	2.26
34F870	1296	Black	4.95	4.46	4.21	3.47
35F1067	1270	Black	3.95	3.56	3.36	2.77
35F1068	1452	Black	4.95	4.46	4.21	3.47
35F1069	3430	Red	2.50	2.25	2.13	1.75
35F1070	3430	Black	2.50	2.25	2.13	1.75
35F1071	1297	Metal	5.85	5.27	4.97	4.10

MINIATURE BANANA PLUGS AND ADAPTERS


3269 3296 2945 2244

Model 3269, Adapter. BNC receptacle to miniature double banana plug—½" centers.

Model 3296 Adapter. 5-way binding posts on ½" ctrs. with .104" dia. banana jacks attached to BNC plug.

Model 2945. Miniature Solderless Banana Plug Stack-up. Collar acts as strain relief. .104" dia. jack to plug.

Model 2244. Miniature double banana plug on ½" ctrs.

Stk. No.	Type	Color	1-24	25-49	50-99	100-249
34F936	3269	Black	3.25	2.93	2.76	2.28
34F937	3296	Black	5.45	4.91	4.62	3.82
34F938	2945	Black	.50	.45	.43	.35
34F939	2945	Red	.50	.45	.43	.35
34F844	2244	Black	.95	.86	.81	.67
34F845	2244-2	Red	.95	.86	.81	.67

12

Plugs, Jacks and Sockets

POMONA

TVS-7

TVS-8

TVS-12

TEST SOCKET ADAPTERS

Features extended test tabs for ease of use with test prods or alligator clips. Low R.F. loss, phenolic construction: power factor less than 0.010 at 10 Mc. Insulation exceeds 5000,000 megohms

XS-7

XS-9

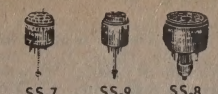
XS-8

Stk. No.	Type	Description	1-49	50-99	100-249
34F527	TVS-7	7 pin. min.	1.95	1.76	1.56
34F545	TVS-8	Octal	2.25	2.03	1.80
34F546	TVS-9	9 pin min.	2.15	1.94	1.72
34F869	TVS-12	Compactron	2.75	2.48	2.20

BREADBOARD SURFACE MOUNTED SOCKETS

An insulated base prevents connection from shorting to the chassis. Eliminates double chassis design. Ciruits maybe wired in enclosed unit, base connections are numbered for easy identification. Phosphor bronze spring contacts.

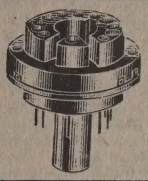
34F864	XS-7	7-pin min.	.75	.68	.60
34F865	XS-9	9-pin min.	.85	.77	.68
34F866	XS-8	Octal	.95	.86	.76


SS-7 SS-9 SS-8

SOCKET

Designed to be installed on tube checkers and other electronic equipment to prevent wear and tear of sockets on original equipment. Easy to install and remove. Beryllium Copper long-life contacts.

Stk. No.	Type	Description	1-49	50-99	100-249
34F861	SS-7	7-pin min.	1.95	1.76	1.56
34F862	SS-9	9-pin min.	1.95	1.76	1.56
34F863	SS-8	8-octal	2.50	2.25	2.00
34F868	1751	9-pin Novar	2.50	2.25	2.00

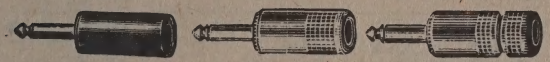


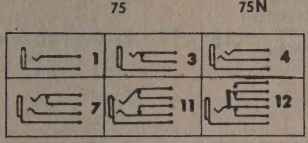
COLOR TV TEST ADAPTERS

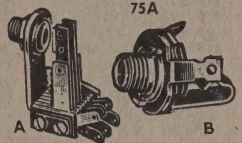
Model 2887. Pin saver-color CRT. Miniature Diheptal. Accept .040 Dia. Pins—.800 Dia. Pin Circle. Provision for spark gaps.
34F888. NET **4.95**

Model 2380. Test adapter-color CRT. As above, with test tabs on outer circumference.
34F886 NET **4.95**

MALLORY


75 75N 75A




A B

Type 75. Two-way phone plug with tie-cord anchor and insulated phenolic shell. Brass terminals for either phone tips or wire. Length $2^{13}/_{16}$". Handle, $1^{5}/_{16}$" long. Shpg. wt., 3 oz.

Type 75N. Two-way phone plug with tie-cord anchor and polished shielded nickel shell. Brass screw terminals. Overall length, $2^{13}/_{16}$". Handle, $1^{5}/_{8}$". Shpg. wt., 8 oz.

Type 75A. Similar to type F5N except for the following. Length $3^{1}/_{16}$". Handle, $1^{13}/_{16}$". Shpg. wt., 4 oz.

Type 76. Similar to type 75. Three-way microphone plug with insulated phenolic shell. Silver-plated lug terminals. Overall length, $2^{13}/_{16}$". Handle, $1^{9}/_{16}$" long. Shpg. wt., 3 oz.

Type 76A. Similar to 75A. Three way mike plug in polished, shielded nickel shell with cable clamp. Silver-plated lug terminals. Length, 3". $1^{13}/_{16}$" handle. Shpg. wt., 4 oz.

Stk. No.	Type	1-9	10-49	50-99	100-249	250-499
39F700	75	.50	.45	.41	.372	.33
39F701	75N	.73	.65	.61	.545	.484
39F702	75A	1.16	1.04	.96	.87	.77
39F703	76	.99	.89	.83	.743	.66
39F704	76A	1.29	1.16	1.07	.966	.858

Long Frame Jacks. Mount in $^{7}/_{16}$" hole in panels up to ¼" thick by means of a ⅜" diameter threaded shank. All take standard ¼" plugs. Nickel-plated alloy springs, silver contacts, cadmium-plated frames. Supplied with mounting nut and washer. Shpg. wt., 4 oz.

Stk. No.	Type	Cir. Diag.	1-9	10-49	50-99	100-249	250-499
39F714	3B	7	.71	.64	.59	.53	.48
39F718	4B	11	.89	.80	.74	.67	.59

Fig. A. Junior Jacks. For standard ¼" plugs. Mounts in ⅜" hole in panels up to $^{5}/_{16}$" thick. Nickel plated brass frames and bushings. Supplied with mounting nut & washer. Shpg. wt., 3 oz.

39F724	701	1	.54	.48	.44	.40	.36
39F726	702A	3	.68	.61	.56	.51	.45
39F727	702B	4	.68	.61	.56	.51	.45
39F730	703B	7	.71	.64	.59	.53	.48
39F734	704B	11	.82	.73	.68	.62	.55
39F735	705	12	.89	.80	.74	.67	.59

Fig. B. SC-1A Phone Jack. 2-conductor. Commercial equivalent of military jack No. JJ-034. Requires ⅞" mounting space behind panel. Designed to receive these plugs: Mallory 75, West. Electric 47A 47B, Signal Corps PL-47 PL-55, PL-148, PL-155, Jan plugs PJ-055, PJ-155, PJ-636, PJ-047 La Jacks. Similar to SCIA, SCA2B jacks. For use in electronic equipment. ½" mtg. radius. For 75, 75N, 75A plugs. Wt: 2 oz.

SCA-2B. Microphone Jack. 3 conductor. Commercial equivalent of Military Jack No. JJ-033. Requires ⅞" mounting space behind panel. Receive: West Electric 109, Signal Corps PL-68, Jan plugs PJ-068, PJ-168, PJ-309. Wt: 2 oz.

Stk. No.	Type	Cir. No.	Description	1-9	10-49	50-99	100-249	250-499
39F780	SC-1A	1	Open Circuit	.43	.38	.35	.32	.29
39F781	SCA-2B	4	Open Circuit	.49	.44	.41	.37	.33
35F838	LA-1	1	Open Cir. Jack	.43	.38	.35	.32	.29
35F840	LA-2A	3	Closed	.57	.51	.47	.43	.38

E. F. JOHNSON

PORCELAIN BASE BAYONET SOCKETS

Type 123-210-1. For prong "UX" base tubes. Has phosphor bronze contacts, aluminum shell. Takes 852, 860, 866 tubes. $2^{1}/_{16}$" mtg. ctrs. Shpg. wt. 10 oz.
Type 123-211-1. For jumbo 4 pin tubes. Takes 211, 872, $2^{13}/_{16}$" mtg. ctrs. Wt: 1 lb.

Stk. No.	Type	1-9	10-49	50-99
38F756	123-210-1	6.25	5.61	4.93
38F757	123-211-1	3.30	2.95	2.62

DUAL SOLDERLESS BANANA PLUG

Molded body incorporates polarity indication and strain relief hole for wire leads. Springs are nickel silver—bodies are nickel-plated. Machined brass studs extend length of pins. Voltage breakdown: 10,000 volts DC. Capacity plug to plug: 1.3 pf Current carrying capacity: 15 amps.

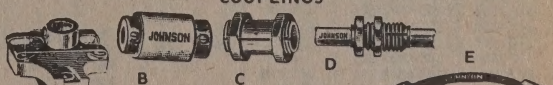
Stk. No.	Type 108-	Color	1-49	50-99	100-499 per 100
39F895	202	Red	.80	.73	69.00
39F896	203	Black	.80	.73	69.00

INSULATED BANANA PLUGS

Standard size. With plastic handles, brass nickel-plated bodies, nickel-silver springs. $2^{1}/_{8}$" L.x$^{7}/_{16}$". Max. Dia. 15 amps.

Stk. No.	Type 108-	Color	1-49	50-99	100-499 per 100
39F897	752-1	Black	.38	.35	32.40
39F898	572-2	Red	.38	.35	32.40

COUPLINGS



A B C D E

Provide flexibiliy without backlash. Steatite insulation except (*) bakelite. for low voltage. Wt., 2 oz.

Stk.	Type	Fig.	Use	1-9	10-49	50-99
26F240	104-250	A	For ¼" shaft	1.70	1.55	1.37
26F241	104-251-1	A	For ⅜" shaft	2.35	2.10	1.86
26F242	104-252	B	Solid ¼"	1.30	1.19	1.05
26F249	104-264	A*	For ¼" shaft	1.30	1.15	1.02

PANEL BEARINGS FOR ¼" SHAFTS

Nickel plated brass for ¼" shaft up to ⅜" panels. Wt: 2 oz.

Stk. No.	Type	Fig.	Length	1-49	50-99	100-499 Per C
26F244	115-255	D	Bearing only	.28	.24	21.00
26F245	115-256	D	3"	.60	.53	46.50
26F246	115-256-2	D	6"	.90	.77	68.00

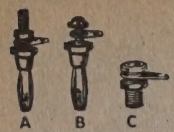
¼" FLEXIBLE SHAFTS

Permit out of line or up to 90° angular control. Wt.: 3 oz.

26F248	115-254	E	6"	1.05	.92	81.20
26F247	115-253	E	3'	.75	.66	57.50

12

Plugs and Jacks

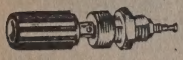


BANANA PLUGS AND JACKS

Complete selection. Banana plugs have nickel silver springs. Jacks are nickeled brass. Type 108-740 is 5/8" long. 108-760 is 1" long. Studs extend full length of sleeves for added support. With nuts and lugs. Shpg. wt., 2 oz.

Stk.No.	Type	Fig	Descriptions	1-49	50-99	100-400 Per 100	500-Up Per 100
39F888	108-0750-001	A	Plug, 3/8" stud	.22	.20	19.00	16.80
39F889	108-0750-002	A	Plug, 3/4" stud	.23	.21	19.80	17.60
39F890	108-0753-001	B	Plug, 6-32 screw	.24	.22	20.70	18.40
39F891	108-0770-001	A	Jumbo type plug	.45	.41	38.00	34.00
39F892	108-0771-001	B	Jumbo type plug	.70	.64	60.30	53.50
39F893	108-0740-001	C	Standard jack	.16	.14	13.40	11.90
39F894	108-0760-001	C	Jumbo jack	.53	.49	45.50	40.40

NYLON SIX-WAY BINDING POST



Compact, completely insulated, pre-assembled 6-way binding post. Molded nylon body. Silver-plated brass shank. Current capacity 15 amps. Voltage breakdown 8000 V. Single 5/16"-32 nut furnished for mounting—no auxiliary hardware needed. Shpg. wt., 3 oz.

Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1545	111-0101-001	White				
39F1546	111-0102-001	Red				
39F1547	111-0103-001	Black				
39F1548	111-0104-001	Green	.38	.35	33.00 Per 100	29.00 Per 100
39F1550	111-0106-001	Orange				
39F1551	111-0107-001	Yellow				
39F1552	111-0108-001	Brown				
39F1554	111-0110-001	Blue				
39F1556	111-0112-001	Violet				
39F1557	111-0113-001	Gray				

SOLDERLESS INSULATED BANANA PLUGS

High voltage insulated plug for a wide variety of applications. Connection of up to 16 gauge stranded wire. Polyamide insulating sleeve retains strength and low loss characteristcs over wide range of temperatures, withstands high voltages. 15 amp. Shpg. wt., 3 oz.

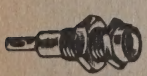
Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1530	108-0301-001	White				
39F1531	108-0302-001	Red				
39F1532	108-0303-001	Black				
39F1533	108-0304-001	Green	.25	.23	21.40 Per 100	19.00 Per 100
39F1535	108-0306-001	Orange				
39F1536	108-0307-001	Yellow				
39F1537	108-0308-001	Brown				
39F1539	108-0310-001	Blue				
39F1541	108-0312-001	Violet				
39F1542	108-0313-001	Gray				

LOW COST NYLON TIP JACKS

Low cost nylon tip jacks with formed silver-plated phosphor bronze contact. Current rating: 10 amps. Voltage breakdown: 9000 volts DC. Capacity to 1/8" panel, 2.0 pf. 1/4"-32 nut furnished; mounts in 17/64" hole. Shpg. wt., 2 oz.

Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1560	105-0801-001	White				
39F1561	105-0802-001	Red				
39F1562	105-0803-001	Black				
39F1563	105-0804-001	Green				
39F1565	105-0806-001	Orange	.14	.12	11.70 Per 100	10.40 Per 100
39F1566	105-0807-001	Yellow				
39F1567	105-0808-001	Brown				
39F1569	105-0810-001	Blue				
39F1571	105-0812-001	Violet				
39F1572	105-0813-001	Gray				

METAL—CLAD NYLON TIP JACK TIPS



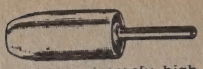
Shock-proof nylon and metal construction. Nickel-plated machined brass jacket protects nylon body—assures positive fastening to mounting surface.

STANDARD TYPE

These low cost metal-clad jacks have nylon tips for extremely long wear. Each is provided with formed silver-plated phosphor-bronze contact to insure optimal performance. Voltage breakdown is 7,000 volts DC. 3.8 pf. 10 amp.

Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1700	105-0251-001	White				
39F1701	105-0252-001	Red				
39F1702	105-0253-001	Black				
39F1703	105-0254-001	Green	.22	.20	18.50 Per 100	16.40 Per 100
39F1705	105-0256-001	Orange				
39F1706	105-0257-001	Yellow				
39F1707	105-0258-001	Brown				
39F1709	105-0260-001	Blue				
39F1711	105-0262-001	Violet				
39F1712	105-0263-001	Grey				

NYLON INSULATED SOLDERLESS TIP PLUG



Durable molded nylon insulating sleeves designed so no metal surfaces are exposed when plug is inserted in jack. Connection of up to 16 gauge stranded wire. Withstands extremely high voltages and a wide temperature range. Current rating is 10 amperes. Standard .081 inch diameter pin fits all standard tip jacks. Size: 17/16"x3/8". Shpg. wt., 2 oz.

Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1513	105-0301-001	White				
39F1514	105-0302-001	Red				
39F1515	105-0303-001	Black				
39F1516	105-0304-001	Green	.20	.18	16.00 Per 100	15.00 Per 100
39F1518	105-0306-001	Orange				
39F1519	105-0307-001	Yellow				
39F1520	105-0308-001	Brown				
39F1522	105-0310-001	Blue				
39F1524	105-0312-001	Violet				
39F1525	105-0313-001	Gray				

BANANA JACKS

Completely insulated banana jack. Retains low-loss characteristics through wide temp. range and high rel. humidity conditions. Voltage breakdown: 10,000 V DC. For banana plugs of nom. .175" diam. Shpg. wt., 2 oz.

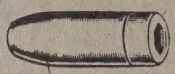
Stk.No.	Type	Color	1-49	50-99	100-400	500-Up
39F1573	108-0901-001	White				
39F1574	108-0902-001	Red				
39F1575	108-0903-001	Black				
39F1576	108-0904-001	Green	.13	.12	11.00 Per 100	10.00 Per 100
39F1578	108-0906-001	Orange				
39F1579	108-0907-001	Yellow				
39F1580	108-0908-001	Brown				
39F1582	108-0910-001	Blue				
39F1584	108-0912-001	Violet				
39F1585	108-0913-001	Gray				

NYLON TIP JACKS

Molded of tough, low-loss nylon. DC breakdown 11,000 volts. Capacity to panel, 2.0 pf. Recessed silver plated beryllium copper contacts. Mating pin .081" diameter. Mtg. hole reg. 17/32". Head diam. 3/8". Body threaded 1/4"-32. Shpg. wt. 1 oz.

Stk.No.	Type	Color	1-49	50-99	100-400	500-Up
39F878	105-0601-001	White				
39F879	105-0602-001	Red				
39F880	105-0603-001	Black				
39F881	105-0604-001	Green	.23	.21	19.70 Per 100	17.50 Per 100
39F882	105-0606-001	Orange				
39F883	105-0607-001	Yellow				
39F884	105-0608-001	Brown				
39F885	105-0610-001	Blue				
39F1558	105-0612-001	Violet				
39F1559	105-0613-001	Gray				

NYLON JACKS AND SLEEVE ASSEMBLIES



Nylon tip jack with inside thread. Molded nylon insul. sleeve. Shpg. wt., 3 oz.

Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1500	105-0701-001	White				
39F1501	105-0702-001	Red	.30	.28	26.20 Per 100	23.20 Per 100
39F1502	105-0703-001	Black				
39F1503	105-0704-001	Green				
39F1506	105-0707-001	Yellow				
39F1509	105-0710-001	Blue				

MILITARY TYPE

Accommodates tip plugs of nominal .081" diameter. 1/4"-32 nut furnished. Mounts in 17/64" diameter hole. Capacity to 1/8" metal is 3.8 Mmf. Variations of two available grades listed below. Av. shpg. wt., 3 oz.

Military type designed to comply with MS-16108 Rev. F of MIL-STD-242A. Heavy nickel plated brass jacket. High insulation resistance of nylon body. Gold plated berylium copper contact spring. Voltage breakdown: 8,000 volts DC. 3.8 pf 5 amp.

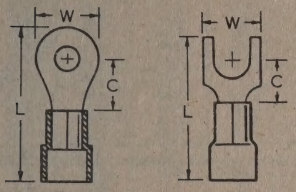
Stk. No.	Type	Color	1-49	50-99	100-400	500-Up
39F1726	105-0201-200	White				
39F1727	105-0202-200	Red				
39F1728	105-0203-200	Black				
39F1729	105-0204-200	Green	.36	.33	30.00 Per 100	27.00 Per 100
39F1731	105-0206-200	Orange				
39F1732	105-0207-200	Yellow				
39F1733	105-0208-200	Brown				
39F1735	105-0210-200	Blue				
39F1737	105-0212-200	Violet				
39F1738	105-0213-200	Grey				

SPC Technology-Voltrex Terminals and Connectors

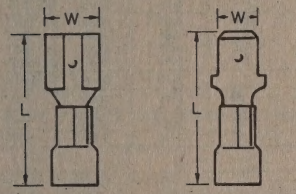
UL LISTED 313-R

CSA LISTED LR22190-6M

NON-INSULATED SURE-GRIP TERMINALS

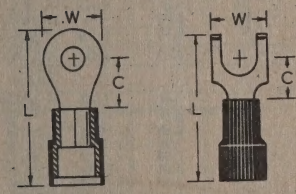


Ring Tongue — Block Spade

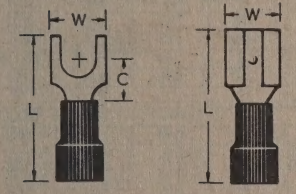


Quick Disconnect —Female — Quick Disconnect —Male

NYLON INSULATED SURE-GRIP TERMINALS



Ring Tongue — Block Spade —Flanged



Block Spade — Quick Disconnect —Female

NON-INSULATED "SURE-GRIP" TERMINALS

"SURE-GRIP" terminals feature an extension of the barrel that crimps over the conductor's insulation.

RING TONGUE—BRAZED SEAM

Stock No.	Wire Size	Stud Size	Size, Inches L	W	C	Std. Pkg.	PER PKG. 1-9	10-24	25-99
31N123	16-14	8	.875	.3125	.2812	100	8.27	4.87	3.75

BLOCK SPADE—BRAZED SEAM

31N145	16-14	6	.7968	.2968	.25	100	8.27	4.87	3.75
31N146	16-14	8	.7968	.2968	.25	100	8.27	4.87	3.75

QUICK DISCONNECT—FEMALE

Stk. No.	Size	L	W	T	Std. Pkg.	1-9	10-24	25-99
31N2627	22-18	.6875	.187-.205	.016	100	11.04	6.50	4.99
31N2517	18-14	.750	.110-.125	.030	100	11.85	6.98	5.35
31N2601	18-14	.8125	.250	.030	100	8.27	4.87	3.75
						1-19	20-49	50-199
31N2515	12-8	.9062	.250	.030	50	8.28	4.87	3.73

QUICK DISCONNECT—MALE

						1-19	10-24	25-99
31N2602	18-14	.875	.250	.030	100	6.66	3.92	3.01

NYLON INSULATED "SURE GRIP" TERMINALS

"SURE-GRIP" terminals that grip the wire and the insulation, with the added feature of a Nylon insulating sleeve for maximum insulation and resistance to chemicals and other harmful agents.

NYLON INSULATED RING TONGUE—SURE-GRIP

Stk. No.	Wire	Stud	L	W	C	Insul.	Std. Pkg.	1-9	10-24	25-99
31N100	26-22	2	.4687	.1406	.1093	Yellow	100	10.81	6.35	4.88
31N101	26-22	4	.6093	.2031	.2187	Yellow	100	10.81	6.35	4.88
31N105	22-18	4	.7812	.25	.2187	Red	100	10.88	6.42	4.91
31N219	22-18	6	.7812	.25	.2187	Red	100	10.88	6.42	4.91
31N220	22-18	8	.9218	.3125	.2812	Red	100	10.88	6.42	4.91
31N221	22-18	10	.9218	.3125	.2812	Red	100	10.88	6.42	4.91
31N223	16-14	6	.875	.3281	.25	Blue	100	10.88	6.42	4.91
31N224	16-14	8	.9218	.3125	.2812	Blue	100	10.88	6.42	4.91
31N225	16-14	10	.9218	.3125	.2812	Blue	100	10.88	6.42	4.91
#1N226	16-14	¼	1.0468	.4687	.4062	Blue	100	12.20	7.19	5.52
31N228	12-10	8	1.0156	.375	.2812	Yellow	100	13.48	7.94	6.08
								1-19	20-49	50-199
31N229	12-10	10	1.0156	.375	.2812	Yellow	50	6.74	3.97	3.04

NYLON INSULATED BLOCK SPADE FLANGED—SURE-GRIP

								1-9	10-24	25-99
31N153	16-14	8	.8437	.2968	.25	Blue	100	10.88	6.42	4.91

NYLON INSULATED BLOCK SPADE—SURE GRIP

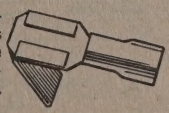
31N236	22-18	6	.8437	.25	.25	Red	100	10.88	6.42	4.91
31N237	22-18	8	.8437	.2968	.25	Red	100	10.88	6.42	4.91
31N238	22-18	10	.8437	.2968	.25	Red	100	10.88	6.42	4.91
31N231	16-14	6	.8437	.2968	.25	Blue	100	10.88	6.42	4.91
31N232	16-14	8	.8437	.2968	.25	Blue	100	10.88	6.42	4.91
31N233	16-14	10	.8437	.2968	.25	Blue	100	10.88	6.42	4.91
31N127	12-10	6	1.0156	.3125	.2812	Yellow	100	14.08	8.54	7.68
								1-19	20-49	50-199
31N234	12-10	10	1.0156	.3125	.2812	Yellow	50	6.74	3.97	3.04

NYLON INSULATED QUICK DISCONNECT—FEMALE—SURE GRIP

Stk. No.	Wire	L	W	T	Insul.	Std. Pkg.	1-9	10-24	25-99
31N2617	22-18	.7187	.125	.030	Red	100	15.45	9.12	7.01
31N175	18-14	.8593	.250	.030	Blue	100	11.75	6.92	5.31
31N2625	18-14	.7968	.110-.125	.030	Blue	100	16.72	9.85	7.56
31N2622	16-14	.7656	.187-.205	.016	Blue	100	15.45	9.12	7.01

MISCELLANEOUS CONNECTORS

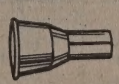
QUICK DISCONNECT ADAPTER



Three-way adapter consists of two male tabs and one female tab. The male tabs are in an over-and-under arrangement. Pkg. of 100.

31N2519. 1-9 ..... 7.58
10-24 ..... 5.77 25-99 ..... 4.33

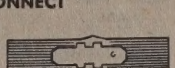
INSULATED WIRE NUTS



Crimp-type wire nuts have Nylon insulation. Simply insert the two wires to be connected, and crimp. Pkg. of 50.

31N239. For #22-18. 1-19 ..... 2.68
20-49 ..... 1.57 50-199 ..... 1.21
31N240. For #16-10. 1-19 ..... 4.54
20-49 ..... 2.67 50-199 ..... 2.05

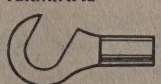
INSULATED MALE DOUBLE QUICK-DISCONNECT



Has ¼" male terminals on both ends. Accepts female quick-disconnects. Vinyl sleeve. Pkg. of 25.

31N2518. 1-39 ..... 2.35
40-99 ..... 1.38 100-399 ..... 1.06

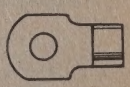
HOOK TONGUE TERMINAL



Non-insulated crimp-type terminal with familiar hook tongue terminal. For wire sizes from #22 to #18. Stud size, #6. Simply insert wire in barrel and crimp, for a strong, secure connection. Pkg. of 100.

30N626. 1-9 ..... 2.50
10-49 ..... 1.78 50-Up 1.39

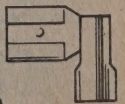
BLOCK RING FLAG TERMINAL



For right angle applications. Simply insert wire in barrel and crimp. For wire sizes from #16 to #14. Stud size, #6. Non-insul. Pkg. of 100.

31N241. 1-9 ..... 7.56
10-24 ..... 4.45 25-99 ..... 3.41

QUICK DISCONNECT FEMALE FLAG WITH SURE-GRIP BARREL



For right angle applications. For #18-14 wire. Crimp wire and insulation. Non-insulated. Accepts male quick-disconnect terminals. Pkg. of 100.

31N2600. 1-9 ..... Each 8.43
10-24 ..... 4.97 25-99 ..... 3.81

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SPC Technology-Voltrex Terminals and Connectors

UL LISTED (UL) 313-R

CSA LISTED (SA) LR22190-6M

One-piece Construction

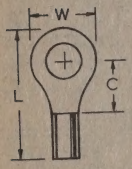
Pure Electrolytic Copper, Electro-Tin Plated

V Grooves in Barrel Provide Extra Holding Power

Barrel to Pad Design Insures High Strength

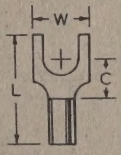
YOU GET THESE QUALITY FEATURES

- **Electrolytic Copper Is Annealed and Plated for Maximum Strength and Corrosion Protection**
- **One-Piece Construction for Maximum Electrical Conductivity and Mechanical Strength**
- **Many Types Have Brazed Seam Barrel for Extra Dependability**

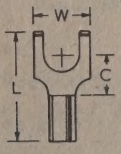


RING TONGUE

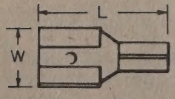
SPADE TONGUE



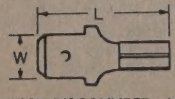
BLOCK SPADE



BLOCK SPADE—FLANGED



QUICK DISCONNECT—FEMALE



QUICK DISCONNECT—MALE

NON-INSULATED TERMINALS

RING TONGUE TERMINALS—BUTTED SEAM

Stock No.	Wire Size	Stud Size	Size, Inches L	W	C	Std. Pkg.	PER PKG. 1-9	10-49	50-Up
31N546	22-18	2	.5937	.25	.2187	100	2.50	1.78	1.39
31N547	22-18	4	.5937	.25	.2187	100	2.50	1.78	1.39
31N548	22-18	6	.5937	.25	.2187	100	2.50	1.78	1.39
31N549	22-18	8	.7343	.3125	.2812	100	2.50	1.78	1.39
31N550	22-18	10	.7343	.3125	.2812	100	2.50	1.78	1.39
31N551	22-18	¼	.8906	.4687	.4062	100	3.45	2.46	1.92
31N555	16-14	6	.5937	.25	.2187	100	2.65	1.87	1.47
31N556	16-14	8	.7343	.3125	.2812	100	2.65	1.87	1.47
31N557	16-14	10	.7343	.3125	.2812	100	2.65	1.87	1.47
31N558	16-14	¼	.8906	.4687	.4062	100	3.45	2.46	1.92
							1-19	20-99	100-Up
31N562	12-10	10	.7343	.375	.2812	50	1.82	1.30	1.02
31N563	12-10	¼	.9531	.5312	.4375	50	2.43	1.72	1.34
31N564	12-10	5/16	.9531	.5312	.4375	50	2.43	1.72	1.34
31N565	12-10	⅜	.9531	.5312	.4375	50	2.65	1.89	1.48

RING TONGUE TERMINALS—BRAZED SEAM

							1-9	10-24	25-99
31N121	22-18	4	.5937	.25	.2187	100	4.81	2.83	2.17
31N200	22-18	6	.5937	.25	.2187	100	4.81	2.83	2.17
31N201	22-18	8	.7343	.3125	.2812	100	4.81	2.83	2.17
31N202	22-18	10	.7343	.3125	.2812	100	4.81	2.83	2.17
31N122	16-14	4	.5937	.25	.2187	100	4.81	2.83	2.17
31N204	16-14	6	.5937	.25	.2187	100	4.81	2.83	2.17
31N205	16-14	8	.7343	.3125	.2812	100	4.81	2.83	2.17
31N206	16-14	10	.7343	.3125	.2812	100	4.81	2.83	2.17
31N207	16-14	¼	.8906	.4687	.4062	100	6.49	3.82	2.93
							1-19	20-49	50-199
31N208	12-10	6	.6718	.2812	.2812	50	3.49	2.05	1.57
31N209	12-10	8	.6718	.2812	.2812	50	3.49	2.05	1.57
31N210	12-10	10	.7343	.375	.2812	50	3.49	2.05	1.57
31N211	12-10	¼	.9531	.5312	.4375	50	3.98	2.35	1.80

SPADE TONGUE TERMINALS—BUTTED SEAM

							1-9	10-49	50-Up
32N056	26-22	0	.3125	.1406	.1093	100	2.50	1.78	1.39
32N058	26-22	6	.5312	.25	.2812	100	2.50	1.78	1.39
31N524	16-14	10	.7187	.3593	.2812	100	2.65	1.87	1.47
							1-19	20-99	100-Up
31N525	12-10	10	.7343	.375	.2812	50	1.83	1.30	1.02

SPADE TONGUE TERMINALS—BRAZED SEAM

							1-9	10-24	25-9
31N217	16-14	10	.6875	.3281	.25	100	4.81	2.83	2.17
31N143	12-10	8	.7343	.375	.2812	100	6.99	4.11	3.15
							1-19	20-49	50-199
31N218	12-10	10	.7343	.375	.2812	50	3.49	2.05	1.59

BLOCK SPADE TERMINALS—BUTTED SEAM

							1-9	10-49	50-Up
31N518	22-18	4	.6562	.2968	.25	100	2.50	1.78	1.39
31N519	22-18	6	.6562	.2968	.25	100	2.50	1.78	1.39
31N520	22-18	8	.6562	.2968	.25	100	2.50	1.78	1.39
31N521	22-18	10	.6562	.2968	.25	100	2.50	1.78	1.39
31N522	16-14	6	.6562	.2968	.25	100	2.65	1.87	1.47
31N523	16-14	8	.6562	.2968	.25	100	2.65	1.87	1.47

BLOCK SPADE TERMINALS—BRAZED SEAM

							1-9	10-24	25-99
31N214	22-18	6	.6562	.25	.25	100	4.81	2.83	2.17
31N138	22-18	8	.6562	.2968	.25	100	4.81	2.83	2.17
31N215	22-18	10	.6562	.2968	.25	100	4.81	2.83	2.17
31N216	16-14	6	.6562	.2968	.25	100	4.81	2.83	2.17
31N140	16-14	8	.6562	.2968	.25	100	4.81	2.83	2117
							1-19	20-49	50-199
31N142	12-10	6	.7343	.3125	.2812	50	4.29	2.85	2.37

BLOCK SPADE, FLANGED—BUTTED SEAM

							1-9	10-49	50-Up
31N526	22-18	6	.6562	.2968	.25	100	2.50	1.78	1.39
31N527	22-18	8	.6562	.2968	.25	100	2.50	1.78	1.39
31N528	22-18	10	.6562	.2968	.25	100	2.50	1.78	1.39
31N529	16-14	6	.6562	.2968	.25	100	2.65	1.87	1.47
31N530	16-14	8	.6562	.2968	.25	100	2.65	1.87	1.47
31N531	16-14	10	.6562	.2968	.25	100	2.65	1.87	1.47

QUICK DISCONNECT—FEMALE (T = Tab thickness)

Stk. No.	Wire	L	W	T	Std. Pkg.	1-9	10-49	50-Up
30N070	18-14	.4843	.187-.205	.016	100	2.90	2.06	1.61
30N071	18-14	.5468	.110-.125	.016	100	2.90	2.06	1.61
31N593	18-14	.6406	.250	.030	100	2.90	2.06	1.61

QUICK DISCONNECT—FEMALE—DOUBLE BARREL THICKNESS

						1-9	10-24	25-99
31N2513	22-18	.6406	.250	.030	100	6.66	3.92	3.01

QUICK DISCONNECT MALE

						1-9	10-49	50-Up
31N592	18-14	.7187	.250	.030	100	2.90	2.06	1.61

BUTT CONNECTORS—BUTTED SEAM

Stk. No.	Wire Size	L.	Std. Pkg.	1-9	10-49	50-Up
31N566	22-18	.5625	100	2.40	1.71	1.33
31N567	16-14	.5625	100	2.40	1.71	1.33
				1-19	20-99	100-Up
31N568	12-10	.5625	50	1.60	1.13	.89

BUTT CONNECTORS—BRAZED SEAM

				1-9	10-24	25-99
31N247	22-18	.625	100	5.71	3.37	2.59
31N248	16-14	.6562	100	5.71	3.37	2.59
				1-19	20-49	50-199
31N249	12-10	.8125	50	4.13	2.43	1.87

PARALLEL CONNECTORS

				1-9	10-24	25-99
31N164	16-14	.3125	100	4.49	2.66	2.02
31N165	12-10	.3437	100	5.36	3.15	2.42

SPC Technology-Voltrex Terminals and Connectors

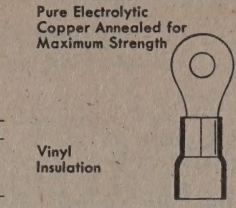
VINYL INSULATED TERMINALS WITH WIRE GUIDE BARREL

UL LISTED (UL) 313-R

CSA LISTED (CSA) LR22190-6M

RING TONGUE TERMINALS—BUTTED SEAM

Stock No.	Wire Size	Stud Size	Size, Inches L	W	C	Insul. Color	Std. Pkg.	PER PKG. 1-9	10-49	50-Up
31N569	22-18	2	.7812	.25	.2187	Red	100	5.15	3.80	2.97
31N570	22-18	4	.7812	.25	.2187	Red	100	5.15	3.80	2.97
31N571	22-18	6	.7812	.25	.2187	Red	100	5.15	3.80	2.97
31N572	22-18	8	.9218	.3125	.2812	Red	100	5.15	3.80	2.97
31N573	22-18	10	.9218	.3125	.2812	Red	100	5.15	3.80	2.97
31N574	22-18	¼	1.0468	.4687	.4062	Red	100	6.70	4.92	3.84
31N578	16-14	6	.7812	.25	.2187	Blue	100	5.15	3.80	2.97
31N579	16-14	8	.9218	.3125	.2812	Blue	100	5.15	3.80	2.97
31N580	16-14	10	.9218	.3125	.2812	Blue	100	5.15	3.80	2.97
31N581	16-14	¼	1.0468	.4687	.4062	Blue	100	6.70	4.92	3.84
								1-19	20-99	100-Up
31N585	12-10	10	1.0156	.375	.2812	Yellow	50	3.35	2.46	1.92
31N586	12-10	¼	1.2343	.5312	.4375	Yellow	50	3.55	2.60	2.03
31N587	12-10	5/16	1.2343	.5312	.4375	Yellow	50	3.55	2.60	2.03
31N588	12-10	⅜	1.2343	.5312	.4375	Yellow	50	3.92	2.89	2.26


Pure Electrolytic Copper Annealed for Maximum Strength
Electro-Tin Plated for High Conductivity
Vinyl Insulation
"Wire Guide Barrel" Guides Wire Into Terminal

RING TONGUE TERMINALS—BRAZED SEAM

								1-9	10-24	25-99
31N107	22-18	4	.7812	.25	.2187	Red	100	7.46	4.40	3.38
31N108	22-18	6	.7812	.25	.2187	Red	100	7.46	4.40	3.38
31N109	22-18	8	.9218	.3125	.2812	Red	100	7.46	4.40	3.38
31N113	16-14	6	.875	.3281	.25	Blue	100	7.46	4.40	3.38
31N114	16-14	8	.9218	.3125	.2812	Blue	100	7.46	4.40	3.38
31N115	16-14	10	.9218	.3125	.2182	Blue	100	7.46	4.40	3.38
31N116	16-14	¼	1.0468	.4687	.4062	Blue	100	9.74	5.73	4.40
31N117	12-10	6	.9687	.2812	.2812	Yellow	100	9.58	5.64	4.33
31N119	12-10	10	1.0156	.375	.2812	Yellow	100	9.58	5.64	4.33

SPADE TONGUE TERMINALS—BUTTED SEAM

								1-9	10-49	50-Up
31N538	16-14	10	.9375	.3593	.2812	Blue	100	5.15	3.80	2.97
31N539	12-10	10	1.0156	.375	.2812	Yellow	100	6.70	4.92	3.84

SPADE TONGUE TERMINALS—BRAZED SEAM

								1-19	20-49	50-199
31N136	12-10	10	1.0156	.375	.2812	Yellow	50	4.79	2.82	2.16

BLOCK SPADE FLANGED—BUTTED SEAM

								1-9	10-49	50-Up
31N540	22-18	6	.8437	.2968	.25	Red	100	5.15	3.80	2.97
31N541	22-18	8	.8437	.2968	.25	Red	100	5.15	3.80	2.97
31N542	22-18	10	.8437	.2968	.25	Red	100	5.15	3.80	2.97
31N543	16-14	6	.8437	.2968	.25	Blue	100	5.15	3.80	2.97
31N544	16-14	8	.8437	.2968	.25	Blue	100	5.15	3.80	2.97
31N545	16-14	10	.8437	.2968	.25	Blue	100	5.15	3.80	2.97

BLOCK SPADE—BUTTED SEAM

								1-9	10-49	50-Up
31N532	22-18	4	.8437	.2968	.25	Red	100	5.15	3.80	2.97
31N533	22-18	6	.8437	.2968	.25	Red	100	5.15	3.80	2.97
31N534	22-18	8	.8437	.2968	.25	Red	100	5.15	3.80	2.97
31N535	22-18	10	.8437	.2968	.25	Red	100	5.15	3.80	2.97
31N536	16-14	6	.8437	.2968	.25	Blue	100	5.15	3.80	2.97
31N537	16-14	8	.8437	.2968	.25	Blue	100	5.15	3.80	2.97

BLOCK SPADE—BRAZED SEAM

								1-9	10-24	25-99
31N129	22-18	6	.8438	.25	.25	Red	100	7.46	4.40	3.38
31N130	22-18	8	.8437	.2968	.25	Red	100	7.46	4.40	3.38
31N132	16-14	6	.8437	.2968	.25	Blue	100	7.46	4.40	3.38
31N133	16-14	8	.8437	.2968	.25	Blue	100	7.46	4.40	3.38
31N134	16-14	10	.8437	.2968	.25	Blue	100	7.46	4.40	3.38

FEMALE QUICK DISCONNECT

Stk. No.	Wire	L	W	T	Insul.	Std. Pkg.	1-9	10-49	50-Up
30N072	18-14	.7812	.187-.205	.016	Blue	100	5.30	3.90	3.05
30N073	18-14	.7968	.110-.125	.016	Blue	100	5.30	3.90	3.05
31N595	18-14	.8593	.250	.250	Blue	100	5.30	3.90	3.05

FEMALE QUICK DISCONNECT—DOUBLE BARREL THICKNESS

								1-9	10-24	25-99
31N2510	22-18	.875	.250	.030	Red	100		10.18	5.99	4.60
31N2511	16-14	.8593	.250	.030	Blue	100		10.18	5.99	4.60
								1-19	20-49	50-199
31N2512	12-10	.9531	.250	.030	Yellow	50		6.49	3.87	2.93

MALE QUICK DISCONNECT

								1-9	10-49	50-Up
31N594	18-14	.9218	.250	.300	Blue	100		5.55	4.08	3.19

BUTT CONNECTORS—BUTTED SEAM

31N589	22-18	1.0000			Red	100		6.10	4.49	3.51
31N590	16-14	1.000			Blue	100		6.10	4.49	3.51
								1-19	20-99	100-Up
31N591	12-10	1.0312			Yellow	50		4.15	3.06	2.24

BUTT CONNECTORS—BRAZED SEAM

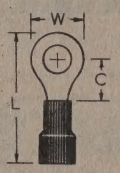
								1-9	10-24	25-99
31N250	22-18	1.000			Red	100		8.66	5.11	3.92
31N251	16-14	1.000			Blue	100		8.66	5.11	3.92
								1-19	20-49	50-199
31N252	12-10	1.0312			Yellow	50		6.57	3.87	2.97

PARALLEL CONNECTORS

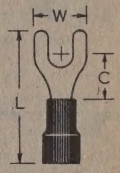
								1-9	10-24	25-9
31N260	22-18	.6875			Red	100		7.27	4.20	3.28
31N261	16-14	.6875			Blue	100		7.27	4.20	3.28

WITH THESE QUALITY FEATURES

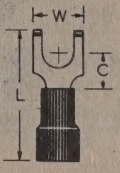
- Vinyl Insulation Prevents Possibility of Short Circuits
- Unique "Wire Guide Barrel" Eases Wire Insertion, Prevents Strands from Bending Back
- V Grooves in Barrel Provide Extra Holding Power



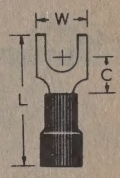
RING TONGUE



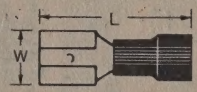
SPADE TONGUE



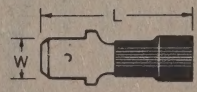
BLOCK SPADE—FLANGED



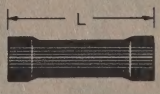
BLOCK SPADE



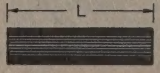
QUICK DISCONNECT—FEMALE



QUICK DISCONNECT—MALE



BUTT CONNECTORS



PARALLEL CONNECTORS

12

Cable Clamps, Strap and Adapters

Fig. A

Fig. C

Fig. F

Fig. D

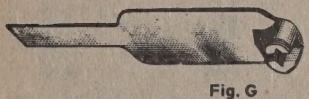


Fig. G

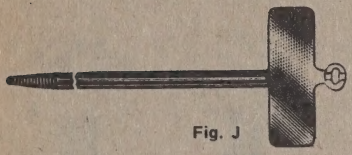


Fig. J

Fig. L

Fig. N

Fig. M

Fig. P

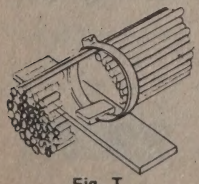


Fig. T

TY-RAP CABLE TIES AND STRAP

Ideal for harnessing wire bundles up to 3¾" dia. Prevents concentration of pressures on one point. Does a complete job of tying and clamping. Type TY-542 has identification plate built-in. Replaces all string and tape harnesses. Temp. Range: -65°F to +350°F. Standard color: Natural white nylon. Av. wt. 4 lb. per 1000.

NOTE: min. order qty. 100 and multiples thereof. (Excluding Tools)

CABLE TIES

Stk. No.	Type	Fig.	Wire Bundle Range	Per 100	Per 1000			
				100-900	1M-9M	10M-49M	50M-99M	100M & up
31F2650	TY232M	A	1/16"x2"	2.80	24.40	18.30	16.65	15.25
31F2651	TY234M	A	1/16"x4"	4.70	41.60	31.20	28.34	26.00
31F2652	TY242M	A	1/16"x2"	3.30	30.79	21.71	19.74	18.11
31F2653	TY244M	A	1/16"x4"	7.30	74.97	48.51	44.10	...
31F2654	TYB23M	A	1/16"x3/8"	2.20	19.50	14.52	13.20	12.10

CABLE STRAPS

Stk. No.	Type	Fig.	Screw Size	Wire Bundle Range	Per 100	Per 1000			
					100-900	1M-9M	10M-49M	50M-99M	100M-& Up
31F2526	TY33M	C	#4	1/16"x3/8"	3.80	37.50	29.50	28.30	27.10
31F2527	TY34M	C	#10	1/16"x1 1/8"	4.30	41.00	35.00	31.00	29.80
31F2528	TY35M	C	#4	1/16"x1¾"	4.90	45.00	40.00	36.00	34.00
31F2503	TY37M	F	#8	3/16"x3¾"	15.50	135.00	125.00	113.00	106.00
31F2529	TY38M	D	#10	1/16"x1¾"	5.20	41.00	31.00	29.50	27.90
31F2615	TY54M	D	#¼	1/16"x1 1/8"	4.50	41.40	31.10	29.40	28.00

IDENTIFICATION TIES

Stk. No.	Type	Fig.	Screw Size	Wire Bundle Range	Per 100	Per 1000			
					100-900	1M-9M	10M-49M	50M-99M	100M-& Up
31F2504	TY46M	G	.....	3/8"x1¾"	9.90	70.00	59.00	53.10	50.20
31F2505	TY46MD	G	.....	3/8"x1¾"	21.60	210.00	175.00	166.00	158.00
31F2506	TY46MX	G	.....	3/8"x1¾"	10.90	77.00	64.90	58.40	55.20
31F2530	TY51M	J	.....	3/16"x3/8"	4.90				
37F2507	Type WT163M-1 Black Marking Pen ..... Each 1.80								

TY-RAP INSTALLING TOOLS

Stk. No.	Type	Fig.	For Use With TY-RAPS	NET
31F2531	WT-199M	...	TY—23M, 24, 25, 33, 34, 35, 38, 46, 51	28.00

TY-RAP MOUNTING PLATE—CLAMP MOUNT

Stock No.	Type	Fig.	Description	NET PER 100		
				100	500	1000
31F280	TC101	M	Fits all ties except Types TY7	4.66	3.33	2.50
31F389	TC103	M	For TY7	18.60	13.30	10.00
31F2508	TC102	L	Same as TC101	3.72	2.66	2.00
31F2509	TC104	L	For TY103 & TY23M	2.56	2.00	1.60

TY-RAP PREMOUNTABLE CLAMPS

Stock No.	Type	Fig.	Description	NET PER 100		
				100	500	1000
31F2612	TC112	L	Miniature Mtg. Base	3.72	2.66	2.00
31F2613	TC342A	T	Adhesive Base	11.20	10.00	9.20
31F2655	TC353A	...	For use with TY25M or TY28M	16.00	11.90	8.82
31F2656	TC354A	...	Adjustable-No Ty needed.	8.00	7.00	6.40
31F2614	TC823	P	¼" push in Base	3.91	3.13	2.50

ADAPTER For Coaxial cable & belden silver plated brass. Fig. N

Stk. No.	Type	I.D.	Cable Type	Mates with Outersleeve	Net Per 100		
					100-499	500-999	1000-Up
31F2520	GSA2590	.263	WE #724	GSC3275	46.00	40.40	34.30
31F2579	GSA2592	.179	RG 58/U	GSC2195	52.70	46.00	39.20
31F2580	GSA2593	.215	Belden 8279	GSC2615	46.00	40.40	34.30

OUTER SLEEVE FIG. P

Stk. No.	Type	O.D.	Cable Type	Mates with Adapter	Net per 100		
					100-499	500-999	1000-Up
31F2522	GSC3275	.327	WE #724	GSA2590	14.70	13.00	11.00
31F2581	GSC2195	.179	RG 58/U	GSA2592	7.40	6.50	5.60
31F2582	GSC2615	.261	Belden 8279	GSA 2593	7.40	6.50	5.60

CRIMPING HAND TOOLS FOR ABOVE

Stk. No.	Type	Description	Shpg. Wt.	NET EA.
31F2521	WT-236	For GSA2590	1 lb. 13 oz.	70.00
31F2583	WT-408	For GSA2592	1 lb. 13 oz.	65.00
31F2584	WT-411	For GSA2593	1 lb. 13 oz.	65.00

NEW SHIELD-KON® SHIELDED CABLE CONNECTORS

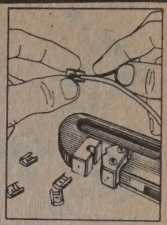
Meets MIL-F-21608. Quickly terminates shielded cables without heat or solder. Ductile alloy connector, available with or without a Mylar insulator. Order forming tool and dies separately. RSK type insulated.

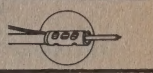
Stock No.	Type	Shield Dia.	Jacket Dia.	Grd. Wire	Dies & Gap Pins: Dies	Gap Pins	Per 100: 100	1000
13F3330	SK100	.055-.069"	.106"	1 or 2 #24 or 22	6401	.082 .093	8.75	6.16
13F3331	RSK100	.070-.095"					16.10	11.20
13F3332	SK200	.096-.105"	.160"	1 #20strd.	6402	.116 .128 .136	9.20	6.40
13F3333	RSK200	.106-.119" .120-.145"					18.40	12.80
13F3334	SK300	.146-.165"	.250"	1 or 2 #22; 1or2 #20 strd.	6403	.189 .200 .213	10.40	6.20
13F3335	RSK300	.166-.185" .186-.205"					23.00	16.00

CONNECTOR TOOLS

Tool and die required. Die includes gap pins.

Stock No.	Type	Description	Net
13F3336	WT640	Adj. Forming Tool	90.00
13F3337	6401	SK/RSK100 Adj. Die	47.50
13F3338	6402	SK/RSK200 Adj. Die	47.50
13F3339	6403	SK/RSK300 Adj. Die	47.50

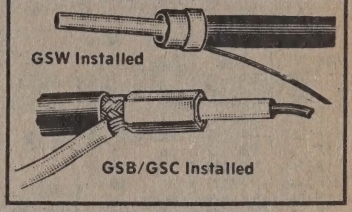




ONE PIECE CONNECTOR FOR SHIELDED AND COAXIAL CABLE

"Two piece" reliability in ONE connector. "Wobble-action" hard inner sleeve moves when shielded cable is inserted; soft outer sleeve is compression material. Nylon insulated. Use WT440 tool below.

Stk. No.	Type	Color	Coaxial Cable (RG)	NET PER 100: 100	1000
31F2558	GSW-90	Red	178A/U 178B/U 196/U	12.70	11.00
31F2559	GSW-100	Yellow	161/U	12.90	11.10
31F2560	GSW-110	Blue	174/U 179A/U 179B/U 187/U 188/U	13.40	11.50
31F2561	GSW-120	Green	122/U	13.80	12.00
31F2562	GSW-130	Black	58/U 58A/U 58B/U 58C/U 141/U 141A/U 180/U 180A/U 195/U	14.10	12.20
31F2563	GSW-150	Green	55/U 55A/U 55B/U 142/U 142A/U 223/U	14.60	12.60
31F2564	GSW-160	Red	59/U 59A/U 59B/U 62/U 62A/U 62B/U 124/U 140/U 210/U	15.10	13.30
31F2565	GSW-180	Blue	71/U 71A/U 71B/U 108/U	17.40	15.00
31F2566	GSW-200	Yellow	54A/U 126/U 134/U 143A/U	20.30	17.40



TWO PIECE CONNECTOR FOR SHIELDED AND COAXIAL CABLE

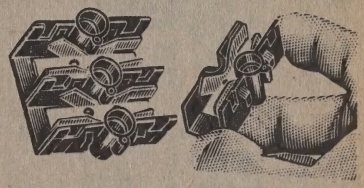
Permanent compression method for reliable grounding, termination and insulation shielded and coaxial cable. See installation tool WT-440. Meets mil. std. appl.

TWO-PIECE CONNECTOR—INNER SLEEVES

Stk. No.	Type	I.D.	O.D.	Color Code	MS Number	NET PER 100: 100	1000	5000
31F2543	GSB-T34	.134	.156	Orange	MS21981-134	4.94	3.49	2.65
31F2544	GSB-156	.156	.193	Red	MS21981-156	4.94	3.49	2.65

TWO-PIECE CONNECTOR—OUTER SLEEVES

Stk. No.	Type	I.D.	O.D.	Color Code	MS Number	Crimp Die No.	NET PER 100: 100	1000	5000
31F2545	GSC-225	.225	.256	Purple	MS21980-225	WT-4409	4.97	3.46	2.70
31F2546	GSC-261	.261	.267	Yellow	MS21980-261	WT-4411	4.97	3.46	2.70



Sectional Terminal Blocks

INSTALLATION TOOL FOR ONE & TWO PIECE CONNECTORS

Stk. No.	Type	Description	Net
31F2567	WT-440	Lightweight aluminum handtool with comfortable cushion-grip handles.	65.00

SECTIONAL TERMINAL BLOCKS AND MARKERS

Snap in and out of channel eliminates need for end sections and mounting clamps.

Stk. No.	Type	Description	NET EA.	NET 100	NET 1000
31F2547	MTB-1	Individual blocks	.30	20.00	156.00
31F2548	MTB-1M	10-20 sect. mark strips	4.00	....	....

STA-KON INSTALLING TOOLS

Stock No.	Type	Fig.	For Use With STA-KON Type	NET
31F177	WT100M	G	A,B,C,AB,RA,AB,RC	7.95
31F265	WT111M	K	A,B,C	6.95
31F179	WT-161	J	A,B,C,RA,RB,RC	9.75
31F266	WT145A	J	RA, RB, RC	60.00
31F267	WT130A	J	A,B,C	55.00
31F2604	WT1000	L	A,B,C,AB,RA,RB,RC,PT	7.95

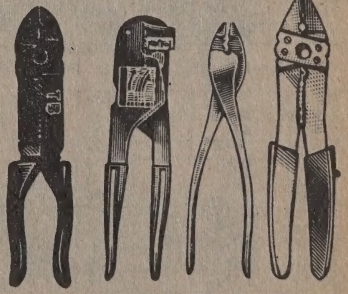


Fig. H Fig. J Fig. K Fig. L.

SELF ADJUSTING WIRE STRIPPER

Model ABMK. This precision tool has been designed to strip insulation from one wire or in multiples. Accommodate average sizes from #30 through #10, copper and aluminum. Excellent for bonded and coaxial cable. Self-adjusting, no nicking, no positioning blades.

Model ABMK-1. #30 AWG to #12. Net wt. .5 lbs.
31F2606. Net .....28.00.

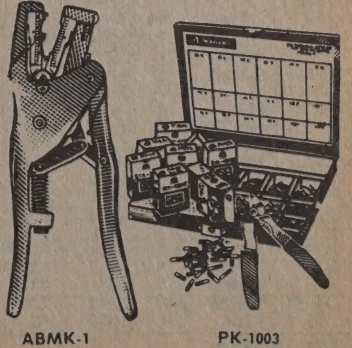
Model ABMK-3. #18 AWG to #10. Net wt. .9 lbs.
31F2638. Net .....36.00.

STA-KON DISCONNECT TERMINAL & TOOL KIT PK-1003

Includes disconnect terminals.

Quantity	Cat. No.	Description
100	18RA-250F	Vinyl Insulated 22-18
100	14RB-250F	Vinyl Insulated 16-14
50	10RC-250F	Vinyl Insulated 12-10
100	A18-250	Uninsulated 22-18
100	B14-250	Uninsulated 16-14
50	C10-250F	Uninsulated 12-10
50	B14-250A	Flag Uninsulated 20-14
100	14RB-250T	Male Tab Vinyl Insulated 20-14

31F2634 PK 1003 Net 58.00



ABMK-1 PK-1003

Thomas & Betts Terminals

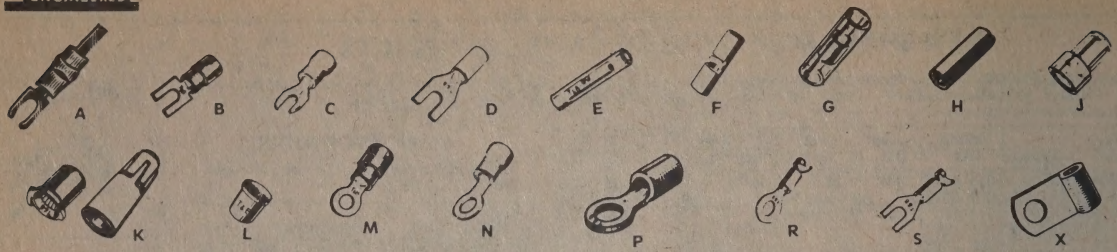


FIG. A LOCK-ON FORK TERMINALS WITH RELIABILITY OF A RING TONGUE TERMINAL

Combine a design configuration and a new vinyl insul. alloy; combines best advantages of all types of terminals.

Stk. No.	Type	Screw Size	Wire Size	Net per 100			
				100	1000	5000	10M
31F2550	RA2217	6	22-18	9.58	5.64	4.33	4.11
31F2551	RA2227	6	22-18				
31F2552	RA2247	8	22-18				
31F2553	RA2257	10	22-18				
31F2554	RB2207	6	16-14				
31F2555	RB2217	6	16-14				
31F2556	RB2237	8	16-14				
31F2557	RB2257	10	16-14				
31F666	RC2217	8	12-10	11.10	6.52	5.03	4.81
31F667	RC2227	10	12-10	11.10	6.52	5.03	4.81
31F668	RC2237	¼	12-10	12.25	7.21	5.61	5.27

FIG. B— NYLON INSULATED FORK TONGUE TERMINALS

31F236	RA1103	6	22-16	10.88	6.42	4.91	4.67
31F237	RA1103	8	22-16				
31F238	RA1153	10	22-16				
31F125	RA1163	¼	22-16	12.20	7.19	5.52	5.24
31F231	RB1113	6	16-14	10.88	6.42	4.91	4.67
31F232	RB1123	8	16-14				
31F233	RB1153	10	16-14				
31F126	RB1163	¼	16-14	13.63	8.02	6.16	5.85
31F127	RC1113	6	12-10	13.63	8.02	6.16	5.85
31F234	RC1153	10	12-10	13.48	7.94	6.08	5.78
31F235	RC1163	¼	12-10	13.63	8.02	6.16	5.85

FIG. C —VINYL FORK TONGUE TERMINALS

31F129	RA1167	6	22-18	7.46	4.40	3.38	3.21
31F130	RA1147	8	22-18				
31F131	RA1157	10	22-18				
31F132	RB647	6	16-14				
31F133	RB657	8	16-14				
31F134	RB297	10	16-14				
31F136	RC1157	10	12-10	9.58	5.64	4.33	4.11

FIG. D —NON-INSULATED FORK TONGUE TERMINALS

31F214	A116	6	22-18	4.81	2.83	2.17	2.07
31F138	A114	8	22-18				
31F215	A29	10	22-18				
31F139	A71F	¼	22-18	6.49	3.82	2.93	2.80
31F216	B64	6	20-16	4.81	2.83	2.17	2.07
31F140	B65	8	20-16				
31F217	B115	10	20-16				
31F141	B71F	¼	20-16	6.49	3.82	2.93	2.80
31F142	C33F	6	16-10	6.99	4.11	3.15	2.99
31F143	C114	8	16-10	6.99	4.11		2.99
31F218	C115	10	16-10				
31F144	C116	¼	16-10	7.96	4.70	3.60	3.41

SPLICES

Stock No.	Type	Fig.	Wire Range	Net per 100			
				100	1000	5000	10M
31F250	RAA217	E	22-18	8.66	5.11	3.92	3.54
31F251	RBB217	E	16-14	8.66	5.11	3.92	3.54
31F252	RCC217	E	12-10	13.15	7.74	5.94	5.66
31F247	AA2	F	22-18	5.71	3.37	2.59	2.45
31F248	BB2	F	20-14	5.71	3.37	2.59	2.45
31F249	CC2	F	16-10	8.27	4.87	3.75	3.56
31F260	RAA24	G	22-20	8.48	6.63	5.30	4.77
31F261	RBB25	G	18-16	8.48	6.63	5.30	4.77
31F163	A1A	H	22-20	4.49	2.64	2.02	1.92
31F164	B1B	H	18-16	4.49	2.64	2.02	1.92
31F165	C1C	H	14-12	5.36	3.15	2.42	2.18
31F239	RB4	J	2#20-	5.36	3.15	2.42	2.18
31F240	RC6	J	2#16	9.09	5.35	4.11	3.90
31F171	PT66M	K	3#12	6.24	4.88	3.90	3.51
31F172	PT70	L	3#12	2.72	2.13	1.70	1.53
31F173	PT70M	L	4#12	2.72	2.13	1.70	1.53
31F174	PT80	L	4#10	7.20	5.63	4.50	4.05

FIG. M—NYLON INSULATED RING TONGUE TERMINALS

Stock No.	Type	Wire Size	Stud Size	Net Per 100			
				100	1000	5000	10M
31F100	RZ23	26-22	2	10.81	6.35	4.88	4.63
31F101	RZ43	26-22	4				
31F104	RZ103	26-22	10				
31F105	RA323	22-16	4	10.88	6.42	4.91	6.47
31F219	RA853	22-16	6				
31F220	RA863	22-16	8				
31F221	RA873	22-16	10				
31F222	RA713	16-14	¼	12.20	7.19	5.52	5.24
31F223	RB853	16-14	6	10.88	6.42	4.91	6.47
31F224	RB863	16-14	8				
31F225	RB873	16-14	10				
31F226	RB713	16-14	¼	12.20	7.19	5.52	5.24
31F228	RC863	12-10	8	13.48	7.94	6.08	5.78
31F229	RC363	12-10	10	13.48	7.94	6.08	5.78
31F230	RC713	12-10	¼	13.63	8.02	6.16	5.85

FIG. N —VINYL INSULATED RING TONGUE TERMINALS

31F107	RA77	22-18	4	7.46	4.40	3.38	3.21
31F108	RA857	22-18	6				
31F109	RA867	22-18	8				
31F113	RB857	16-14	6				
31F114	RB867	16-14	8				
31F115	RB877	16-14	10				
31F116	RB717	16-14	¼	9.74	5.73	4.40	4.18
31F117	RC337	12-10	6	9.58	5.64	4.33	4.11
31F119	RC367	12-10	10	9.58	5.64	4.33	4.11
31F120	RC717	12-10	¼	10.67	6.29	4.82	4.59

FIG. P —NON-INSULATED RING TONGUE TERMINALS

31F121	A-7	22-18	4	4.81	2.83	2.17	2.07
31F200	A-85	22-18	6				
31F201	A-86	22-18	8				
31F202	A-87	22-18	10				
31F122	B-132	20-14	4				
31F204	B-133	20-14	6				
31F205	B-86	20-14	8				
31F206	B-87	20-14	10				
31F207	B71	20-14	¼	6.49	3.82	2.93	2.80
31F208	C33	16-10	6	6.99	4.11	3.15	2.99
31F109	C77	16-10	8				
31F210	C26	16-10	10				
31F211	C71	16-10	¼	7.96	4.70	3.60	3.41

FIG. R —NON-INSULATED RING TONGUE TERMINALS

Stock No.	Type	Wire Size	Stud Size	Net per 100			
				100	1000	5000	10M
31F212	B85G	16-14	6	8.27	4.87	3.75	3.56
31F123	B86G	16-14	8				
31F213	B87G	16-14	10				

FIG. S —NON-INSULATED FORK TONGUE TERMINALS

31F145	B64G	16-14	6	8.27	4.87	3.75	3.56
31F146	B65G	16-14	8	8.27	4.87	3.75	3.56
31F148	B71FG	16-14	¼	9.74	5.73	4.40	4.18

FIG. X —NON-INSULATED FLAG TONGUE TERMINALS

31F241	AB51	20-14	6	7.56	4.45	3.41	3.25
31F243	AB53	20-14	10	7.56	4.45	3.41	3.25
31F245	C52	16.10	8	8.18	4.82	3.68	3.51

Installation Tools for Terminals and Splices on Facing Page

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FEMALE AND (*) MALE SELF INSULATED DISCONNECTS (250 x .032)

Stock No.	Type	Fig.	Tab Size	Wire Range	100-900	Net Per 100 1000-4900	5000-9900	10M-24,900	25M-49,900
31F2518	RBB250*	F	.250x.032	Coupler	9.41	5.54	4.26	4.04	3.83
31F2519	FTA250	E	.250x.032	Adapter	7.58	5.77	4.33	3.61	....
31F110	RA250	A	.250x.032	22-18	11.71	6.89	5.30	5.04	4.80
31F175	RB250	A	.250x.032	18-14	11.75	6.92	5.31	5.01	4.78
31F098	RB2517 *	G	.250x.032	16-14	8.34	4.91	3.78	3.60	3.41
31F2637	RC2517 *	G	.250x.032	12-10	9.16	5.72	5.45	5.19	4.95
31F2510	RA257	A	.250x.032	22-18	10.18	5.99	4.60	4.37	4.15
31F2511	RB257	A	.250x.032	16-14	10.18	5.99	4.60	4.37	4.15
31F2512	RC257	A	.250x.032	12-10	16.90	9.93	7.64	7.28	6.93
31F2616	RA187	A	.187x.032	22-18	15.45	9.12	7.01	6.36	6.05
31F2617	RA187-020	A	.187x.020	22-18	15.45	9.12	7.01	6.36	6.05
31F2618	RA205	A	.205x.032	22-18	15.45	9.12	7.01	6.36	6.05
31F2619	RA205-020	A	.205x.020	22-18	15.45	9.12	7.01	6.36	6.05
31F2620	RA10	A	.110x.032	22-18	16.72	9.85	7.56	7.16	6.81
31F2621	RB187	A	.187x.032	16-14	15.45	9.12	7.01	6.36	6.05
31F2622	RB187-020	A	.187x.020	16-14	15.45	9.12	7.01	6.36	6.05
31F2623	RB205	A	.205x.032	16-14	15.45	9.12	7.01	6.36	6.05
31F2624	RB205-020	A	.205x.020	16-14	15.45	9.12	7.01	6.36	6.05
31F2625	RB10	A	.110x.032	16-14	16.72	9.85	7.56	7.16	6.81

FEMALE AND (*) MALE NON-INSULATED DISCONNECTS

31F2635	B251 *	G	.250x.032	16-14	4.73	2.79	2.14	2.04	1.93
31F2636	C251 *	G	.250x.032	12-10	4.73	2.79	2.14	2.04	1.93
31F2513	A-250	A	.250x.032	22-18	6.66	3.92	3.01	2.86	2.71
31F2514	B-250	A	.250x.032	16-14	6.66	3.92	3.01	2.86	2.71
31F2515	C-250	A	.250x.032	12-10	16.56	9.75	7.47	7.12	6.74
31F2516	A-10	A	.110x.032	22-18	11.85	6.98	5.35	5.09	4.83
31F2517	B-10	A	.110x.032	16-14	11.85	6.98	5.35	5.09	4.83
31F2600	B252G	C	.250x.032	20-14	8.43	4.97	3.81	3.63	3.43
31F2601	B250G	A	.250x.032	20-14	8.27	4.87	3.75	3.56	3.38
31F2602	B251G	B	.250x.032	20-14	6.66	3.92	3.01	2.86	2.71
31F2603	B-23	D	Disconnect	20-14	11.21	6.60	5.07	4.81	4.57
31F2626	A-187	A	.187x.032	22-18	11.04	6.50	4.99	4.74	4.50
31F2627	A187-020	A	.187x.020	22-18	11.04	6.50	4.99	4.74	4.50
31F2728	A205	A	.205x.032	22-18	11.04	6.50	4.99	4.74	4.50
31F2629	A205-020	A	.205x.020	22-18	11.04	6.50	4.99	4.74	4.50
31F2630	B187	A	.187x.032	16-14	11.04	6.50	4.99	4.74	4.50
31F2631	B187-020	A	.187x.020	16-14	11.04	6.50	4.99	4.74	4.50
31F2632	B-205	A	.205x.032	16-14	11.04	6.50	4.99	4.74	4.50
31F2633	B205-020	A	.205x.020	16-14	11.04	6.50	4.99	4.74	4.50

Note: Flat Tabs ¼" Straight Female. *Use with above term blocks.

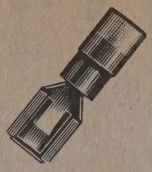


Fig. A

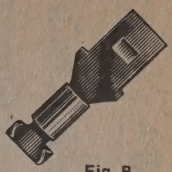


Fig. B

Fig. C

Fig. D

Fig. E

Fig. F

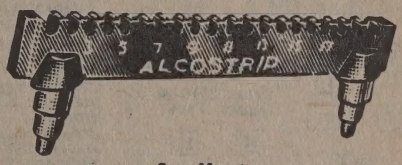
Fig. G

ALCO ELECTRONIC PRODUCTS

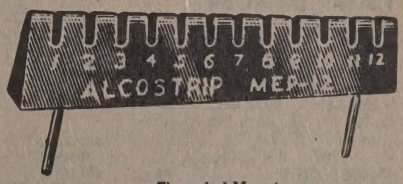
12

CERAMIC TERMINAL STRIPS

Silver plated and tinned to facilitate soldering of components and leads without harm to strip. Features permanent bond between metal and ceramic has tinned copper plate on silvered ceramic. Available in thread or snap mounting. Extra long stud can be cut to any desired length. Board ht. 0.590" (above studs) board depth 0.119" at top, sloping to 0.276" at bottom. Depth of slots 0.197". Dielectric Strength: more than 10 seconds at 1500VDC between terminals. Insulated resistance: over 1,000 megohms at 500 VDC megger. Materials: terminal strip steatite, bushing, polypropolyne.



Snap Mount



Threaded-Mount

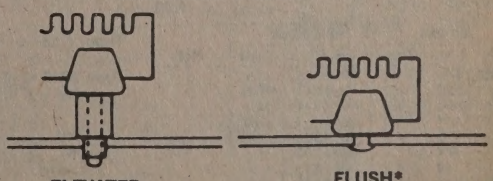
SNAP MOUNT TYPES

Stk. No.	Type	Terms	Overall Width	Mtg. Ctrs.	1-99	100-249	250-499	500-999
61F924	MEP-NB-3	3	.600	....	.60	.41	.36	.33
61F925	MEP-NB-5	5	.885	.490	.80	.54	.48	.44
61F926	MEP-NB-7	7	1.165	.490	1.00	.68	.60	.55
61F927	MEP-NB-9	9	1.445	.750	1.20	.82	.72	.66
61F928	MEP-NB-13	13	2.140	1.500	1.60	1.09	.96	.88
61F929	MEP-NB-16	16	2.440	1.500	1.90	1.29	1.14	1.05
61F930	MEP-NB-20	20	3.020	2.520	2.30	1.56	1.38	1.27

THREAD MOUNT TYPES

61F931	MEP-2	2	.650	....	.40	.27	.24	.22
61F932	MEP-4	4	1.161	.512	.55	.37	.33	.30
61F933	MEP-6	6	1.673	1.024	.75	.51	.45	.41
61F934	MEP-8	8	2.185	1.535	.95	.65	.57	.52
61F935	MEP-10	10	2.697	2.047	1.15	.78	.69	.63
61F936	MEP-12	12	3.209	2.560	1.35	.92	.81	.74

MOUNTING SUGGESTIONS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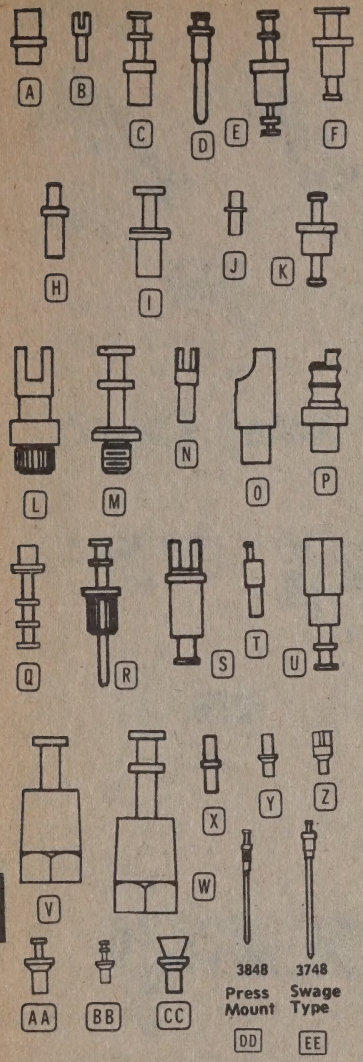
Solder Terminals and Swagers



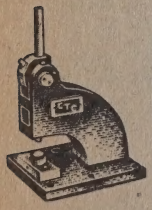
Suffix in type number indicates board thickness size. Number in plating column indicates finish: 01 is silverplate, 04 is electro-tin plate and 05 is electro-solder. Order only in multiples of 100.

BOARD THICKNESS CHART

Type No. Suffix	Board Thickness	Type No. Suffix	Board Thickness
-01	1/32"	-03	3/32"
-02	1/16"	-04	1/8"

For 1/16" Board		For 3/32" Board		1/32" or 1/8" Board (see cht.)					Net per Pkg. of 100			
Stock No.	Type	Stock No.	Type	Stock No.	Type	Fig.	Plating	Description	1-9	10-49	50-99	100-Up
40F6000	1015-02	13F2188	1015-03	13F2189	1015-04	A	04	Taper rec.	5.66	4.36	4.08	3.57
13F2190	1019-02	13F2191	1019-03	40F6001	1019-01	B	01	Thru hole	3.56	2.74	2.56	2.24
13F2192	1018-02	.....	.....	40F6002	1018-01	B	01	Thru hole	3.19	2.46	2.30	2.01
40F6003	1025-02	.....	.....	.....	.....	B	01	Slotted	11.54	8.89	8.31	7.27
40F6004	1026-02	13F2193	1026-03	13F2194	1026-04	C	01	Turret	2.51	1.93	1.81	1.58
40F6005	1031-02	.....	.....	.....	.....	D	01	Turret	5.17	3.98	3.72	3.26
13F2195	1032-02	.....	.....	40F6006	1032-01	D	01	Turret	3.19	2.46	2.30	2.01
40F6007	1035-02	13F2196	1035-03	.....	.....	E	01	Feed thru	4.40	3.39	3.17	2.77
40F6008	1041-02	13F2197	1041-03	.....	.....	F	01	Turret	3.71	2.86	2.67	2.34
40F6009	1042-02	13F2198	1042-03	.....	.....	.....	01	Turret	4.74	3.65	3.41	2.99
40F6010	1043-02	13F2199	1043-03	13F3000	1043-04	E	01	Turret	4.74	3.65	3.41	2.99
40F6011	1081-02	13F3001	1081 03	13F3002	1081-04	E	01	Feed thru	8.70	6.70	6.26	5.48
40F6012	1131-02	.....	.....	.....	.....	H	04	Pin	3.49	2.69	2.51	2.20
40F6013	1132-02	13F3003	1132-03	.....	.....	H	04	Pin	3.49	2.69	2.51	2.20
40F6014	1136-02	.....	.....	.....	.....	H	04	Pin	4.68	3.60	3.37	2.95
40F6015	1245-02	13F3004	1245-03	.....	.....	I	01	Turret	3.53	2.72	2.54	2.22
40F6016	1457-02	13F3005	1457-03	13F3006	1457-04	I	01	Turret	2.21	1.70	1.59	1.39
40F6017	1459-02	.....	.....	.....	.....	J	05	PC eyelet	3.05	2.35	2.20	1.92
40F6018	1460-02	.....	.....	.....	.....	J	05	Thru hole	3.05	2.35	2.20	1.92
40F6019	1461-02	.....	.....	.....	.....	J	05	PC Eyelet	3.05	2.35	2.20	1.92
40F6020	1462-02	.....	.....	.....	.....	J	05	Thru hole	3.05	2.35	2.20	1.92
40F6021	1463-02	.....	.....	13F3007	1463-01	K	01	Domed turret	3.12	2.40	2.25	1.97
40F6022	1548-02	13F3008	1548-03	13F3009	1548-04	C	01	Turret	3.17	2.44	2.28	2.00
40F6023	1558-02	13F3010	1558-03	13F3011	1558-04	C	01	Turret	2.26	1.74	1.63	1.42
40F6024	1578-02	13F3012	1578-03	13F3013	1578-04	L	01	Knurled	6.23	4.80	4.49	3.92
40F6025	1579-02	13F3014	1579-03	13F3015	1579-04	.....	01	Feed thru	6.95	5.35	5.00	4.38
40F6026	1582-02	.....	.....	.....	.....	M	01	Round base	6.83	5.26	4.92	4.30
40F6027	1597-02	13F3016	1597-03	13F3017	1597-04	C	01	Turret	2.51	1.93	1.81	1.58
40F6028	1604-02	.....	.....	.....	.....	I	01	Turret	2.68	2.06	1.93	1.69
40F6029	1724-02	13F3018	1724-03	13F3019	1724-04	C	01	Turret	3.61	2.78	2.60	2.27
.....	.....	.....	.....	40F6030	1783-04	L	01	Knurled	9.98	7.68	7.19	6.29
40F6031	1784-02	13F3020	1784-03	13F3021	1784-04	L	01	Knurled	5.63	4.34	4.05	3.55
40F6032	1785-02	13F3022	1785-03	13F3023	1785-04	N	01	Forked	3.03	2.33	2.18	1.91
40F6033	1797-02	13F3024	1797-03	13F3025	1797-04	I	01	Turret	3.46	2.66	2.49	2.18
40F6034	1798-02	.....	.....	.....	.....	C	01	Turret	5.22	4.02	3.76	3.29
.....	.....	40F6035	1813-03	13F3026	1813-04	O	01	Solder pot	6.86	5.28	4.94	4.32
.....	.....	40F6036	1814-03	13F3027	1814-04	O	01	Solder pot	6.86	5.28	4.94	4.32
.....	.....	40F6037	1815-03	13F3028	1815-04	O	01	Solder pot	6.86	5.28	4.94	4.32
40F6038	1941-02	.....	.....	.....	.....	N	01	Thru hole	3.08	2.37	2.22	1.94
40F6039	1969-02	13F3029	1969-03	13F3030	1969-04	N	01	Thru hole	4.51	3.47	3.25	2.84
40F6040	1979-02	13F3031	1979-03	13F3032	1979-04	P	01	Half slot	5.27	4.06	3.79	3.32
40F6041	2000-02	14F3033	2000-03	13F3034	2000-04	.....	01	Feed thru	3.42	2.63	2.46	2.15
40F6042	2004-02	13F3035	2004-03	13F3036	2004-04	E	01	Feed thru	3.35	2.58	2.41	2.11
40F6043	2027-02	13F3037	2027-03	13F3038	2027-04	I	01	Thru hole	3.03	2.33	2.18	1.91
40F6044	2034-02	13F3039	2034-03	13F3040	2034-04	C	01	Turret	3.59	2.76	2.58	2.26
40F6045	2040-02	13F3041	2040-03	13F3042	2040-04	E	01	Turret	3.67	2.83	2.64	2.31
40F6046	2041-02	13F3044	2041-03	13F3043	2041-01	I	01	Turret	2.26	1.74	1.63	1.42
40F6047	2042-02	.....	.....	13F3045	2042-01	F	01	Turret	2.45	1.89	1.76	1.54
40F6048	2043-02	13F3046	2043-03	13F3047	2043-04	C	01	Turret	2.34	1.80	1.68	1.47
40F6049	2044-02	13F3048	2044-03	13F3049	2044-04	.....	01	Turret	2.59	1.99	1.86	1.63
40F6050	2051-02	.....	.....	13F3050	2051-01	M	01	Hex base	7.65	5.89	5.51	4.82
40F6051	2080-02	13F3051	2080-03	13F3052	2080-04	Q	01	Turret	3.16	2.43	2.28	1.99
40F6052	2081-02	13F3053	2081-03	13F3054	2081-04	R	01	Knurled	4.76	3.67	3.43	3.00
40F6053	2084-02	13F3055	2084-03	13F3056	2084-04	Q	01	Turret	6.15	4.74	4.43	3.87
40F6054	2085-02	13F3057	2085-03	13F3058	2085-04	I	01	Turret	1.92	1.48	1.38	1.21
40F6055	2086-02	13F3059	2086-03	.....	.....	S	01	Thru hole	5.99	4.61	4.31	3.77
40F6056	2089-02	13F3060	2089-03	13F3061	2089-04	B	01	Thru hole	3.89	3.00	2.80	2.45
13F3062	2100-02	13F3063	2100-03	40F6057	2100-01	I	01	Thru hole	3.03	2.33	2.18	1.91
.....	.....	.....	.....	40F6058	2113-04	C	04	.061 top	6.05	4.66	4.36	3.81
.....	.....	40F6059	2114-03	.....	.....	C	04	Taper	7.75	5.97	5.58	4.88
40F6060	2115-02	13F3064	2115-03	.....	.....	F	04	Receptacle	10.09	7.77	7.26	6.36
40F6061	2141-02	13F3065	2141-03	13F3066	2141-04	F	01	Thru hole	6.35	4.89	4.57	4.00
.....	.....	.....	.....	40F6062	2154-01	T	01	Half turret	6.48	4.99	4.67	4.08
40F6063	2186-02	13F3067	2186-03	13F3068	2186-04	I	04	Taper rec.	7.51	5.78	5.41	4.73
13F3069	2187-02	.....	.....	40F6064	2187-01	B	05	Slotted	3.63	2.80	2.61	2.29
.....	.....	40F6065	2345-03	.....	.....	U	01	Term. spcr.	10.19	7.85	7.34	6.42
.....	.....	.....	.....	40F6066	2380-01	V	05	Tap. mnt.	13.14	10.12	9.46	8.28
.....	.....	.....	.....	40F6067	2381-01	W	05	Tap mnt.	12.95	9.97	9.32	8.16
40F6068	2750-02	13F3070	2750-03	13F3071	2750-04	X	05	PC pin	3.12	2.40	2.25	1.97
40F6069	2751-02	13F3072	2751-03	13F3073	2751-04	Y	05	PC pin	3.12	2.40	2.25	1.97
40F6070	2752-02	13F3074	2752-03	13F3075	2752-04	Z	05	PC thru hole	4.62	3.56	3.33	2.91
40F6071	2753-02	13F3076	2753-03	.....	.....	AA	05	PC turret	3.12	2.40	2.25	1.97
40F6072	2754-02	13F3077	2754-03	13F3078	2754-04	BB	05	PC turret	3.12	2.40	2.25	1.97
40F6073	2755-02	13F3079	2755-03	.....	.....	CC	05	PC thru hole	3.12	2.40	2.25	1.97
40F6074	2926-02	.....	.....	.....	.....	Z	05	PC flared	7.77	5.98	5.59	4.90
13F3080	3653-02	13F3081	3653-03	40F6075	3653-01	C	01	Turret	2.47	1.90	1.78	1.56

HAND SWAGER



Designed for quick, uniform swaging of solder terminals on terminal boards. Adjustable to a wide range of terminal board thicknesses. Swaging in place as far as 1 7/8" from board edge. Less tooling.

Type 3802-1. 2 1/2" Throat.
40F1500. NET..... 49.50

Type 3803-1. 5" Throat.
40F1570. NET..... 79.50

Type 6098-1. Adapter for converting to hand set use.
40F1599. NET..... 8.00

ANVILS		PUNCHES		Net
Stk. No.	Type	Stk. No.	Type	
40F1575	6401	40F1586	6604	
40F1530	6402	40F1591	6606	
40F1576	6404	40F1587	6611	
40F1577	6512	40F1589	6617	
40F1573	6418	40F1594	6618	8.00
40F1574	6419	40F1532	6619	
40F1582	6420	40F1533	6629	
40F1578	6430	40F1558	6654	
40F1531	6447	40F1534	6657	
.....	.....	40F1585	6601	

WIRE WRAP TERMINALS

Type 3748-02-04. For board 1/16" thick, .090 mtg. dia.; .045 sq. wire-wrap pin with turret.

Type 3848-01-03. Board .062-.125" thk., .056 dia.; .025 sq. wire-wrap pin, turret.

Type 3854-01-03. Board .052-.188" thk., .058 dia.; .025 sq. wire-wrap pin, turret.

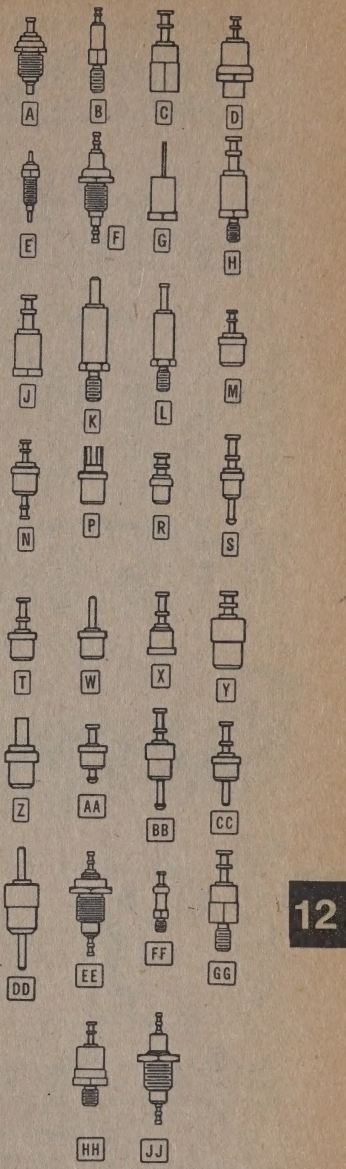
Type 3866-01-03. For board .062" thick only, .058 mtg. dia.; .025 sq. wire-wrap pin, turret.

Stock No.	Type	Fig.	Description	Net Per 100, Lots of 100-900	1000-4900	5000-9900	10M-25M
40F4010	3748-02-04	EE	Turret	9.34	7.19	6.72	5.88
40F4011	3848-01-03	DD	Turret	13.53	10.42	9.74	8.52
40F4012	3854-01-03	.....	Press Mount	13.94	10.73	10.04	8.78
40F4013	3866-01-03	.....	Turret	11.30	8.70	8.14	7.12

Insulated Terminals and Boards

CAMBION

Types 1502 thru 1511, 1945, 1947, 2640 thru 2643 are Teflon; 1581 and 1795 are phenolic; 4810-4899 are molded diallyl; others ceramic. Last suffix in Type No. indicates color: –19 white; –16 blue; –00 no color choice. For non-standard colors (minimum 500 pcs.) substitute the following suffixes: –11 brown, –12 red, –13 orange, –14 yellow, –15 green, –17 violet, –18 gray. Next-to-last suffix indicates terminal plating: –01 silver; –05 electro solder; –03 gold. Studs are cadmium plus colored chromate. (*) meets MIL-T-55155. All are Double Turret except (†) Single Turrett, (‡) Fork Term. (††) Pin Term., (‡‡) Multi-tie Term.



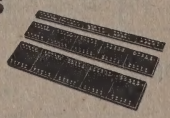
STUD, TAPPED AND RIVET-MOUNT TYPES

Stock No.	Type 570-	Fig.	Mtg.	Each—Multiples of 50: 50	100-450	Stock No.	Type 570- (§572)	Fig.	Mtg.	Each—Multiples of 50: 50	100-450
40F5147	1502-01-05-19†	A	12-28 thd.	.60	.46	13F3141	2641-01-01-19	F	8-32 thd.	.82	.63
40F6200	1503-01-05-19*	B	4-40 thd.	.38	.29	13F3142	2642-01-01-19	F	6-32 thd.	.93	.72
40F6201	1504-01-05-19*	GG	6-32 thd.	.38	.29	13F3143	2643-01-01-19††	E	4-40 thd.	.93	.72
40F6202	1510-01-05-19*	C	4-40 tap	.38	.29	40F1781	3648-01-01-00	. . .	4-40 tap	.41	.32
40F6203	1511-01-05-19*	C	6-32 tap	.38	.29	40F1782	3648-02-01-00	. . .	6-32 tap	.41	.32
40F1821	1581-01-01-00	HH	6-32 thd.	.32	.29	40F1762	3650-01-01-00	. . .	4-40 tap	.41	.32
40F1831	1795-01-01-00	JJ	¼-28 thd.	.66	.51	40F1763	3650-02-01-00	. . .	6-32 tap	.41	.32
40F1773	1942-01-05-00*	. . . .	6-32 thd.	.41	.32	40F6224	§4810-01-05-16	H	14-40 thd.	.29	.22
40F1774	1942-02-05-00*	. . . .	6-32 thd.	.41	.32	40F6225	§4814-01-05-16*	. . .	14-40 tap	.32	.25
40F1834	1945-01-05-19	. . . .	6-32 thd.	.55	.42	40F6226	§4815-01-05-16	. . .	6-32 tap	.32	.25
40F1841	1947-01-05-19	. . . .	4-40 tap	.60	.46	40F6227	§4820-01-05-16*	. . .	4-40 tap	.37	.28
40F1842	1947-02-05-19	. . . .	6-32 tap	.60	.46	13F3144	§4821-01-05-16	. . .	6-32 tap	.37	.28
40F1737	1980-03-01-00†	. . . .	3-48 thd.	.40	.31	40F6228	§4826-01-05-16	. . .	4-40 tap	.32	.25
40F6208	1980-05-01-00†	. . . .	3-48 thd.	.40	.31	40F6229	§4827-01-05-16	. . .	6-32 tap	.32	.25
40F6211	1990-01-01-00	EE	¼-28 thd.	.79	.61	13F3145	§4833-01-05-16	. . .	6-32 tap	.37	.28
40F1805	1990-01-05-00	EE	¼-28 thd.	.79	.61	40F6230	§4838-01-05-16*†	. . .	4-40 tap	.32	.25
40F1794	1994-01-01-00	. . . .	6-32 thd.	.40	.31	13F3146	§4850-01-05-16††	. . .	4-40 tap	.32	.25
40F6213	1994-02-01-00	. . . .	6-32 thd.	.40	.31	40F6231	§4862-01-05-16‡	. . .	4-40 tap	.36	.28
40F6212	1995-01-01-00†	. . . .	6-32 thd.	.40	.31	40F6232	§4863-01-05-16‡	. . .	6-32 tap	.36	.28
40F6217	2045-01-01-00	. . . .	4-40 thd.	.41	.32	13F3147	§4868-01-05-16‡	. . .	4-40 tap	.40	.31
40F1755	2045-01-05-00*	. . . .	4-40 thd.	.41	.32	40F6233	§4870-01-05-16†	L	2-56 thd.	.27	.21
40F6216	2045-02-05-00*	. . . .	4-40 thd.	.41	.32	40F6234	§4872-01-05-16†	. . .	2-56 tap	.29	.22
40F1700	2255-01-03-00†	FF	2-56 thd.	.45	.35	13F3148	§4882-01-05-16	. . .	2-56 thd.	.27	.21
40F1701	2255-02-03-00†	FF	2-56 thd.	.45	.35	40F6236	§4884-01-05-16	. . .	2-56 tap	.29	.22
40F1771	2432-01-01-00‡	. . . .	6-32 tap	.51	.39	40F6237	§4894-01-05-16*†	L	2-56 thd.	.27	.21
13F3140	2640-01-01-19	F	10-32 thd.	.82	.63	13F3149	§4899-01-05-16‡‡	G	4-40 thd.	.27	.21

TEFLON PRESS-MOUNT INSULATED TERMINALS

Stock No.	Type 571-	Fig.	Description	Panel Thick.	Mtg. Dia.	Ht. Above Board	Each—Multiples of 50: 50	100-450	500-1000
40F6239	4015-01-05-19	R	Double turret	To .062″	.093″	.140″	.22	.15	.14
13F3150	4016-01-05-19	R	Double turret	To .062″	.093″	.210″	.22	.15	.14
40F1847	4025-01-05-19	M	Double turret	To .062″	.148″	.210″	.20	.14	.13
40F6241	4025-03-05-19	M	Double turret	To .125″	.148″	.210″	.20	.14	.13
40F6244	4026-03-05-19	M	Double turret	To .125″	.148″	.250″	.22	.15	.14
40F6246	4027-02-05-19	M	Double turret	To .085″	.148″	.210″	.22	.15	.14
40F6248	4029-01-05-19	W	Pin term.	To .062″	.148″	.210″	.19	.13	.12
13F3151	4029-03-05-19*	W	Pin term.	To .125″	.148″	.210″	.19	.13	.12
13F3152	4030-01-05-19	W	Pin term.	To .062″	.148″	.210″	.19	.13	.12
40F6249	4033-01-05-19	X	Double turret	To .062″	.148″	.210″	.22	.15	.14
40F6251	4034-01-05-19	X	Double turret	To .062″	.148″	.210″	.22	.15	.14
40F6252	4034-02-05-19	X	Double turret	To .085″	.148″	.210″	.22	.15	.14
40F6253	4034-03-05-19	X	Double turret	To .125″	.148″	.210″	.22	.15	.14
40F6268	4051-01-05-19*	M	Double turret	To .071″	.148″	.210″	.22	.15	.14
40F5149	4115-01-05-19	M	Feed-thru dbl. tur.	To .125″	.216″	.228″	.30	.21	.19
40F6255	4122-01-05-19	. . . .	Fork term. standoff	To .148″	.215″	.703″	.44	.31	.28
40F6256	4132-01-05-19	P	Fork term. thru-hole	To .125″	.216″	.280″	.44	.31	.28
40F6257	4140-01-05-19*	. . . .	Dbl. tur. standoff	To .109″	.165″	.146″	.19	.13	.12
40F6258	4152-02-05-19*	Z	Pin term. standoff	To .062″	.093″	.165″	.24	.17	.15
13F3153	4154-01-05-19	S	Dbl. tur. feed-thru	To .016″	.093″	.250″	.13	.095	.085
40F5150	4176-01-05-19*	DD	Pin/pin feed-thru	To .062″	.148″	.210″	.22	.15	.14
13F3154	4179-01-05-19	AA	Turret feed-thru	To .062″	148″	.125″	.22	.15	.14
40F1946	4182-01-05-19	BB	Dbl. tur. feed-thru	To .062″	.148″	.210″	.22	.15	.14
40F1947	4182-02-05-19	BB	Dbl. tur. feed-thru	To .085″	.148″	.210″	.22	.15	.14
40F6261	4182-03-05-19	BB	Dbl. tur. feed-thru	To .125″	.148″	.210″	.22	.15	.14
40F6262	4185-01-05-19*	CC	Dbl. tur. feed-thru	To .062″	.148″	.210″	.22	.15	.14
40F5152	4197-01-05-19*	CC	Dbl. tur. feed-thru	To .190″	.148″	.250″	.22	.15	.14
40F1812	4263-01-05-19	N	Dbl. tur. feed-thru	To .125″	.216″	.228″	.36	.25	.23
40F6266	4281-01-05-19	DD	Pin/pin feed-thru	To .109″	.165″	.325″	.22	.15	.14

TERMINAL BOARDS

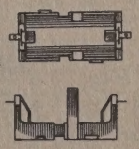


Each section drilled for 14 terminals, with 10 mounted (except type 1401 drilled for 7 with 5 mtd.). Materials: FBE, cotton fabric phenolic per MIL-P-15035B; GEE, epoxy glass cloth, MIL-P-18177B; NPG, nylon fabric phenolic, MIL-P-15047B.

Stock No.	Type 200-	Material	Thickness x Width	Each: 1-9	10-49	100-499
40F2000	1401-35-01-01	FBE	3/32″ x ½″	2.12	1.53	1.34
40F2006	1402-35-01-01	FBE	3/32″ x 2″	4.65	3.35	2.93
40F5136	1402-35-01-02	GEE	3/32″ x 2″	7.60	5.45	4.80
40F5138	1402-35-01-03	NPG	3/32″ x 2″	5.55	4.00	3.50
40F2007	1402-45-01-01	FBE	⅛″ x 2″	4.65	3.35	2.93
40F5139	1402-45-01-02	GEE	⅛″ x 2″	9.55	6.90	6.00
40F2012	1403-35-01-01	FBE	3/32″ x 2½″	4.85	3.50	3.05
40F2013	1403-45-01-01	FBE	⅛″ x 2½″	4.85	3.50	3.05
40F2018	1404-35-01-01	FBE	3/32″ x 3″	5.05	3.65	3.20
40F2024	1405-35-01-01	FBE	3/32″ x 1 1/16″	4.25	3.05	2.68
40F2028	1406-35-01-01	FBE	3/32″ x 1⅛″	4.45	3.20	2.80
40F2029	1406-45-01-01	FBE	⅛″ x 1⅛″	4.45	3.20	2.80

BATTERY HOLDERS

Snap-in holders with locking strap to hold mercury or zinc batteries under extreme vibration and shock. Phosphor bronze body. Can be interlocked. New 2800 and 2801 are glass-filled nylon molded holders. Shock and vibration retainers; tinned phosphor bronze contacts.



Stock No.	Type 400-	Battery Type and Size	Each—Multiples of 10: 10-90	100-500
40F2128	2233-01-02-00	Mercury .655″Dx.650″L	.49	.42
40F2129	2234-01-02-00	Mercury .655″Dx1.305″L	.62	.52
13F3155	2800-01-00-00	"C" size, 1.19x1.19x2.40″	.30	.26
13F3156	2801-01-00-00	"D" size, 1.60x1.38x2.90″	.30	.26
40F2133	2870-01-02-00	"D" mercury, 1.190x2.375″	1.64	1.40
40F2135	2890-01-02-00	"D" zinc, 1.344x2.406″	1.64	1.40
40F2136	2895-01-02-00	"D" zinc, 1.344x2.436″	1.14	.97

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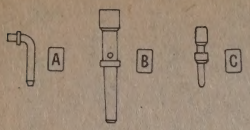
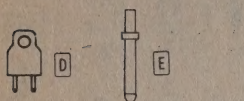
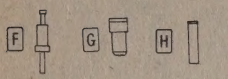
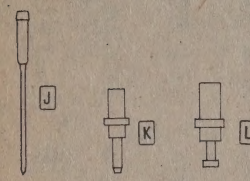
Connectors and Handles

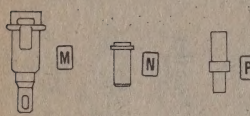
MINIATURE PLUG/JACK CONNECTORS AND PATCH CORDS

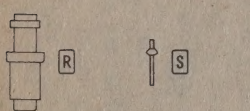


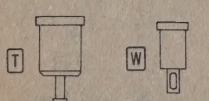


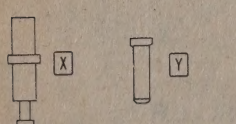












Gold plating. Types listed are most commonly used items. Ask Newark for Cambion Plug-Jack brochure for complete listing of many other types. For prices on Larger quantities contact your nearest Newark facility.

(*) Jack I.D-.016/.019. (†) Jack I.D-.030/.032.

Order by number of packages required.

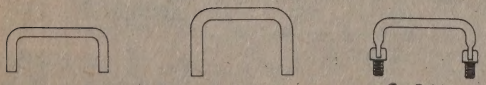
Stk. No.	Type	I/D	Fig.	Description	Board-Thk.	Pkgs. of 10	Pkgs. of 100
40F6102	450-3230-01-03-00	.025	G	PC Jack-Dip Sold.	.031/.062	4.10	32.00
39F2911	450-3268-01-03-00	.016*	Y	PC Jack for Transistor Leads	.031/.156	4.10	32.00
39F2912	450-3296-01-03-00	.040	N	PC Jack-Dip Sold.-Thru-hole	.031/.156	2.00	15.00
39F2913	450-3293-01-03-00	.025	G	PC Jack-Thru-Hole	.031/.062	2.00	15.00
40F6113	450-3310-02-03-00	.040	K	Com. Plug/Jack-Swage Type	1/16"	4.60	35.00
39F2915	450-3310-03-03-00	.040	K	Com. Plug/Jack-Swage Type	3/32"	4.60	35.00
39F2916	450-3310-04-03-00	.040	K	Com. Plug/Jack-Swage Type	1/8"	4.60	35.00
40F6114	450-3320-02-03-00	.040	X	Comb. Term/Jack-Swage Type	1/16"	4.60	35.00
39F2918	450-3320-03-03-00	.040	X	Comb. Term/Jack-Swage Type	3/32"	4.60	35.00
39F2919	450-3320-04-03-00	.040	X	Comb. Term/Jack-Swage Type	1/8"	4.60	35.00
39F2920	450-3367-01-03-00	.040	.....	Jack for Patch Cord-Crimp Bar End	.....	4.10	32.00
40F6117	450-3381-01-03-10	.040	M	Ins. Jack Thd. Mt.-MS39024/10-03	.....	4.30	33.00
39F2969	450-3381-01-03-12	.040	M	Red Ins. Jack Thd. Mt.-MS39024/10-02	.....	4.30	33.00
40F6119	450-3388-01-03-00	.040	N	PC Jack-Dip Sold.	.031/.156	4.10	32.00
40F6122	450-3394-02-03-00	.025	P	PC Jack-Swage Type	1/16"	4.10	32.00
39F2972	450-3394-03-03-00	.025	P	PC Jack-Swage Type	3/32"	4.10	32.00
39F2973	450-3394-04-03-00	.025	P	PC Jack-Swage Type	1/8"	4.10	32.00
39F2974	450-3398-01-03-00	.080	N	PC Jack-Dip Sold.	.031/.250	4.60	35.00
40F6124	450-3422-01-03-00	.040	.....	Test Point Jack-Side Mt.	.078 Max.	4.80	37.00
40F6125	450-3703-01-03-00	.025	.....	PC Jack-Dip Sold.	.031/.094	2.00	15.00
40F6303	450-3704-01-03-00	.040	.....	PC Jack-Dip Sold.	.031/.156	2.00	15.00
40F6301	450-3745-01-03-00	.022	.....	Jack/Wire-Wrap Term.-Knurl Mt.	.062/.188	3.60	28.00
39F2979	450-3750-01-03-00	.018	Y	PC Jack-Dip Sold.-for "DIP" Pins	.031/.188	2.00	15.00
39F2980	450-3752-01-03-00	.040	.....	PC Jack-Dip Solder-self retaining	.062/.125	1.90	15.00
39F2922	450-3772-01-03-00	.016*	Y	PC Jack-for Trans. Leads	.031/.188	2.00	15.00
40F6302	450-3844-01-03-00	.018	.....	Jack/Wire-Wrap Pin-Knurl Mt.	.062/.188	3.60	28.00
39F2924	450-4351-01-03-19	.047	T	White Teflon-Jack/Term-.185 Mt. Dia.	To .094	7.40	57.00
40F6309	450-4351-01-03-10	.047	T	Blk. Teflon-Jack/Term-.185 Mt. Dia.	To .094	7.40	57.00
39F2926	450-4351-01-03-12	.047	T	Red Teflon-Jack/Term-.185 Mt. Dia.	To .094	7.40	57.00
39F2927	450-4352-01-03-19	.040	T	White Teflon-Jack/Term-.148 Mt. Dia.	To .094	4.10	32.00
40F6130	450-4352-01-03-10	.040	T	Blk. Teflon-Jack/Term-.148 Mt. Dia.	To .094	4.10	32.00
39F2929	450-4352-01-03-12	.040	T	Red Teflon-Jack/Term-.148 Mt. Dia.	To .094	4.10	32.00
39F2930	450-4353-01-03-19	.040	T	White Teflon-Jack/Term-.185 Mt. Dia.	To .094	4.10	32.00
40F6131	450-4353-01-03-10	.040	T	Blk. Teflon-Jack/Term-.185 Mt. Dia.	To .094	4.10	32.00
39F2932	450-4353-01-03-12	.040	T	Red Teflon-Jack/Term-.185 Mt. Dia.	To .094	4.10	32.00
39F2933	450-4354-01-03-19	.080	W	White Teflon-Jack/Eye Term-.215 Mt. Dia.	To .125	5.10	39.00
40F6132	450-4354-01-03-10	.080	W	Blk. Teflon-Jack/Eye Term-.215 Mt. Dia.	To .125	5.10	39.00
39F2948	450-4354-01-03-12	.080	W	Red Teflon-Jack/Eye Term-.215 Mt. Dia.	To .125	5.10	39.00
39F2949	450-4355-01-03-19	.080	W	White Teflon-Jack/Eye Term-.185 Mt. Dia.	To .125	2.80	22.00
40F6133	450-4355-01-03-10	.080	W	Blk. Teflon-Jack/Eye Term-.185 Mt. Dia.	To .125	2.80	22.00
39F2961	450-4355-01-03-12	.080	W	Red Teflon-Jack/Eye Term-.185 Mt. Dia.	To .125	2.80	22.00
40F6134	450-7004-01-03-00	.030†	Y	PC Jack-Dip Solder	.031/.188	4.10	32.00

Stk. No.	Type	O/D	Fig.	Description	Lgt.	Board Thk.	Pkgs. of 10	Pkgs. of 100
39F2963	460-1521-02-03-00	.040	A	PC Right Angle, Bent Pin	.257"	1/16"	1.30	11.53
40F6090	460-1521-01-03-00	.040	A	PC Right Angle, Bent Pin	.257"	1/32"	1.30	11.53
39F2965	460-1521-03-03-00	.040	A	PC Right Angle, Bent Pin	.257"	3/32"	1.30	11.53
39F2967	460-2970-02-03-00	.040	E	PC Pin-.040" Mtg. Dia.	.300"	1/16"	.77	6.17
40F6097	460-2970-01-03-00	.040	E	PC Pin-.040" Mtg. Dia.	.300"	1/32"	.77	6.17
39F2968	460-2970-03-03-00	.040	E	PC Pin-.040" Mtg. Dia.	.300"	3/32"	.77	6.17
39F2935	460-2971-02-03-00	.040	E	PC Pin-.040" Mtg. Dia.	.150"	1/16"	.67	5.21
40F6098	460-2971-01-03-00	.040	E	PC Pin-.040" Mtg. Dia.	.150"	1/32"	.67	5.21
39F2936	460-2971-03-03-00	.040	E	PC Pin-.040" Mtg. Dia.	.150"	3/32"	.67	5.21
39F2938	460-3202-02-03-00	.025	F	Comb. Term/Pin-.025" Mtg. Dia.	.025"	1/16"	.66	5.12
40F6099	460-3202-01-03-00	.025	F	Comb. Term/Pin-.025" Mtg. Dia.	.025"	1/32"	.66	5.12
39F2939	460-3202-03-03-00	.025	F	Comb. Term/Pin-.025" Mtg. Dia.	.025"	3/32"	.66	5.12
39F2940	460-3231-02-03-00	.025	E	PC Pin-.040" Mtg. Dia.	.125"	1/16"	.90	7.47
40F6101	460-3231-01-03-00	.025	E	PC Pin-.040" Mtg. Dia.	.125"	1/32"	.90	7.47
39F2942	460-3231-03-03-00	.025	E	PC Pin-.040" Mtg. Dia.	.125"	3/32"	.90	7.47
39F2943	460-3232-02-03-00	.040	E	PC Pin-.040" Mtg. Dia. Thru Hole	.300"	1/16"	.87	7.15
40F6103	460-3232-01-03-00	.040	E	PC Pin-.040" Mtg. Dia. Thru Hole	.300"	1/32"	.87	7.15
39F2945	460-3232-03-03-00	.040	E	PC Pin-.040" Mtg. Dia. Thru Hole	.300"	3/32"	.87	7.15
39F2946	460-3233-02-03-00	.040	E	PC Pin-.040" Mtg. Dia. Thru Hole	.150"	1/16"	.75	6.02
40F6104	460-3233-01-03-00	.040	E	PC Pin-.040" Mtg. Dia. Thru Hole	.150"	1/32"	.75	6.02

Stk. No.	Type	O/D	Fig.	Description	Board Thk.	Pkgs. of 10	Pkgs. of 100
39F2982	460-3233-03-03-00	.040	E	PC Pin-.040" Mtg. Dia. Thru Hole	3/32"	.75	6.02
40F6111	460-3308-01-03-00	.040	.....	Pin with Crimp Barrell	1/32"	1.45	12.99
40F6308	460-3889-01-03-00	.025	S	PC Pin-.031" Mtg. Dia.	1/32"	.73	5.79

Stk. No.	Type	O/D	Fig.	Description	Pkgs. of 10	Pkgs. of 100
39F2985	461-2871-01-03-10	.040	D	Insulated Shorting Plug-Black Pins .200" Ctrs.	3.20	25.00
39F2986	461-2871-02-03-10	.040	D	Insulated Shorting Plug-Black Pins .250" Ctrs.	3.20	25.00
39F2987	461-3102-01-03-10	.025	C	Pin w/unassem. Shrk-Fit Ins. .125"	3.00	23.00

HANDLES



A—Oval B—Round C—Folding

Brass, nickel finish except; * alum. w/black anodize; † alum. semifrost; # stainless steel. ‡ Black oxide.

FERRULES

Stk. No.	Type 416-	Stk. No.	Type 416-	Handle Series	Lots of 10		
					10-90	100-490	500-1000
40F2302	1212-01-14*	40F2303	1212-01-18†	1290	.31	.27	.26
40F2304	1952-01-02	40F2305	1952-01-12‡	1220	.17	.15	.14
.....	.....	40F2309	1954-01-12‡	1075	.17	.15	.14
40F2224	1988-01-02	.....	.....	1075	.23	.20	.19

HANDLES

Stk. No.	Type	Mtg. Cntr.	Ht.	Fig.	1-9	10-99	100-499
40F2204	415-1075-01-02	4.56	1"	B	2.15	1.66	1.45
40F2311	415-1220-01-02	1.25	1"	B	2.07	1.57	1.37
40F2313	415-1220-03-02	3.0	1"	B	2.25	1.73	1.51
40F2181	415-1280-03-02	4.0	1.50	B	2.25	1.73	1.51
40F2315	415-1290-03-14	4.0	1.5	B*	1.72	1.29	1.13
40F2527	415-1900-01-02	4.0	1.85	C	5.60	4.05	3.55
40F2220	415-2062-01-02	4.0	1.85	C	5.40	3.90	3.40
40F2208	415-2111-01-02	3.0	1.281	A	2.88	2.34	2.05
40F2211	415-2111-02-02	4.56	1.50	A	3.65	2.63	2.30
40F2316	415-2111-03-02	6.43	1.75	A	4.10	2.95	2.58
40F2217	415-2111-04-02	9.00	1.75	A	4.50	3.25	2.84
40F2213	415-2385-02-14	4.56	1.50	A*	2.46	1.89	1.65
40F5142	415-2720-01-22	4.00	1.459	C#	7.80	5.60	4.90

Keystone Terminal Boards & Accessories

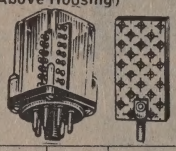
PLUG-IN HOUSING

Durable housings are ideally suited for packaging relays, logic packages, networks and miniature circuitry. Headers are molded of G.P. black phenolic. Pins are brass, nickel plated. Guide hole tapped 8-32 for terminal board mntg. stud. Materials: Polystyrene: use up to 170°F conditions. Butyrate. High impact strength, use at 210°F; Nylon at 300°F. Complete with Octal Header and Screws.

Stk. No.	Type	Size	Mat'l	Color	1-19	20-99	100-240
35F1670	641	Mini	Polyst.	Opaq. Bl.	.69	.64	.59
35F1672	664	Small	Nylon	White	.80	.75	.69
35F1673	665	Small	Polyst.	Clear	.70	.67	.64
35F1674	643	Small	Polyst.	Opaq. Bl.	.65	.60	.55
35F1675	650	Large	Butyrate	Clear	1.39	1.24	1.14
35F1676	668	Large	Polyst.	Clear	.80	.75	.70
35F1677	677	Large	Polyst.	Opaq. Bl.	.80	.75	.70
35F1678	639	X-L'ge	Polyst.	Clear	1.20	1.10	.93

TERMINAL BOARDS (For Use With Above Housing)

Terminal boards are made of glass epoxy material. Spacing of holes is .100 and .1200 alternates. An 8-32 threaded stud is firmly eyeletted to the board and is easily assembled into the tapped hole of the headers. Board thickness is $\frac{1}{16}$". Diameter holes are .062. GEE MIL-P-18177



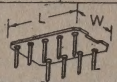
Stk. No.	Type	Size—Board with Stud.	For Covers	1-19	20-99	100-Up
35F1652	696	1x$1\frac{5}{16}$"	Mini	.23	.18	.16
35F1653	697	$1\frac{1}{8}$x$1\frac{3}{4}$"	Small	.23	.18	.16
35F1654	698	$1\frac{1}{2}$x$2\frac{3}{4}$"	Large	.25	.21	.19
35F1656	638	$1\frac{5}{16}$x$2\frac{3}{8}$"	X-L'ge	.26	.24	.22

MODULAR CONSTRUCTION BLOCKS FOR MINIATURE CIRCUITS

Molded Delrin Plastic Cases. High impact gray cases. Suitable for circuits requiring encapsulation. Withstands 365°F temp. or 185°F continuous. Order header and socket separately.

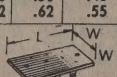
Stock No.	Type	W. x L. x H. Inches	EACH 1-19	20-99	100-249
35F1195	4293	.359 x .500 x .405	.30	.27	.23
35F1196	4294	.562 x .578 x .578	.31	.28	.24
35F1197	4295	.609 x .859 x .656	.33	.30	.27
35F1198	4296	.593 x .984 x .656	.35	.31	.28
35F1199	4289	.734 x 1.015 x .531	.45	.39	.34
35F1210	4290	.734 x 1.015 x .718	.45	.39	.34
35F1211	4291	.890 x 1.265 x .843	.46	.41	.36
35F1212	4292	1.250 x 1.687 x 1.281	.48	.43	.38

Mating Polarized Headers. Made of $\frac{1}{16}$" glass epoxy MIL-P-18177B. Hollow brass pins, electro-tinned for easy soldering, accept #20 wire. Pins spaced .200"



Stock No.	Type	For Case	No. Pins Each Side	Pin Row Spacing	EACH 1-19	20-99	100-249
35F1213	4297	4293	2 & 1	.187"	.29	.26	.22
35F1214	4298	4294	2 & 1	.187"	.29	.26	.22
35F1215	4299	4295	4 & 3	.375"	.42	.38	.33
35F1216	4300	4296	5 & 4	.375"	.50	.45	.39
35F1218	4301	4289, 4290	5 & 4	.500"	.50	.45	.39
35F1219	4303	4291	6 & 5	.600"	.56	.50	.43
35F1220	4304	4292	7 & 6	.812"	.72	.62	.55

Mating Polarized Sockets. Same material as headers. Solder lugs .012" thick brass, cadmium plated.

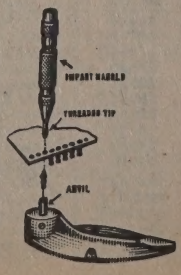


Stock No.	Type	For Headers	Mfg. Ctrs.	EACH 1-19	20-99	100-249
35F1221	4305	4297, 4298	.390x.437	.27	.24	.22
35F1222	4307	4299	.750	.40	.34	.32
35F1223	4308	4300	.812	.46	.40	.37
35F1224	4309	4301	.812	.46	.40	.37
35F1225	4311	4303	1.125	.53	.48	.42
35F1226	4312	4304	1.500	.61	.54	.47

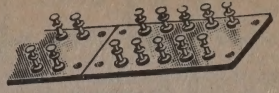
"IMPACT" STAKING KIT

Produces a light or heavy blow which is adjustable by turning the spring tension cap. Uniform striking action attained by pressing down handle. Interchangeable tools supplied permit assembly of terminal boards, printed circuits and small components. Simple construction, automatic single hand operation. Kit includes: 1 No. 1301 Anvil Tool Holder, 1 impact handle (No. 1302), and the following tools: 1310, 1311, 1312, 1313, 1315, 1316, 1321, 1716, 1717, 1722, 1726 Instructions are also included. Stakes all dia. to $\frac{3}{32}$" max.

35F1658. Type 1707 ..... **23.50**



STANDARDIZED TURRET TERMINAL BOARDS



Terminals are securely staked and hot tinned. QQ-B626, comp 22, ¼ hard. Hot dip solder finish. Mil-F-14072, Type 221. Materials: PBE indicates Paper base electrical, Mil-P-3115C, Temp. 250°F max. Type XXXP, GEE indicates Glass Epoxy Mil-P-18177, 300°F max., Type G-10. All are $\frac{3}{32}$" thick and double row of terminals (50 total) on $\frac{3}{8}$" centers except (*) which has a single row with 25 terminals. All are $13\frac{1}{8}$" long.

Double Turret—One Side (Fig. A)

Stk. No.	Type	Width	Spacing Btw Row	Mat'l	1-19	20-99	100-Up
35F1640	15031*	$\frac{1}{2}$"	- - - -	PBE	1.13	.99	.87
35F1641	15036	$1\frac{1}{2}$"	$13\frac{3}{16}$"	PBE	2.26	2.13	2.02
35F1642	15236	$1\frac{1}{2}$"	$13\frac{3}{16}$"	GEE	3.06	2.89	2.77
35F1643	15033	2"	$1\frac{1}{2}$"	PBE	2.37	2.26	2.08
35F1644	15233	2"	$1\frac{1}{2}$"	GEE	3.59	3.36	3.23
35F1645	15034	$2\frac{1}{2}$"	2"	PBE	2.59	2.29	2.13
35F1646	15234	$2\frac{1}{2}$"	2"	GEE	3.82	3.64	3.47
35F1647	15035	3"	$2\frac{1}{2}$"	PBE	2.60	2.43	2.26

Feed Thru Double Turret—Both Sides (Fig. B)

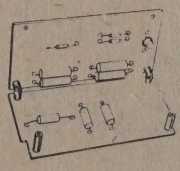
35F1648*	15046	$1\frac{1}{2}$"	$13\frac{3}{16}$"	PBE	4.51	4.17	4.05
35F1649	15043	2"	$1\frac{1}{2}$"	PBE	4.62	4.39	4.28
35F1650	15044	$2\frac{1}{2}$"	2"	PBE	4.80	4.57	4.39
35F1651	15045	3"	$2\frac{1}{2}$"	PBE	4.97	4.74	4.57

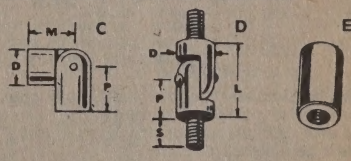
PROTOTYPE KIT

This complete assortment of basic materials and staking tools for experimental and production runs. For construction of $\frac{1}{16}$" and $\frac{3}{32}$" thick terminal boards. Eyelets, terminals, brackets, bushings and push-in terminals included with instructions.

35F1657. Type 1723 NET **17.00**

HINGED STANDOFFS FOR TERMINAL BOARDS





Saves time, space and service cost. Interconnects circuits or services without danger of shorting. Wiring exposed for easy test. Made of brass per Mil Spec. QQ-B-626A, Comp. 22, ½ hard. Cadmium plated per QQ-P-416 Class 2, Type 2, and gold iridite.

Female Hinged Standoffs (Fig. C)

Stock No.	Type	Thread	Size, Inches D	M	P	1-19	20-99	100-240
92F055	351	4-40*	.187	.375	.375	.34	.31	.28
92F056	352	4-40	.187	.375	.625	.36	.33	.30
92F057	353	6-32*	.250	.375	.375	.35	.32	.29
92F058	354	8-32	.250	.375	.625	.37	.34	.31
92F059	355	8-32*	.250	.375	.375	.35	.32	.29
92F060	356	8-32*	.250	.375	.625	.37	.34	.31

* .172 deep; all others .250 deep

Male Hinged Standoffs (Fig. D) All Have ½" Body Length

Stock No.	Type	Thread	Size, Inches D	S	P	1-19	20-99	100-240
92F061	357	4-40	.187	¼	¼	.33	.30	.27
92F062	358	6-32	.250	5/16	¼	.34	.31	.28
92F063	359	8-32	.250	5/16	¼	.34	.31	.28

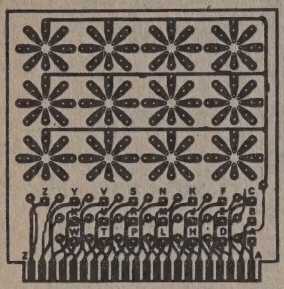
Standoffs For Front Of Boards (Fig. E)

Stock No.	Type	Use with Hinge #	Length	1-19	20-99	Per 100
92F064	1657A	351	¾"	.12	.10	9.00
92F065	1657B	352	1"	.15	.13	11.00
92F066	1548E	353	¾"	.14	.12	9.50
92F067	1548F	354	1"	.15	.13	11.20
92F068	1692D	355	¾"	.12	.10	9.20
92F069	1692E	356	1"	.15	.13	11.20
92F070	1657	357	½"	.10	.08	7.00
92F071	1548C	358	½"	.10	.08	6.75
92F072	1692C	359	½"	.10	.08	6.75

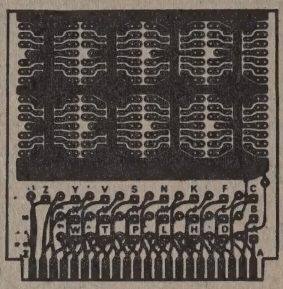
SPC Technology-Voltrex

ETCHED CIRCUIT CARDS FOR CONVENIENT CIRCUIT DESIGN AND PROTOTYPE CONSTRUCTION

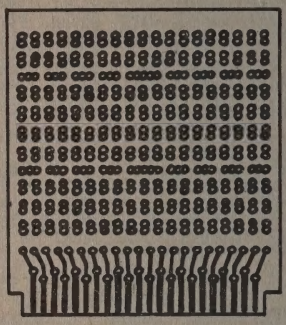
Experiment with circuit designs, test them, and make prototypes without the bother of making your own cards. Voltrex etched circuit cards are fabricated from top quality 2-oz. copper clad G-10 glass epoxy 1/16" thick. All copper is electroplated, to provide thick and uniform plating, with either gold or solder. These cards have double readout edge tabs. Eighteen and 22-position tabs are spaced on 0.156" centers. Twenty-five position tabs are spaced on 0.050" centers.



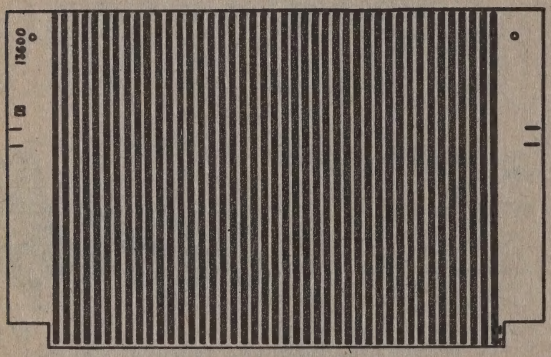
19N3442



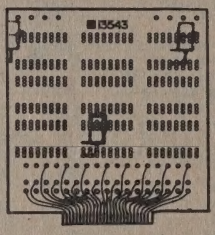
19N3441



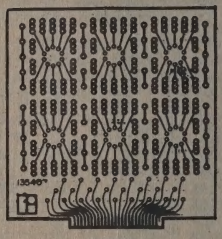
2B857



2B860



2B986



2B976

12

INTEGRATED CIRCUIT CARDS

2B976. 25-contact double readout with pads for six 14-pin flat pack pads on one side and six 10-pin TO-5's on the other so that a total of six IC's of either type can be mounted. All circuitry and contact tabs gold plated. 3" x 3 1/16".

2B977. Same as 2B976, except has 18 double-readout contact tabs. 3x3 1/4".

2B851. Same as 2B976, except for 8-pin TO-5's. 3x3 1/16".

2B852. Same as 2B851, except has 18 double readout contact tabs. 3 x 3 1/4".

2B986. 25-contact double readout for mounting up to nine 14 or 16-pin dual-in-line packages. Holes are .030" to accept most flat or round leads. Circuitry and contact tabs are solder plated. 3x3 1/16".

2B985. Same as 2B986, except has 18 double readout contact tabs. 3 x 3 1/4".

19N3441. 22-contact double readout for up to eight 14-pin dual-in-line packages. Circuitry provided for supplying power to the IC's from contacts #1 and #2. Solder plated circuits with gold plated contact tabs. 4 x 4".

19N3443. Same as 19N3441 except without circuitry for supplying power. 4 x 4".

19N3442. 22-contact double readout for up to twelve 8-pin TO-5's. Circuitry provided for supplying power to the IC's from contacts #1 and #2. Solder plated circuitry. Gold plated contacts tabs. 4 x 4".

19N3444. Same as 19N3442 except without circuitry for supplying power. 4 x 4".

19N3445. Same as 19N3444 except for twelve 10-pin TO-5's. 4 x 4".

UNIVERSAL CIRCUIT CARDS

Have 22 double readout edge tabs. Circuits and contact tabs are solder plated.

2B857. Has 233 mounting pads of one or more holes each, with a total of 444 holes. Holes are .052" on a .1" grid design. 4 x 4 1/2".

2B856. Has a ground bus in the center of the board; transistor locating holes. 190 pads of one or more holes each, with a total of 421 .052" holes on a .1" grid pattern. 4 x 4 1/2".

2B970. Longer version of 2B856. Contains more than 300 mounting pads front and back and more than 650 holes. 22 contact tabs on both ends of the card. 4 x 7".

EXTENDER CARD

2B860. Extends contact fingers of a card. Has 43 solder plated extender strips on .156" centers. 5 x 8".

PRICES

Stk. No.	Type	1-9	10-24	25-49	50-99
2B976	8404-001	8.18	7.36	6.62	6.16
2B977	8404-002	8.18	7.36	6.62	6.16
2B851	8404-003	8.18	7.36	6.62	6.16
2B852	8404-004	8.18	7.36	6.62	6.16
2B986	8404-005	8.18	7.36	6.62	6.16
2B985	8404-006	8.18	7.36	6.62	6.16
2B857	8404-007	8.18	7.36	6.62	6.16
2B856	8404-008	8.18	7.36	6.62	6.16
2B970	8404-009	13.68	12.31	11.08	10.30
2B860	8404-010	13.32	11.99	10.79	10.03
19N3441	8404-011	10.00	10.00	10.00	9.00
19N3443	8404-012	10.00	10.00	10.00	9.00
19N3442	8404-013	10.00	10.00	10.00	9.00
19N3444	8404-014	10.00	10.00	10.00	9.00
19N3445	8404-015	10.00	10.00	10.00	9.00

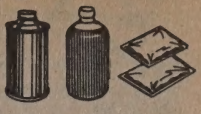
SPC Technology—Voltrex PC Board Supplies

Copper Clad Laminate

Photogreen Laminate

Economical Package of Five Laminates

Processing Chemicals



Copper clad laminates and processing chemicals for professional quality prototype and production etched circuit boards. Material is 1/16" thick. Stocked in popular sizes. Other sizes can be supplied limited to the following maximum sizes: **CU-SKIN-062,** unsensitized boards—36x48"; **Photoclear,** standard photosensitized boards—24x24"; **Photogreen,** photosensitized boards—16x36". All boards are sealed in a moisture-proof and light-proof black plastic bag with complete instructions.

CU-SKIN-062—UNSENSITIZED COPPER CLAD LAMINATES

Simply apply a manual resist (like the Voltrex resist marker or pressure sensitive patterns, terminal circles, or conductor strips) directly on the unsensitized copper surface. Agitate the board in etching solution. Any copper not covered by resist will be washed away, leaving the circuit pattern you design. Material, 1/16" thick. 1 oz. (.00135) or 2 oz. (.00270) copper clad.

G-10 GLASS EPOXY BOARDS—1 OZ.

Copper Cladding	Board Size	1 Board		Pkg. of 5 Boards				
		Stk. No.	Each	Stk. No.	1-4	5-9	10-24	25-Up
1 side	3x6"	19N2022	1.08	19N3216	4.75	4.20	3.80	3.45
1 side	4x6"	78N155	1.20	78N159	5.30	4.65	4.25	3.85
1 side	12x12"	19N2023	6.76	19N3217	32.55	27.65	21.50	20.50
2 sides	3x6"	19N3213	1.12	19N3218	4.95	4.35	3.95	3.60
2 sides	4x6"	78N156	1.26	78N160	5.60	4.90	4.90	4.10
2 sides	12x12"	19N2024	7.06	19N3219	34.05	28.95	22.45	21.45
G-10 GLASS EPOXY BOARDS—2 OZ.								
1 side	3x6"	78N163	1.10	78N178	4.85	4.30	3.90	3.55
1 side	4x6"	78N164	1.24	78N179	5.50	4.85	4.55	4.00
1 side	12x12"	78N165	7.02	78N180	33.85	28.75	22.35	21.30
2 sides	3x6"	78N166	1.14	78N181	5.05	4.45	4.05	3.70
2 sides	4x6"	78N167	1.28	78N182	5.70	5.00	4.55	4.15
2 sides	6x6"	78N168	2.06	78N183	9.50	8.40	7.60	6.95
2 sides	12x12"	78N209	7.36	78N184	35.55	30.20	23.45	22.40
PAPER BASE PHENOLIC BOARDS—1 OZ.								
1 side	3x6"	19N2012	.54	78N198		Each	2.05	
1 side	4x6"	78N194	.60	19N3202		Each	2.30	
1 side	12x12"	19N2013	2.48	19N3203		Each	11.15	
GLASS MAT POLYESTER BOARDS—1 OZ.								
1 side	3x6"	19N3226	.58	78N206		Each	2.25	
1 side	4x6"	78N202	.66	78N207		Each	2.60	
1 side	12x12"	19N3227	2.84	78N208		Each	12.95	

PHOTOCLEAR—STANDARD SENSITIZED COPPER CLAD LAMINATES

Boards are chemically treated so they'll resist the etching solution when exposed to light. A circuit pattern negative is placed over the board and exposed to light. When light passes through the transparent portion of the negative, it activates the resistive property of the photoclear board. A developing step washes away the sensitizing chemical on the unexposed portion. The board is put in the etching solution where any copper that was under the opaque portion of the negative is etched away—leaving the circuit pattern. Material is 1/16" thick. 1 oz. (.00135) and 2 oz. (.0027) copper clad.

G-10 GLASS EPOXY BOARDS—1 OZ.

Copper Cladding	Board Size	1 Board		Pkg. of 5 Boards				
		Stk. No.	Each	Stk. No.	1-4	5-9	10-24	25-Up
1 side	3x6"	19N2025	1.44	19N3220	6.55	5.75	5.25	4.80
1 side	4x6"	78N157	1.66	78N161	7.60	6.70	6.10	5.55
1 side	6x6"	19N3214	2.58	19N3221	12.10	10.65	9.70	8.85
1 side	7x10"	19N2026	4.80	19N2037	22.95	19.75	17.90	16.55
1 side	12x12"	19N2027	9.64	19N3222	46.95	38.95	31.00	29.55
2 sides	3x6"	19N2028	1.70	19N3223	7.85	6.90	6.30	5.75
2 sides	4x6"	78N158	2.02	78N162	9.40	8.25	7.50	6.85
2 sides	6x6"	19N3215	3.16	19N3224	15.00	13.20	12.00	10.95
2 sides	12x12"	19N2029	11.72	19N3225	57.35	47.60	37.85	36.10
G-10 GLASS EPOXY BOARDS—2 OZ.								
1 side	3x6"	78N169	1.46	78N185	6.65	5.85	5.35	4.85
1 side	4x6"	78N170	1.70	78N186	7.80	6.85	6.25	5.70
1 side	6x6"	78N171	2.66	78N187	12.50	11.00	10.00	9.15
1 side	7x10"	78N172	4.92	78N188	23.55	20.70	18.80	17.20
1 side	12x12"	78N173	9.90	78N189	48.25	40.05	31.85	30.40
2 sides	3x6"	78N174	1.72	78N190	7.95	7.00	6.35	5.80
2 sides	4x6"	78N175	2.04	78N191	9.50	8.35	7.60	6.95
2 sides	6x6"	78N176	3.22	78N192	15.30	13.50	12.55	11.20
2 sides	12x12"	78N177	11.96	78N193	58.55	48.60	38.65	36.90
XXXP PAPER BASE PHENOLIC BOARDS—1 OZ.								
1 side	3x6"	19N2016	.90	19N3206		Each	3.85	
1 side	4x6"	78N196	1.06	78N200		Each	4.60	
1 side	6x6"	19N3201	1.52	19N3207		Each	6.80	
1 side	7x10"	19N2017	2.72	19N3208		Each	12.55	
1 side	12x12"	19N2018	5.36	19N3209		Each	25.55	
GLASS MAT POLYESTER BOARDS—1 OZ.								
1 side	3x6"	19N3230	.94	78N092		Each	4.05	
1 side	4x6"	78N204	1.12	78N093		Each	4.90	
1 side	6x6"	19N3231	1.62	78N094		Each	7.30	
1 side	12x12"	19N3232	5.72	78N095		Each	27.35	

PHOTOGREEN SENSITIZED COPPER CLAD LAMINATES

A major advance over standard sensitized PC boards. Boards reduce or eliminate many problems associated with processing standard boards. Boards are 1/16" thick with 1 oz. (.00135) or 2 oz. (.00270) copper clad. IMPORTANT: Photogreen boards require special developer and stripper (sold below).

Surfaces protected from scratches or from mishandling peel-off film. **Less sensitive** to room light—unexposed boards can be handled without cover in artificial room light for a few minutes without affecting ability to receive circuit pattern. **Eliminates drying** step between developing and etching. **Circuit visible after exposure**—prevents accidental double exposure. **Highly visible** circuit after developing—sharp contrast between circuit and etching surface reveals reproduction defects that can be touched up with photo-resist pen (sold below). **Special** developer and stripper are safer, easier to use and much less expensive than standard materials. Supplied in dry form and mixed with water.

G-10 GLASS EPOXY BOARDS—1 OZ.

Copper Cladding	Board Size	1 Board		Pkg. of 5 Boards				
		Stk. No.	Each	Stk. No.	1-4	5-9	10-19	20-Up
1 side	3x6"	13N2023	1.94	13N2024	8.84	7.76	7.09	6.48
1 side	4x6"	13N2025	2.24	13N2026	10.26	9.04	8.24	7.49
1 side	6x6"	13N2027	3.48	13N2028	16.34	14.38	13.10	11.95
1 side	7x10"	13N2029	6.48	13N2030	30.98	26.66	24.16	22.34
1 side	12x12"	13N2031	13.01	13N2032	63.38	52.58	41.85	39.89
2 sides	3x6"	13N2033	2.30	13N2034	10.60	9.32	8.50	7.76
2 sides	4x6"	13N2035	2.73	13N2036	12.69	11.14	10.12	9.25
2 sides	6x6"	13N2037	4.27	13N2038	20.25	17.82	16.20	14.78
2 sides	12x12"	13N2039	15.82	13N2040	77.42	64.26	51.10	48.74
G-10 GLASS EPOXY BOARDS—2 OZ.								
1 side	3x6"	13N2041	1.97	13N2042	8.98	7.90	7.22	6.55
1 side	4x6"	13N2043	2.30	13N2044	10.53	9.25	8.44	7.70
1 side	6x6"	13N2045	3.59	13N2046	16.88	14.85	13.50	12.35
1 side	7x10"	13N2047	6.64	13N2048	31.79	27.94	25.38	23.22
1 side	12x12"	13N2049	13.36	13N2050	65.14	54.07	43.00	41.04
2 sides	3x6"	13N2051	2.32	13N2052	10.73	9.45	8.57	7.83
2 sides	4x6"	13N2053	2.75	13N2054	12.82	11.27	10.26	9.38
2 sides	6x6"	13N2055	4.35	13N2056	20.66	18.22	16.94	15.12
2 sides	12x12"	13N2057	16.15	13N2058	79.04	65.61	52.18	49.82
XXXP PAPER BASE PHENOLIC BOARDS—1 OZ.								
1 side	3x6"	13N2059	1.22	13N2060		Each	5.20	
1 side	4x6"	13N2061	1.43	13N2062		Each	6.21	
1 side	6x6"	13N2063	2.05	13N2064		Each	9.18	
1 side	7x10"	13N2065	3.67	13N2066		Each	16.94	
1 side	12x12"	13N2067	7.24	13N2068		Each	34.49	
GLASS MAT POLYESTER BOARDS—1 OZ.								
1 side	3x6"	13N2069	1.27	13N2070		Each	5.47	
1 side	4x6"	13N2071	1.51	13N2072		Each	6.62	
1 side	6x6"	13N2073	2.19	13N2074		Each	9.86	
1 side	12x12"	13N2075	7.72	13N2076		Each	36.92	

VOLTREX ETCHED CIRCUIT BOARD PROCESSING CHEMICALS

Resist Marking Pen—for touch-up work or adding circuitry on any developed board. **Photoclear developer**—do not use with Photogreen boards. **Photogreen Developer**—add pkg. to warm water; developer is non-volatile and non-irritating to skin. **Etching solution**—for all copper clad boards; washes away copper in forming circuit pattern. **Photoclear stripping solution**—immerse board 30-60 sec. in heated stripping solution (140°-180°F); lightly scrub under warm running water to completely remove resist. **Photogreen stripper**—dissolve pkg. in water; immerse board in heated solution (120°-140°F) for 30-60 sec. to blister the resist; wash away in a warm water rinse.

Stk. No.	Type	Fig.	Description	Each
19N2038	Mark-3000	H	Resist Marking Pen	.75
19N2032	FCD-16	E	Photoclear Developer—1 Pint	1.15
19N2033	FCD-128	D	Photoclear Developer—1 Gallon	5.50
13N2077	FGD-128	J	Photogreen Developer—Makes 1 Gal.	2.50
19N2034	ETCH-16	G	Etching Solution—1 Pint	.85
80N128	ETCH-128	....	Etching Solution—1 Gallon	3.50
78N084	FCS-16	F	Photoclear Stripper—1 Pint	1.95
78N085	FCS-128	D	Photoclear Stripper—1 Gallon	7.50
13N2078	FGS-128	J	Photogreen Stripper—Makes 1 Gal.	3.50

12

Kepro P. C. Kits & Materials

STANDARD KIT

Type S-101A. An etching kit designed to custom fabricate your own circuit board. A liquid or tape resistant is manually applied to the XXXP Phenolic copper clad sheet in the desired pattern, then etched. A perforated copper clad panel is supplied with this kit to speed component mounting. Contents: 2 sheets 3x6x1/16" copper clad phenolic, unsensitized. 1 sheet 3x6x1/16" perforated copper clad phenolic, unsensitized 1-Resist. Marking Pen. 1-Package assorted Tapes and Dots. 2-Bottles Etching Solution. 1-Plastic Etching Tray. 1-Cleaning Pad and instructions. Shpg. wt., 2 lbs.

19F2000. NET **3.95**

Type S-101A-G. Identical to S-101A Kit except, base material is G-10 Glass Epoxy. Copper Clad.

19F2001. NET 5.25

PROFESSIONAL KIT

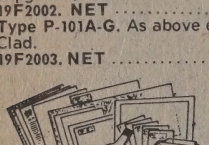
Type P-101A. An etching kit designed to custom fabricate your own circuit board utilizing a photo engraving process. A sensitized sheet of XXXP Phenolic copper clad is exposed through your prepared negative, then developed and etched. Contents: 2 sheets 3x6x1/16" photosensitized copper clad phenolic, 1 sheet 3x3x1/16" photosensitized copper clad phenolic, 3 sheets Mech. Neg. 1-Print Frame Glass. 2-Print Frame Clamps. 1-Bottle Developer. 2-Bottles Etching Solution. 1-Aluminum Developing Tray. 1-Plastic Etching Tray. 1-Cleaning Pad. With complete instructions. Shpg. wt., 3 lbs.

19F2002. NET **5.85**

Type P-101A-G. As above except base is G-10 Glass Epoxy. Copper Clad.

19F2003. NET 7.40

ETCHED CIRCUIT LAB



Type L-505A. A complete lab which contains all materials required for circuit board development. Uses high quality photo processing. Contains: 1-8½x12 Developing Tray. 1-8½x12 Etching Tray. 1-Safelight. 1-Printing Frame. 1-Photo Flood Lamp. 1-KEPRO Photo Layout Kit (PL-2A). 1-40-10 Mech. Neg. 1-Etching Solution (1 Pint). 1-Developing Solution (1 Pint). Resist. marking pen. 1-3⅛x7⅛x1½" Plastic Tray and Lid. 1-Aluminum Tray. 1-Etching Solution (4 oz.) 1-Developing Solution (4 oz.). 1-Eyelet Assortment. 1-Cleaning Pad. 1-Set of Instructions. Shpg. wt., 19 lbs.

80W125. NET **34.75**

Type L-505A-G. Identical to L505A, except, base material is G-10 Glass Epoxy, Copper Clad. Shipping weight 20 pounds.

80W126. NET 42.95

PHOTO REVERSING KIT

Type FK-701. Simple two-step process prepares line negatives and positives from taped or inked artwork or reverses existing negatives or positives. No darkroom needed. Includes two pieces 10" x 24" reversing film, chemicals and instructions. Shpg. wt., 2 lbs.

19F2010. NET **7.20**

Type RF-1024. 2 mil. green reversing film, 10" x 24". Shpg. wt. 8 ozs.

19F2045. NET 3.00

Type RF-2024. 2 mil. green reversing film, 20" x 24". Shpg. wt. 1 lb.

19F2046. NET 5.40

ETCHED CIRCUIT PROCESSING CHEMICALS

Stk. No.	Type	Description	Weight	EACH
19F2038	RMP700A	Resist Marking Pen	.....	.75
78F084	PRS-1PT	Photo Resist Stripper	2lb. 2oz	1.95
78F085	PRS-1G	Photo Resist Stripper	15 lb.	7.50
19F2032	D-1PT	1 pt. Developing Solution	2¾ lb.	1.15
19F2033	D-1G	1 gal. Developing Solution	16 lb.	5.50
19F2034	E-1PT	1 pt. Etching Solution	2½ lb.	.85
80W128	E-1G	1 gal. Etching Solution	16 lb.	3.50
19F2039	EP-1G	Etching Powder	1 gal.	3.25
19F2040	EP-5G	Etching Powder	4 gal.	9.40
19F2047	RFD-1PT	1 pt. Reversing Developer	2 lbs.	2.25
19F2048	RFD-1G	1 gal. Reversing Developer	13 lbs.	9.90

SOLID CARBIDE CIRCUIT BOARD DRILLS

Specially designed for smooth, burr-free drilling in circuit boards and all laminates, tapered web, straight shank.

Stk. No.	Type	1-2	3-5	6-11	12 & Up
19F20511	#52 (.064")	4.30	3.87	3.44	3.23
19F2052	#55 (.052")	4.15	3.73	3.32	3.11
19F2053	#60 (.040")	4.00	3.60	3.20	3.00
19F2054	#65 (.035")	4.00	3.60	3.20	3.00
19F2055	#70 (.028")	3.50	3.15	2.80	2.62

PHOTO LAYOUT KIT

Type PL-2A. For preparing camera-ready artwork without inking and lettering. Reduced layout time by use of pressure-sensitive tapes, dots, letters and numerals. Contents: 96-¼" Tape Dot Terminations. 108"-⅛" Tape Conductor Strips. 216"-1/16" tape Conductor Strips. 1-translucent-type (letters and numerals, assorted sizes) sheet. 1-Acetate Sheet (8"x10"). 1-Mech. Neg. (8"x10"). 2-Sheets of Graph paper, 1/10" grid 8x10". 1-Instruction sheet. Wt., 1 lb.

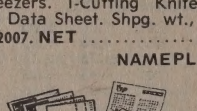
19F2006. NET **3.95**

MASTER PHOTO LAYOUT KIT

Type PL-200A. This package includes all necessary materials to make Master artwork on stable base drafting films. Utilizes the same time saving methods as the PL-2A. Contents: 2 pcs. 18"x24" Matte Surface Mylar, 2 pcs.—18"x24" Mech. Neg. mylar 1 pc 1/10" grid mylar sheet 18"x24" base. 4 pcs.—17"x21" Graph paper, 1/10" grid. 432-⅛" tape dot termination. 576-¼" tape dot termination. 252-½" dot terminations. 18 yds.-1/16" taper conductor strips. 21 yds.-⅛" tape conductor strips. 18 yds. ¼" tape conductor strips. 1 sheet—8½"x11" translucent (letters and numerals, assorted sizes) sheet. 1 btl.— Opaquing fluid. 1-Brush. 1-Bow Compass (with knife cutters) 1-Center Dot Cutter. 1-Tweezers. 1-Cutting Knife Set. 1-Peeling Stylus. 1-Instruction and Data Sheet. Shpg. wt., 4 lbs.

19F2007. NET **38.70**

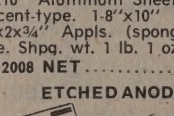
NAMEPLATE & PANEL KIT



Type NP-303A. Kit permits you to prepare name-plate by a simple photographic process. Plates are exposed to light source through artwork made from supplied materials. Panels art then dev., no fixing nec. Finished plates are aluminum and contrasting dk. blue. Contents: 2-8"x10" Aluminum Sheet, 1-8"x10". Acetate Sheet. ¼-Sheet translucent-type. 1-8"x10" Print Glass. 1-1 oz. Bottle developer, 2-2x2x¾" Appls. (sponges). 2-(8x10") pressure sensitive adhesive. Shpg. wt. 1 lb. 1 oz.

19F2008 NET **7.25**

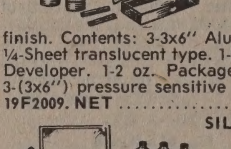
ETCHED ANODIZED NAMEPLATE & PANEL KIT



Type NP-404. Produces etched nameplates and panels using anodized aluminum stock. Processed by exposing, developing, and etching plates. Finished plates are black anodized aluminum and natural color aluminum finish. Contents: 3-3x6" Aluminum Panels. 3-3x6" Acetate Sheets. ¼-Sheet translucent type. 1-Print Glass. 2-3" Clamps. 1-4 oz. Bottle Developer. 1-2 oz. Package Etchant. 1-Dev. Tray. 1-Etch Tray. 3-(3x6") pressure sensitive adhesive. 1½ lbs.

19F2009. NET **6.55**

SILK SCREEN KIT



Type SC-601A. Professional materials and equipment for producing lacquer resistant film type photo stencils with print area up to 7"x9" and to use these stencils to screen-print 1000 or more impressions per day. No dark room needed. Kit includes screen printing frame with one stretched silk in place plus silk and emulsion for two additional patterns, mounting hinges, squeegee, black and white inks, film printing frame, safe-light, photo-flood lamp, trays and all necessary chemicals and solutions. Shpg. wt., 13 lbs.

80W127. NET **35.00**

ELECTROLESS PC BOARD TIN PLATING KIT

Model ITP-801. Simple immersion process deposits thin coating of essentially pure tin to etched copper circuit to protect from oxidation and to provide exceptional solderability. Immersion tin plating is a chemical process and requires no expensive electroplating equipment. Tin solution is heated to 160 deg. F. in high-temperature glass tray and circuit board is immersed for 3-5 minutes. Board is removed from tray, rinsed 3 minutes under running hot water, then another 3 minutes under running cold water. Kit includes high-temperature glass tray, accomodating board sizes up to 7" x 10"; board handling rack; thermometer; 1 qt. immersion tin solution (sufficient for plating patterns on approx. 25 sq. ft. of etched panels) and complete instructions. Shpg. wt., 5½ lbs.

78F086. NET **13.95**

EXTRA MATERIALS FOR ITP-801 KIT

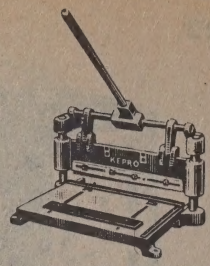
Stk. No.	Type	Description	Weight	Net
78F087	ITP-1PT	Immersion Tin Solution	5.5 lbs.	8.40
78F088	ITP-1G	Immersion Tin Solution	10 lbs.	14.00

12

Tools & Printed Circuit Boards

MS-6-1 SHEAR

MS-6-1. For cutting clad or unclad plastic materials up to 1/16" thick, or sheet metals to .040" thick. With accessories, may also be used to punch preregistered pilot pin holes, punch randomly located holes, punch corner notches up to 1" x 1", drill circuit boards or form 90 degree bends in sheet metal for producing small chassis. Supplied with precision machined side squaring guage and adjustable back length guage for accurage shearing. Equipped with shearing blades, squaring guage and length guage. Shpg. wt., 24 lbs.
78F150 NET 134.00



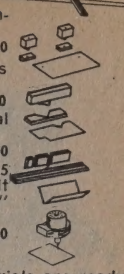
ACCESSORIES FOR MS-6-1

PS-2-2 HOLE PUNCH SET. Two 125" dia. punches. May be spaced from 1¾" to 10" apart.
78F15 NET 44.00

NA-1 NOTCHING ATTACHMENT. For materials up to 1/16"th. Wt., 3 lbs.
78F152 NET 48.00

PB-1PRESS BRAKE ATTACHMENT. Sheet metal former, for making 90 degree bends. Wt. 3 lbs.
78F153 NET 42.00

DA-1 DRILLING ATTACHMENT. 1/2th HP 115 VAC motor with type O chuck. 10,000 RPM unit is designed for use with carbide drills from .125" to .030" dia. with 6' cord. 4 lbs.
78F154 NET 62.00



COPPER CLAD GLASS EPOXY BOARDS

G-10 glass epoxy circuit boards, 1 oz. copper clad. 1/16" thick, Meet standard NEMA grade tolerances. Supplied unsensitized (Unsen.) for screen processed parts, or photosensitized (Sen.) for photo processed boards. Photosensitized materials are ready for exposure with no other sensitizing required.

INDIVIDUALLY PACKAGED

Stk. No.	Type	Description	Size	Wt. (oz.)	Each
19F2022	P1-36G	Unsen. 1 side	3x6"	3⅛	1.08
78F155	P1-46G	Unsen. 1 side	4x6"	1	1.20
19F2023	P1-1212G	Unsen. 1 side	12x12"	10¾	6.76
19F3213	P2-36G	Unsen. 2 sides	3x6"	3⅛	1.12
78F156	P2-46G	Unsen. 2 sides	4x6"	1	1.26
19F2024	P2-1212G	Unsen. 2 sides	12x12"	11½	7.06
19F2025	S1-36G	Sen. 1 side	3x6"	3⅛	1.44
78F157	S1-46G	Sen. 1 side	4x6"	1	1.66
19F3214	S1-66G	Sen. 1 side	6x6"	4½	2.58
19F2026	S1-710G	Sen. 1 side	7x10"	6¾	4.80
19F2027	S1-1212G	Sen. 1 side	12x12"	10¾	9.64
19F2028	S2-36G	Sen. 2 sides	3x6"	3⅛	1.70
78F158	S2-46G	Sen. 1 side	4x6"	1	2.02
19F3215	S2-66G	Sen. 2 sides	6x6"	4½	3.16
19F2029	S2-1212G	Sen. 2 sides	12x12"	11½	11.72

5 PIECES PER PACKAGE

Stk. No.	Type	Description	Inches	1-4	5-9	10-19	20 Up
19F3216	P1-365G	Unsen. 1 side	3x6	4.75	4.20	3.80	3.45
78F159	P1-465G	Unsen. 1 side	4x6	5.30	4.65	4.25	3.85
19F3217	P1-12125G	Unsen. 1 side	12x12	32.55	27.65	21.50	20.50
19F3218	P2-365G	Unsen. 2 sides	3x6	4.95	4.35	3.95	3.60
78F160	P2-465G	Unsen. 2 sides	4x6	5.60	4.90	4.90	4.10
19F3219	P2-12125G	Unsen. 2 sides	12x12	34.05	28.95	22.45	21.45
19F3220	S1-365G	Sen. 1 side	3x6	6.55	5.75	5.25	4.80
78F161	S1-465G	Sen. 1 side	4x6	7.60	6.70	6.10	5.55
19F3221	S1-665G	Sen. 1 side	6x6	12.10	10.65	9.70	8.85
19F2037	S1-7105G	Sen. 1 side	7x10	22.95	19.75	17.90	16.55
19F3222	S1-12125G	Sen. 1 side	12x12	46.95	38.95	31.00	29.55
19F3223	S2-365G	Sen. 2 sides	3x6	7.85	6.90	6.30	5.75
78F162	S2-465G	Sen. 2 sides	4x6	9.40	8.25	7.50	6.85
19F3224	S2-665G	Sen. 2 sides	6x6	15.00	13.20	12.00	10.95
19F3225	S2-12125G	Sen. 2 sides	12x12	57.35	47.60	37.85	36.10

COPPER CLAD LAMINATED-G-10-GLOSS EPOXY, 2 OZ.

				1-4	5-9	10-24	25 Up
78F163	P12-36G	Unsen. 1 side	3x6"	5	1.10	78F178	P12-365G	Unsen. 1 side	3x6"	4.85	4.30	3.90	3.55
78F164	P12-46G	Unsen. 1 side	4x6"	6	1.24	78F179	P12-465G	Unsen. 1 side	4x6"	5.50	4.85	4.55	4.00
78F165	P12-1212G	Unsen. 1 side	12x12"	16	7.02	78F180	P12-12125G	Unsen. 1 side	12x12"	33.85	28.75	22.35	21.30
78F166	P22-36G	Unsen. 2 sides	3x6"	6	1.14	78F181	P22-365G	Unsen. 2 sides	3x6"	5.05	4.45	4.05	3.70
78F167	P22-46G	Unsen. 2 sides	4x6"	7	1.28	78F182	P22-465G	Unsen. 2 sides	4x6"	5.70	5.00	4.55	4.15
78F168	P22-66G	Unsen. 2 sides	6x6"	8	2.06	78F183	P22-665G	Unsen. 2 sides	6x6"	9.50	8.40	7.60	6.95
78F209	P22-1212G	Unsen. 2 sides	12x12"	20	7.36	78F184	P22-12125G	Unsen. 2 sides	12x12"	35.55	30.20	23.45	22.40
78F169	S12-36G	Sen. 1 side	3x6"	5	1.46	78F185	S12-365G	Sen. 1 side	3x6"	6.65	5.85	5.35	4.85
78F170	S12-46G	Sen. 1 side	4x6"	6	1.70	78F186	S12-465G	Sen. 1 side	4x6"	7.80	6.85	6.25	5.70
78F171	S12-66G	Sen. 1 side	6x6"	7	2.66	78F187	S12-665G	Sen. 1 side	6x6"	12.50	11.00	10.00	9.15
78F172	S12-710G	Sen. 1 side	7x10"	8	4.92	78F188	S12-7105G	Sen. 1 side	7x10"	23.55	20.70	18.80	17.20
78F173	S12-1212G	Sen. 1 side	12x12"	16	9.90	78F189	S12-12125G	Sen. 1 side	12x12"	48.25	40.05	31.85	30.40
78F174	S22-36G	Sen. 2 sides	3x6"	6	1.72	78F190	S22-365G	Sen. 2 sides	3x6"	7.95	7.00	6.35	5.80
78F175	S22-46G	Sen. 2 sides	4x6"	7	2.04	78F191	S22-465G	Sen. 2 sides	4x6"	9.50	8.35	7.60	6.95
78F176	S22-66G	Sen. 2 sides	6x6"	8	3.22	78F192	S22-665G	Sen. 2 sides	6x6"	15.30	13.50	12.55	11.20
78F177	S22-1212G	Sen. 2 sides	12x12"	20	11.96	78F193	S22-12125G	Sen. 2 sides	12x12"	58.55	48.60	38.65	36.90

ETCHED CIRCUIT COPPER CLAD MATERIALS XXXP PAPER BASE PHENOLIC

Stk. No.	Type	Description	Size	Wt. (oz)	Each
19F3200	P1-33	Unsen. 1 side	3x3"	1¾	.40
19F2012	P1-36	Unsen. 1 side	3x6"	2⅛	.54
78F194	P1-46	Unsen. 1 side	4x6"	1	.60
19F2013	P1-1212	Unsen. 1 side	12x12"	9¾	2.48
19F2014	P1-36PB	Unsen. 1 side	3x6"	2⅛	.62
78F195	P2-46	Unsen. 2 sides	4x6"	1	.70
19F2015	P2-1212	Unsen. 2 sides	12x12"	10½	3.22
19F2016	S1-36	Sen. 1 side	3x6"	2⅛	.90
78F196	S1-46	Sen. 1 side	4x6"	1	1.06
19F3201	S1-66	Sen. 1 side	6x6"	3½	1.52
19F2017	S1-710	Sen. 1 side	7x10"	5¾	2.72
19F2018	S1-1212	Sen. 1 side	12x12"	9¾	5.36
19F2019	S2-36	Sen. 2 side	3x6"	2⅛	1.22
78F197	S2-46	Sen. 2 side	4x6"	1	1.46
19F2020	S2-66	Sen. 2 side	6x6"	3½	2.18
19F2021	S2-1212	Sen. 2 side	12x12"	10	7.62

Stk. No.	Type	Description	Size	Wt.	1-4	5-9	10-24	25 Up
19F2036	P1-335	Unsen. 1 side	3x3"	12 oz.	1.45	1.25	1.15	1.05
78F198	P1-465	Unsen. 1 side	4x6"	12 oz.	2.30	2.00	1.85	1.70
19F3202	P1-365	Unsen. 1 side	3x6"	11 oz.	2.05	1.80	1.65	1.50
19F3203	P1-12125	Unsen. 1 side	12x12"	3 lbs.	11.15	9.45	7.35	7.00
19F3204	P2-365	Unsen. 2 sides	3x6"	11 oz.	2.55	2.25	2.05	1.85
78F199	P2-465	Unsen. 2 sides	4x6"	6 oz.	2.80	2.45	2.25	2.05
19F3205	P2-12125	Unsen. 2 sides	12x12"	3.3 lb.	14.85	12.60	9.80	9.35
19F3206	S1-365	Sen. 1 side	3x6"	11 oz.	3.85	3.30	3.00	2.80
78F200	S1-465	Sen. 1 side	4x6"	6 oz.	4.60	3.95	3.60	3.30
19F3207	S1-665	Sen. 1 side	6x6"	1.4 lb.	6.80	5.85	5.30	4.90
19F3208	S1-7105	Sen. 1 side	7x10"	1.9 lb.	12.55	10.80	9.80	9.05
19F3209	S1-12125	Sen. 1 side	12x12"	3 lb.	25.55	21.20	16.85	16.10
19F3210	S2-365	Sen. 2 sides	3x6"	11 oz	5.45	4.70	4.25	3.95
78F201	S2-465	Sen. 2 sides	4x6"	28 oz.	6.60	5.70	5.15	4.72
19F3211	S2-665	Sen. 2 sides	6x6"	20 oz.	10.10	8.70	7.90	7.30
19F3212	S2-12125	Sen. 2 sides	12x12"	3.3 lb.	36.85	30.60	24.30	23.20

POLYESTER LAMINATE CIRCUIT BOARDS

Stk. No.	Type	Description	Size	Wt. (oz)	Each
19F3226	P1-36M	Unsen. 1 side	3x6"	3⅛	.58
78F202	P1-46M	Unsen. 1 side	4x6"	1	.66
19F3227	P1-1212M	Unsen. 1 side	12x12"	10¾	2.84
19F3228	P2-36M	Unsen. 2 sides	3x6"	3⅛	.70
78F203	P2-46M	Unsen. 2 sides	4x6"	1	.80
19F3229	P2-1212M	Unsen. 2 sides	12x12"	11½	3.82
19F3230	S1-36M	Sen. 1 side	3x6"	3⅛	.94
78F204	S1-46M	Sen. 1 side	4x6"	1	1.12
19F3231	S1-66M	Sen. 1 side	6x6"	4½	1.62
19F3232	S1-1212M	Sen. 1 side	12x12"	10¾	5.72
19F3233	S2-36M	Sen. 2 sides	3x6"	3⅛	1.28
78F205	S2-46M	Sen. 2 sides	4x6"	1	1.56
19F3234	S2-1212M	Sen. 2 sides	12x12"	11½	8.42

Stk. No.	Type	Description	Size	Wt.	Net
78F206	P1-365M	Unsen. 1 side	3x6"	5.5, oz.	2.25
78F207	P1-465M	Unsen. 1 side	4x6"	5.0, oz.	2.60
78F208	P112125M	Unsen. 1 side	12x12"	3 lb 3 oz.	12.95
78F089	P2-365M	Unsen. 2 sides	3x6"	15.5, oz.	2.85
78F090	P2-465M	Unsen. 2 sides	4x6"	5.0, oz.	3.30
78F091	P212125M	Unsen. 2 sides	12x12"	3.5, lb.	17.85
78F092	S1-365M	Sen. 1 side	3x6"	15.5, oz.	4.05
78F093	S1-465M	Sen. 1 side	4x6"	5.0, oz.	4.90
78F094	S1-665M	Sen. 1 side	6x6"	1.2, lb.	7.30
78F095	S1-12125M	Sen. 1 side	12x12"	3.5, lb.	27.35
78F096	S2-365M	Sen. 2 sides	3x6"	15.5, oz.	5.75
78F097	S2-465M	Sen. 2 sides	4x6"	5.0, oz.	7.10
78F098	S2-12125M	Sen. 2 sides		3.5, lb.	40.85

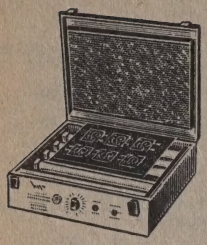
.004" COPPER CLAD MYLAR BOARDS

For flexible circuitry. Overall thickness .004" with one side one-ounce coppersclad.

Stk. No.	Type	Description	Size	Lbs.	EACH
19F3235	P1-618F	Unsen. 1 side	6x21"	1	2.52
19F3236	S1-618F	Photosen.1 side	6x21"	1	4.95

Printed Circuit Accessories

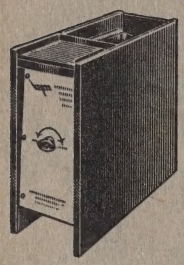
KEPRO



Model BTX-200
Kepro Bench-top
Ultra-Violet
Exposure Frame

BENCH-TOP ULTRA-VIOLET EXPOSURE FRAME

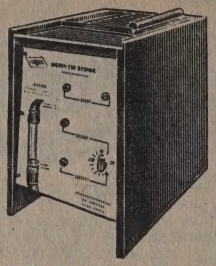
Model BTX-200. Photosensitized copper clad laminates and nameplate & panel materials can be exposed in less than 2 minutes. Can be used to expose Kepro-photo reversing film and screen stencil film. High output ultra-violet lamps are used and provide cool safe emissions. Will expose photosensitized materials up to .125" thick and up to 12" x 16" in size. When used in conjunction with Kepro Multi-6 shear equipped with the Pilot Hole Punch Set, PH-6, artwork and photo reversing film can be pre-piloted for automatic front to back registration. Unit is supplied ready to use with a timer that extinguishes the lamps at the end of the exposure cycle. 115 VAC. 19"L x 14"W x 5"H. Shpg. wt. 24 lbs.
19F2041. NET **235.00**



Model BTR-203 Spray
Water Rinse Unit

BENCH-TOP SPRAY WATER RINSE UNIT

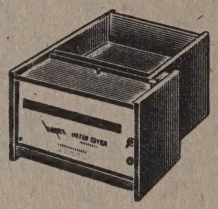
Model BTR-203. Companion to the BTE-202 Etcher. Provides thorough spray rinsing of both sides of materials without necessitating removal of the materials from the etch handling rack. Unit can easily be converted to a re-circulating rinse. Unit is provided with a drain hose & water input hose. 22"L x 8½"W x 20"H. Shipping wt. 42 lbs.
19F2042. NET **145.00**



Model BTE-202
Multi-use Bench-top
Spray Etcher

MULTI-USE BENCH-TOP SPRAY ETCHER

Model BTE-202. Use for etching PC boards, nameplates & panels or chemmilled parts. Lift-out rack adapts to hold rigid panels up to 12" x 12" and thin flexible materials. Non-warping transparent lift-up cover permits constant observation. Switches cut all power when cover is lifted. Operator is thus protected from chemical spray and electrical shock. Front panel controls include function switches with pilots, heater cycling timer & liquid level sight gauge. 1000 watt grounded titanium heater & two pumps require 115/120 VAC., 15 amp., 60 cycle. Liquid drain hose provided. 22"L x 14½ x 20"H. Shpg. wt. 60 lbs.
19F2043. NET **424.00**

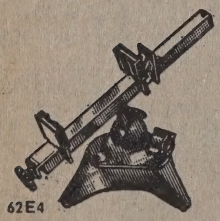


Model BWD-204
Bench-top Water Dryer

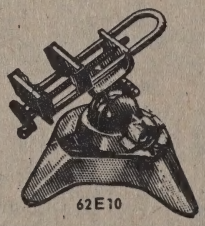
BENCH-TOP WATER DRYER

Model BWD-204. Utilizes a patented motor driven chamois roller system developed by Total Systems Concept, Inc. This unit will remove water from panels up to 12½" wide x 15" long, in any thickness from .002" through 1/8". A drain tray is incorporated so that rinsed panels can be extracted from the etch handling rack and the wet panel fed into the roller slot. In ten seconds, the dried part with water removed from both surfaces and holes, is presented to the operator. 20½"L x 17¼"W x 10¼"H. Shpg. wt. 47 lbs.
19F2044. NET **325.00**

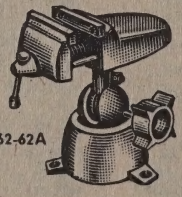
HUNTER PRINTED CIRCUIT BOARD-HOLDERS AND VISES



62E4

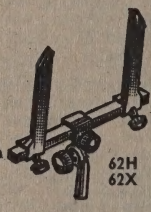


62E10



62-62A

62A4



62H
62X

62L5

QUICK ADJUST VISE

Type 62E4. Features quick adjust design which allows one of the two neoprene jaws to be instantly changed from its widest opening position to various closed positions. Max. jaw opening 9". 8 lb. weighted base. Shpg. wt. 13 lbs.
34F917. NET **45.50**

WIDE OPENING VERTICAL VISE

Model 62E10. Designed for positioning or holding electrical and electronic products in assembly and repair. Has replaceable neoprene jaws that open to a full 6 inches. Base is eight pound cast iron, has rubber feet. Permanently locked in mounting pin with ⅜-24 threaded end. Spring loaded so that it may be adjusted to correct tension to hold weight. Vise is chrome plated heavy gauge steel wire. Crank handle allows quick change from one position to another. Shpg. Wt. 10 lb.
34F345 NET **38.80**

PANA VISE VERTICAL HEAD

Type 62. Pana Vice. Bench type vise on Type 62A. 2½" capacity, jaws 2½" wide. Shpg. wt. 3.5 lbs.
34F766. NET **23.06**

PANA VISE-HORIZONTAL HEAD

Type 62B. Regular Pana-Positioner pivots 360°, holds work in any position, with horizontal head. 4" high, 10" long, 5" wide.
34F919. NET **23.06**

PANA POSITIONER

Type 62A. Pivots 360°on any tangent to a hemisphere. Achieves any compound angle. For use with fixtures listed below. Wt. 3 lbs.
34F449. NET **14.08**

NYLON JAWS

Model 62C. Special Nylon jaws to hold small circuits. For use with pana vise

Stk. No.	Type	1-4	5-up
34F344	62C	1.50	1.27

PANA POSITIONER—VACUUM BASE

Type 62A4. Vacuum base with Pan-head positioner mounted on top. Complete versatility in making work set-ups. Accomodates vises & circuit board holders.
34F920. NET **21.50**

CIRCUIT BOARD HOLDER 62L5

Type 62L5. Spring load allows circuit board to be inserted or removed with one hand. Full 360 degree rotation for lead bend over. Friction bearing can be adjusted to desired tension for easy flip over or tightened so will not rotate. Holds boards up to 10" wide.
34F921. NET. **41.04**

DELUXE CIRCUIT HOLDER

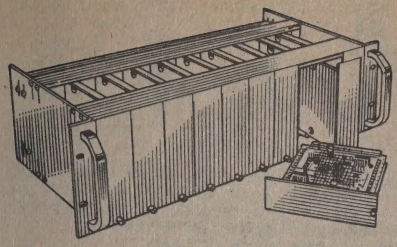
Type 62H. 10" wide. Printed circuit holder for use with Type 62A. Turns work 360° in any position. Circuit board easily inserted and removed: Shpg. wt. 1.8 lbs.
34F448. NET. **19.26**

CIRCUIT HOLDER

Type 62X. Spring loaded arm-snugs up boards, 7" capacity. For use with 62A.
34F922. NET **14.60**

Vector

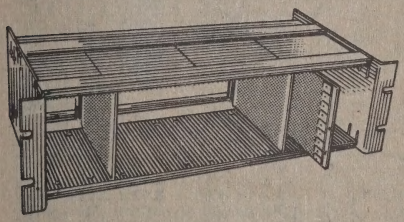
CCM MODULE CAGE ASSEMBLY



Low cost module assembly for mounting cards requiring adjacent panel lights, pots, switches, etc. Assembly consists of a 5¼" high by 8.9 in. deep cage for 19" rack or table top mounting using encasement, with twenty fixed guides and ten "L" shaped anodized aluminum card mounting plates with 1.6" wide face panels and installed jack thumb screws plus card mounting hardware. User mounted connectors may be easily attached on rugged cross members at rear which have 4-40 nuts in a captive groove. Cross members (T-struts) adjust vertically and laterally for a variety of connectors. Card plates accept cards up to 4½" W and 6½" L.

Stock No.	Type	Description	1-9
38F1181	CCM-13	Low cost module cage assembled with ten card mounts	79.50
38F1182	CM45-65	Front panel card mounts with Jack screws, card mounting hardware, package 5.	17.25
38F1183	CCM13-1	Low cost module cage assembled with ten card mounts and ten installed 44 contact P.C. receptacles.	105.00

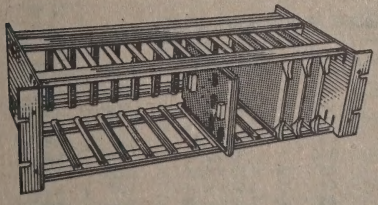
MODEL CCK3



All aluminum card cage for 19" rack mounting has continuous .075" wide grooves on .150" centers across width permitting placement of cards anywhere. Connectors mount on two extruded cross members at rear which have 4-40 nuts installed in captive grooves for effortless, infinitely variable connector placement. Connector mounting struts adjust vertically and horizontally. Cage accepts cards 4½" to 3" wide and up to 6½" long. Hinged front cover may be attached if required. Card marker strips included.

Stock No.	Type	Description	1-9
38F1179	CCK3	Assembled cage 5¼" high by 19" wide by 8.9" deep with continuous card guides top and bottom.	24.95

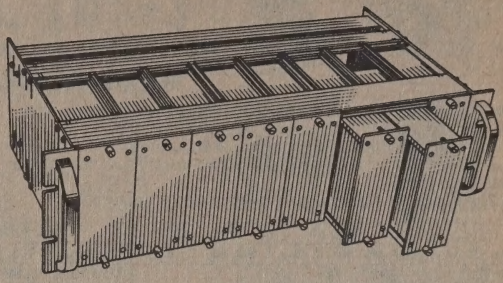
MODEL CCK13



All aluminum card cage for 19" rack or table top mounting using encasement, has 21 pairs of riveted aluminum guides on ¾" centers for 1/16" thick cards. Connectors mount on two extruded rear cross members with installed 4-40 nuts. Connector mounting struts adjust vertically and horizontally. For cards 4½" to 3" wide and to 6½" long. Hinged front cover may be attached. Card marker strips included.

Stock No.	Type	Description	1-9
38F1180	CCK13	Assembled 5¼" high by 19" wide by 8.9" deep cage with 21 pairs of guides installed on ¾" centers.	29.50

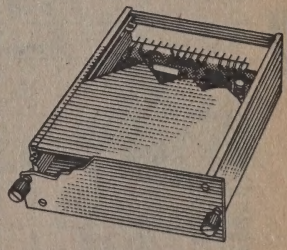
STRUT MODULE CAGES



Vector Strut module cages provide an easy way to rack mount modular aluminum cases containing circuit boards. Cages are all anodized aluminum with heavy side walls, extruded cross members and are shipped completely assembled with installed guides, ready to accept eight 2 inch or ten 1.6 inch wide aluminum EFP cases described below. Special extruded cross members at rear have preloaded 4-40 nuts for connector mounting and adjust 1.75" laterally and 1.70" vertically to accept different length connectors.

Stock No.	Type	Description	1-9
38F356	CMA3-20	Assembled cage for eight 2" wide by 6.6" long EFP204-6.6 modules.	49.24
38F1358	CMA3-16	Assembled cage for ten 1.6" wide by 6.6" long EFP204-6.6 modules	53.54
38F1184	CMA4-20	Assembled cage for eight 2" wide by 9.7" long EFP204-9.7 modules.	50.36

EFP MODULES FOR VECTOR STRUT CAGES



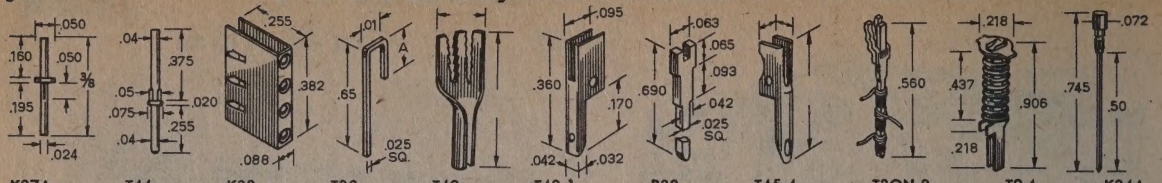
Modules accommodate 4¼ x 6½" or 9.6" long circuit cards completely inside which mount in .150" spaced extruded grooves running lengthwise in the cases. 1.6" wide modules have 6 circuit card grooves; 2" wide modules have 9 grooves. Module front panels are .080" thick and furnished with two captive 10-32 thumb screws which engage nuts provided with above cages. Sides of the modules slide off toward the rear for easy access to circuit cards inside. Back panels of modules are solid and may be slotted for circuit card emergence, or may have BNC connector etc. mounted. Modules provide about 80 db of shielding and are natural anodized finish and are supplied unassembled. Shipping weight 1 lb. per module.

Stock No.	Type	Description	Each
38F1185	EFP164-6.6	Case, 1.6" wide by 6.6" long accommodates cards 4½" wide by 6½" long within unit. Fits CMA3-16.	5.90
38F1361	EFP204-6.6	Case 2" wide by 6.6" long. Accommodates cards 4½" wide by 6½" long within unit. Fits CMA3-20.	6.07
38F1186	EFP204-9.7	Case 2" wide by 9.7" long. Accommodates cards 4½" wide by 9.6" long within unit. Fits CMA-20.	6.96
38F1360	EFP104-6.6	Case 1.6" wide x 6.6" long x 4.6" high for max. card size 4½ x 6½ x 1/16".	5.76

PURCHASING AGENTS

For complete stocks, fast service, lowest prices—make Newark your one-stop source for all your electronic component needs.

Vector PC Boards, Terminals And Cases



K27A T44 K32 T28 T49 T42-1 R32 T45-4 T3ON-2 T9.4 K24A

MICRO-VECTORBORD® TERMINALS

K27A Terminals. Knurled center body flange which holds pins.
K24A Inbord Pin. Fits "P" pattern Micro-Vectorbord.
T45-4 Solderless Strip Klip. For IC breadboarding.
R32 Socket Pins. Fits "P" pattern Micro-Vectorbord for DIP or transistor leads.
T9.4 Zip Terminal. Fits "A" and "AA" pattern Vectorbord.
T28 Push In Terminal. Fits "G" and "H" pattern Vectorbord.
T42-1 Push In Terminal. Fits "P" pattern Micro-Vectorbord.
T44 Mini-Wrap Terminal. Press fit into .042" hole.
T49 Push In Terminal. Fits "P" pattern Micro-Vectorbord.
T3ON-2. Solderless Springclip Terminal. Fits "A" or "AA".
K32 "J" Pin. For use in .042" diameter holes.

Type	For Hole	O/A Lgth.	Pkg. 50 Stk. No.	Pkg. 50 Pkg.	Pkg. 100 Stk. No.	Pkg. 100 Pkg.	Pkg. 1000 Stk. No.	Pkg. 1000 1-4	Pkg. 1000 5-9
K27A	.025	3/8	38F1071	1.18	.....	.....	38F1086	12.89	.....
K24A	.042	.650	38F1072	1.80	.....	.....	38F1087	23.35	.....
T45-4	.042	.555	.....	.....	38F1325	9.00	.....	.....	.....
K32	.042	.650	.....	.....	38F1632	1.39	38F1326	10.37	.....
T9.4	.093	.546	.....	.....	38F1327	1.48	38F1059	10.16	8.53
T28	.062	.437	.....	.....	38F465	1.61	38F1061	11.44	10.30
T42-1	.042	.360	.....	.....	38F1363	1.82	38F1328	11.70	10.50
T44	.042	1 1/16	.....	.....	38F1364	3.26	38F1329	23.63	21.26
T49	.042	.835	.....	.....	38F1330	2.50	38F1331	12.45	12.45
T3ON-2	.062	.906	.....	.....	38F1332	Z.93	38F1065	55.35	49.81
R32	.042	.745	.....	.....	38F1040	12.90	38F1039	92.65	88.00

INSERTION TOOLS AND DIE POINT

(*) Insertion/Removal Tool. (†) Die point. No tool needed for K27A

Stk. No.	Type	Use With	Each
38F1342	P133A	K24A	1.60
38F1381	P154-1*	T45-4	1.95
38F1380	P158	R32	9.10
38F1337	P122B	T9.4	1.31
38F1338	P91A	T28	1.50
38F1339	P149A	T42-1	1.89
38F1340	P156	T49	2.50
38F1341	P92A	T3ON-2	.50
38F1382	D9(†)	R32	3.50

VECTORBORD* and MICRO-VECTORBORD*

Pre-punched terminal boards provide overall grids of holes useful in breadboarding as well as production. "P" pattern boards are useful for "DIP's" because DIP's or DIP socket leads pass directly through the holes for easy mounting. *2 oz. copper 1 side **2 oz. copper 2 sides. Boards are desirable for "ground plane" construction when used with pad cutter tools. Boards meet following mil. specs. Phenolic, MIL-P-3115, Max. Temp. 221°; Epoxy paper MIL-P-22324, Max. Temp. 230°; Epoxy Glass, Type FR 4, Grade G-10, MIL-P-18177; Copper Clad Phenolic Boards, MIL-P-13949.

BOARD PATTERNS

Patterns	A	B	C	F	G	H	P	M
Size	.093	.062	.093	.062	.062	.062	.042	.025
Spacing	.265	.187	.2	.2	.1x.2	.1	.1	.05

XXXP PHENOLIC

Stock No.	Type	Pattern	Size	1-19	20-99	100-199
38F1335	18A18	A	1/16x4.8x4.8"	.40	.36	.34
38F421	64A18	A	1/16x4 13/16x17"	1.36	1.22	1.14
38F420	32A9	A	1/16x8 1/2 x2.41"	.55	.50	.46
38F422	64AA18	AA	3/32x4 13/16x17"	1.75	1.58	1.47
38F424	32AA18	AA	3/32x4 13/16x8 1/2"	.91	.82	.76
38F420	32AA9	AA	3/32x2.41x8 1/2"	.64	.58	.54
38F460	64AA32	AA	3/32x17x8 1/2"	3.00	2.70	2.52
38F1048	45B30	B	1/16x5.69x8.51"	.90	.81	.76
38F1049	90B30	B	1/16x5.69x16.97"	1.97	1.77	1.65
38F393	42F22C1*	F	1/16x4 1/2 x8 1/2"	1.13	1.02	.96
38F392	42F22C2**	F8	1/16x4 1/4 x8 1/2"	1.49	1.34	1.25

EPOXY GLASS

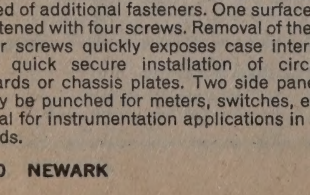
Stock No.	Type	Pattern	Size	1-19	20-99	100-199
38F463	64A18WE	A	1/16x4 13/16x17"	4.06	3.65	3.41
38F391	42G22WEC1	G	1/16x4 1/2 x8 1/2"	2.76	2.49	2.32
38F390	42G22WEC2**	G	1/16x4 1/2 x8 1/2"	3.02	2.71	2.54
38F1050	42G24WE	G	1/16x4.8x8.5"	2.05	1.84	1.72
38F464	85G24WE	G	1/16x4 13/16x17"	4.12	3.70	3.46
38F1051	85G42WE	G	1/16x8.5x17"	5.87	5.28	4.93
38F1052	166M76/032	M	1/32x8.5x4"	2.89	2.60	2.43
38F1053	169P59/032	P	1/32x17x6"	5.79	5.21	4.86
38F1336	85H85WE	H	1/16x8.5x8.5"	4.84	4.36	4.07
38F1383	170H85WE	H	1/16x17x8.5"	9.05	8.14	7.60
38F1019	170H48WE/032	H	17x4 13/16x1/32"	3.71	3.34	3.12
38F1070	170H48WE	G	17x4 13/16x1/16"	4.40	3.96	3.69
38F1384	59P19-032	P	1/32x6x2"	.89	.80	.75
38F1385	59P44-032	P	1/32x6x4 1/2"	1.61	1.45	1.35
38F1386	169P59-047	P	3/64x6x17"	5.89	5.30	4.95
38F1376	64P44-062	P	6 1/2 x4 1/2 x1/16"	1.79	1.61	1.50
38F1377	169P44-062	P	17x4 1/2 x1/16"	4.36	3.92	3.61
38F1378	169P44-062C1*	P	17x4 1/2 x1/16"	5.89	5.30	4.95
38F1379	169P44-062C2*	P	17x4 1/2 x1/16"	6.27	5.64	5.27

EPOXY PAPER

Stock No.	Type	Pattern	Size	1-19	20-99	100-199
38F423	64AA18EP	AA	3/32x4 13/16x17"	3.20	2.88	2.69
38F425	32AA18EP	AA	3/32x4 13/16x8 1/2	1.72	1.55	1.44
38F426	85F24EP	F	1/16x4 13/16x17"	2.37	2.13	2.00
38F1047	85F42EP	F	1/16x8 1/2 x17"	4.11	3.70	3.45
38F426	85F24EP	F	1/16x17x4 13/16"	2.37	2.13	2.00
38F427	85G24EP	G	1/16x4 13/16x17"	2.37	2.13	2.00
38F459	85G42EP	G	1/16x17x8 1/2"	4.11	3.70	3.45
38F1372	64P44-062EP	P	1/16x4 1/2 x6 1/2"	1.69	1.52	1.42
38F1373	169P44-062EP	P	1/16x4 1/2 x17"	3.83	3.45	3.22
38F1374	64P44-062EPC1*	P	1/16x4 1/2 x6 1/2"	2.19	1.97	1.84
38F1375	64P44-062EPC2*	P	1/16x4 1/2 x6 1/2"	2.34	2.11	1.97
38F1333	169P47-062EP	P	1/16x17x4.8"	3.98	3.58	3.34
38F1334	169P84-062EP	P	1/16x17x8 1/2"	6.79	6.11	5.70

MULTI-MOD CASES

CLEAR ANODIZED ASSEMBLED MULTI MOD CASES



Made from sleek extruded aluminum with four grooved interior surfaces which hold 1/16" circuit card chassis plates without need of additional fasteners. One surface is fastened with four screws. Removal of these four screws quickly exposes case interior for quick secure installation of circuit boards or chassis plates. Two side panels may be punched for meters, switches, etc. Ideal for instrumentation applications in all fields.

Stock No.	Type	Width Inches	Length Inches	Height Inches	Holds Card or Chassis Plate	Each 1-49	Each 50-199
38F1387	W16-12-12B	1.6	1.21	1.21	1.10 x 1.10	2.65	2.39
38F1388	W16-31-31B	1.6	3.1	3.1	2.98 x 2.98	2.69	2.42
38F1389	W20-15-15B	2.0	1.51	1.51	1.40 x 1.40	3.36	3.02
38F1390	W20-28-46B	2.0	2.85	4.61	2.73 x 4.50	2.86	2.57
38F1391	W20-46-31B	2.0	4.61	3.10	4.50 x 2.98	2.92	2.63
38F1392	W20-66-46B	2.0	6.61	4.61	6.50 x 4.50	3.57	3.21
38F1393	W30-66-46B	3.0	6.61	4.61	6.50 x 4.50	4.35	3.92
38F1394	W30-86-46B	3.0	8.61	4.61	8.50 x 4.50	4.85	4.37
38F1395	W45-66-46B	4.5	6.61	4.61	6.50 x 4.40	5.69	5.12
38F1396	W45-86-46B	4.5	8.61	4.61	8.58 x 4.50	6.42	5.78
38F1397	W45-100-46B	4.5	10.0	4.61	9.88 x 4.50	7.51	6.76

DUAL TONED ASSEMBLED MULTI-MOD CASES WITH BEZELS

Stock No.	Type	Width In.	Lgth. In.	Ht. In.	Hold Card	Frame Color	Side Panel Finish	Bezel Color	Each 1-49	Each 50-199
38F1398	W20-46-31-1	2.0	4.61	3.10	4.50x2.98	Gold Anod.	Gold Anod.	Alum. Blk.	6.25	5.63
38F1399	W20-66-46-1	2.0	6.61	4.61	6.50x4.50	Med. Bl. Pt.	Gray Paint	Blk. Anod.	7.80	7.02
38F1343	W30-66-46-1	3.0	6.61	4.61	6.50x4.50	Avoc. Paint	Beige Paint	Blk. Anod.	8.60	7.74
38F1344	W30-86-46-1	3.0	8.61	4.61	8.50x4.50	Blk. Anod.	Beige Paint	Alum.	8.95	8.06
38F1345	W45-86-46-1	4.5	8.61	4.61	8.50x4.50	Grn. Paint	Beige Paint	Alum.	10.35	9.32

Structures for Circuitry

GENERAL PURPOSE BOARDS AND RECEPTACLES

General purpose DIP boards. .042" holes on .10 centers. "X"; horizontal. "Y"; vertical. 1/16" thick FR-4 epoxy glass or epoxy paper. *Elco Varicon contacts.

Stock No.	Type	Size	Matrix	No. Contacts	Spacing	Mating Connector	1-19	20-99	100-199
38F1094	3719-2	4½x6½"	Y	72	.1	R636	8.94	8.05	7.51
38F1095	3719-3	4½x6½"	Y	72	.1	R636	9.94	8.95	8.35
38F1096	3474*	4½x6½"	X-Y	44	.156	R644	10.50	9.45	8.82
38F1097	3474-3*	4½x6½"	Y	22	.156	R644	8.08	7.27	6.79
38F1098	3477	4½x6½"	X-Y	82	.1	.....	9.94	8.95	8.35

General purpose Plug In DIP boards. Grid of .042" holes on .1" centers. Etched and tinned bus patterns for soldered or wrapped wire interconnections. FR-4 epoxy glass with nickel plated gold flashed contacts.

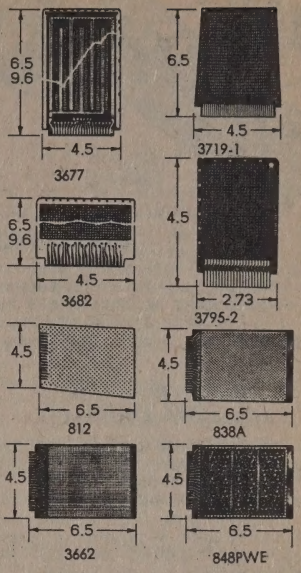
Stock No.	Type	Size	Recommended for solder or W.W. Connections	No. Contacts	Spacing	Mating Connector	1-19	20-99	10-199
38F1099	3795-1	2.73x4½"	Solder	44	.1"	R644	5.55	5.00	4.66
38F1100	3795-2	2.73x4½"	Solder	30	.156"	R630	2.85	2.57	2.39
38F1367	3677	4.5x9.6"	Solder	44	.156"	R644	9.89	8.90	8.31
38F1368	3677-2	4½x6½"	Solder	44	.156"	R644	8.84	7.96	7.43
38F1369	3682	4½x9.6"	W.W.	44	.156"	R644	9.50	8.55	7.58
38F1370	3682-2	4½x6½"	W.W.	44	.156"	R644	8.49	7.64	7.13
38F1371	3682-4	4½x6½"	W.W.	44	.156"	R644	9.25	8.33	7.77

General purpose Plug In DIP boards. Grid of .042" holes on .100" centers. No matrix or wiring pattern. FR-4 epoxy glass with nickel pated gold flashed contacts. *Elco Varicon Contacts. Mount any type DIP device.

Stock No.	Type	Size	No. Contacts	Spacing	Mating Connector	1-19	20-99	100-199
38F1101	837PWE*	3x4½"	12	.2"	R612-1	2.89	2.60	2.43
38F1102	3795	2.73x4½"	44	.1"	R644-2	4.35	3.92	3.65
38F1103	3719-1	4½x6½"	72	.1"	R636	7.86	7.07	6.60
38F1104	3719-4	4½x9.6"	72	.1"	R636	9.70	8.73	8.15
38F1366	3662	4½x6½"	44	.156"	R644	6.60	5.94	5.54
38F1105	3662-2	4½x9.6"	44	.156"	R644	9.91	8.92	8.32
38F1106	848PWE*	4½x6½"	35	.1"	R635	6.60	5.94	5.54

General purpose plug in boards with .062" holes on alternate .1" centers. Contacts etched on .156" centers or installed Elco Varicon types on .1" or .2" centers. Nickel plated gold contacts. *Elco Varicon. Epoxy paper or epoxy glass.

Stock No.	Type	Size	Material	Contact Type	No. Contacts	Spaced	Mating Receptacle	1-19	20-99	100-199
38F471	837	3 x4½"	E. Paper	Varicon	12	.2"	R612-1	2.45	2.21	2.06
38F472	812	4½x6½"	E. Paper	Varicon	16	.2"	R616-1	3.13	2.82	2.63
38F482	837WE	3 x4½"	E. Glass	Varicon	12	.2"	R612-1	2.71	2.44	2.28
38F483	812WE	4½x6½"	E. Glass	Varicon	16	.2"	R616-1	3.71	3.34	3.12
38F395	848WE	4½x6½"	E. Glass	Varicon	35	.1"	R635	6.39	5.75	5.37
38F484	838A*	4½x6½"	E. Paper	Etched	22	.156"	R644	2.95	2.66	2.48
38F485	838*	4½x6½"	E. Paper	Etched	43	.156"	R644	4.08	3.67	3.43
38F1079	838AWE*	4½x6½"	E. Paper	Etched	22	.156"	R644	3.33	3.00	2.80
38F1080	838WE*	4½x6½"	E. Glass	Etched	43	.156"	R644	4.05	3.65	3.40
38F1081	838WE-1GN	4½x6½"	E. Glass	Etched	43	.156"	R644	6.10	5.49	5.12
38F1082	838AWE-1GN	4½x6½"	E. Glass	Etched	22	.156"	R644	4.94	4.45	4.15



RECEPTACLES FOR VECTOR PLUGBOARDS

Stock No.	Type	Cont.	1-99	100-249	250-999
38F397	R612-1	12	2.07	1.53	1.26
38F396	R616-1	16	2.39	1.88	1.56

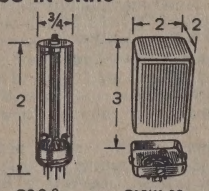
Stock No.	Type	Cont.	1-99	100-249	250-999
38F394	R635	35	5.34	3.43	2.84
38F1107	R636	72	4.70	4.70	4.70

Stock No.	Type	Cont.	1-24	25-49	50-99	100-249
38F487	R644	44	2.97	2.48	1.98	1.58
38F1108	R630	30	2.22	1.67	1.39	1.12

12

MODULAR PLUG IN UNITS

For building plug in circuits for tube sockets. Furnished with 7 pin miniature, 8 pin octal, or 9 pin noval plug and aluminum covers plus internal mounting structures for some models. Covers attached with side screws.

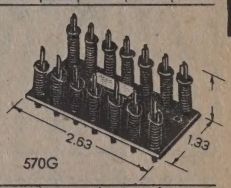


G2.2-8 C12K1.02

Stock No.	Type	Description	1-49	50-199	200-499
38F440	B8	1⅜" square by 2" high with octal plug	1.67	1.50	1.17
38F441	B10	1⅜" square by 2½" high with octal plug	1.68	1.51	1.18
38F443	B10T	1⅜" square by 2½" high w/ octal plug, inside 12 lug turret	2.09	1.88	1.46
38F445	C-8	2" square by 2½" high with octal plug	1.68	1.51	1.18
38F447	C12	2" square by 3" high with octal plug	1.53	1.38	1.07
38F448	C12T	2" square by 3" high with octal plug, inside 12 lug turret	2.34	2.10	1.64
38F454	G2.1-8	¾" diameter by 2" high with 9 pin noval plug, internal spacers & screws	1.52	1.37	1.06
38F1109	G2.2-8	⅝" diameter by 2" high with 7 pin miniature plug, internal spacers & screws	1.47	1.32	1.03
38F595	C12K1.02	2" square by 3" high 8 pin octal bakelite plug, two .136 diag. opp. holes in base	1.17	1.05	.82
38F591	511	Terminal wall for C12K1.02 with .093 holes	.85	.77	.60
38F592	513	Terminal wall for C12K1.02 w/ .062 holes in diamond pat.	.97	.87	.68

SOLDERLESS I.C. BREADBOARD SOCKETS

I.C. socket mounted on epoxy glass wafer. Devices plugged into socket, then any number of wires may be connected and disconnected to any I.C. pin without soldering, by putting wire in corresponding solderless terminal. With installed .093" dia. pins spaced for "A" pattern holes. Shpg. wt. 5 ounces.



570G

Stock No.	Type	Description	1-49	50-199	200-499
38F1090	570G	For 14 pin dual-in lines 2.63x1.33	3.95	3.60	3.20
38F1092	570F	For 12 lead round TO-5 Pkg. I.C. 2⅜x1⅝"			

COMBINATION TYPE TEST ADAPTERS

Measures current and/or voltage in operating circuits from tube side of chassis without cutting leads. Voltage and waveform checks may be made by joining probe leads and connecting to meter. Fit inside shield bases and tube clamps. Beryllium copper, silver plated contacts and mica filled phenolic castings used throughout for long life.

T789C

T-8-0-C

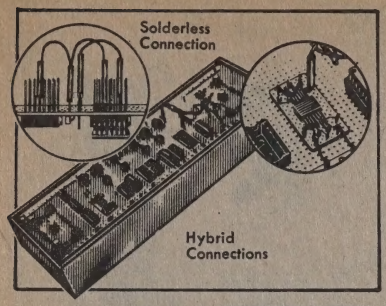
T9RC

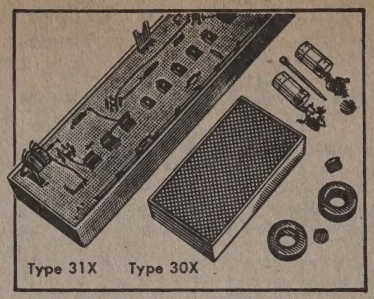
T12-C

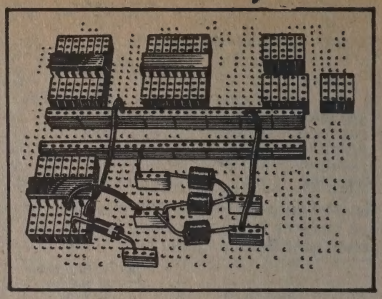
Stock No.	Type	1-19	20-99	100-199	200-999
38F1041	T-7-M-C 7 pin Min.	3.68	3.31	3.09	2.47
38F1042	T-9-N-C 9 pin Min.	3.94	3.55	3.31	2.64
38F1043	T-8-O-C Octal	4.62	4.16	3.88	3.10
38F1044	P-2 Probe-Required with above	1.19	1.07	1.00	.80
38F1045	T789C Kit of all above in case	14.07	12.66	11.80	9.43
38F1084	T9RC Novar	3.83	3.45	3.22	2.57
38F1085	T12C Compactron	4.71	4.24	3.96	3.16
38F1352	T912C Kit of Novar, Compactron, Probe in case.	10.87	9.78	9.13	7.28

Experimenters Kits and PC Boards

Vector







INTEGRATED CIRCUIT KITS

Designed for easy hookup of discrete components and integrated circuits in various package configurations. All kits are built around 1/16" thick pre-punched epoxy paper chassis with .042" diameter holes on .1" centers. 2" high supporting extruded aluminum chassis rails may be turned into a box with addition of top and bottom covers. Solderless, solderable terminals. Other accessories listed below.

PROFESSIONAL SIZED INTEGRATED CIRCUIT KIT

Type 29X. Epoxy paper chassis. 2" high extruded aluminum supporting rails. Solderless 'Daisy Chain' contacts slip over furnished pins. Bare tinned and 'Belsol' solder thru insulated wire. Push-in wire wrap terminals. Push-in Micro-Klip solderable terminals and installing tool. Solderless contact lugs. Micro bus clip. 14 and 16 DIP pin sockets. Transistor sockets. 8 and 10 lead IC sockets. Mounting pads for 12 lead round packaged IC's. Ship. wt. 2 lbs.

Stock No.	Type	Size	1-19	20-99
38F1091	29X	4½"x13.9"	59.75	53.78

INTEGRATED CIRCUIT BREADBOARD KIT

Type 30X. Includes chassis rails, Microbus strip, 100 T42-1 terminals and installation tool, 50 K-32 type wire wrap terminals, bare tinned wire and 'Belsol' solder thru insulated wire, layout paper instruction sheets. Ship. wt. 1 lb. **Type 31X.** Larger chassis with same materials as above plus K24C inboard pins. 2 pot and switch brackets. Ship. Wt. 1 lb.

Stock No.	Type	Size	1-19	20-99
38F1350	30X	4½"x8½"	10.75	9.68
38F1351	31X	4½"x17"	17.50	15.75

STRIP KLIPS AND KLIP BLOKS

Speeds breadboarding of IC's, discretes. Solderless Klips mount on "P" pattern "Vectorbord." Accept .010-.032" wire. 4 top, 2 bottom common connection points. Side by side placement without shorting. Bloks with 8 or 24 enclosed Klips. Have mounting pins for board installation. Wire or IC's may be plugged only into top side of Bloks.

33X Klip Strip Experimenter Kit. 125 Strip Klips, 4 bus strips with 128 Klip points, 8½"x4½"x1/16" panel, Ethafoam mounting pad install-removal tool for Klip Strips, special pins, mounting accessories, bare and insulated #22 solid tinned copper wire, cutter stripper tool, full instructions.
38F1187. 33X. 1 lb. NET..... **25.00**

Klip Blok Kit. Eight 8-quad Klip Bloks, and four 24 quad Klip Bloks with mounting pins; two 8 quad Klip Bloks and two 24 quad Klip Bloks with sep. mounting pins. 4½"x8½"x1/16" "P" pattern Vectorbord, foam mounting pad, Klip Wrap adapter, pins to adapt larger wire to Klip Bloks, removal tool, "feet" and pedestals for Vectorbord, layout paper.
38F1188. 34X. 2 lbs. NET..... **39.60**

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• NEW POSITIVE ACTING PHOTO SENSITIZED COPPER CLAD ETCHED CIRCUIT BOARDS

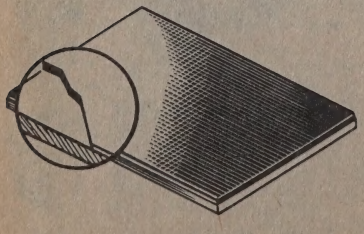
• Speeds Construction Because Boards Are Coated with Positive Acting Resist
• Positive Artwork Used for Master Pattern • No Reversing Step Required

Permit faster and easier etched circuit construction. Vector positive acting coated photosensitized boards speeds circuit manufacture because boards are coated with positive acting resist. Positive artwork is used for the circuit master pattern making use of readily available positive drafting aids. No reversing step required. A finished etched circuit can be made in less than one hour and boards etch in any common etchant. Vector positive acting developer must be used after exposure of the boards under U.V. light source such as flood lamp or sunlight: Kits 32X and 32XA are recommended for trial evaluations of the system; later purchase only boards and developer.

32X Kit. Contains 1 board 4½"x6½"x1/16" coated two sides, one 2.73"x4½"x1/16" board coated 1 side, etching chemical and box, artwork patterns, developer, glass pressure plate, complete instructions. Ship. wt. 3 lbs.
38F1189. 32X Kit. NET..... **8.95**

32XA Kit. Same as 32X kit plus 1 board 8"x9"x1/16" coated 1 side, 1 board 4½"x6½"x1/16" coated 1 side, 1 board 4½"x7¼"x1/16" coated 1 side, larger artwork assortment, more chemicals. Ship. Wt. 6 lbs.
38F1190. 32XA Kit. NET..... **24.95**

PHOTOSENSITIZED BOARDS



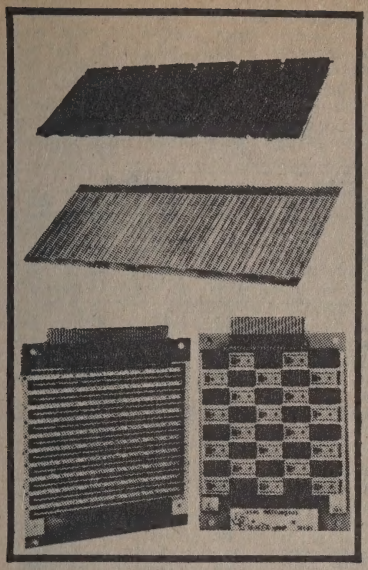
1/16" thick positive acting photosensitized boards described above. 6 different sizes. Phenolic or epoxy glass. Coated one or both sides.

Stock No.	Type	Length	Width	Material	C.C. Coating	Pkg. Quan.	PER PKG. 1-19	PER PKG. 20-99
38F1191	CU90/80-1R	9"	7.99"	Phenolic	1 side	5	12.83	11.55
38F1192	CU65/45-2R	6.5"	4.5"	Phenolic	2 sides	5	8.13	7.32
38F1193	CU65/45-1R	6.5"	4.5"	Phenolic	1 side	5	5.68	5.11
38F1194	CU45/27-1R	4.5"	2.73"	Phenolic	1 side	5	2.89	2.60
38F1195	CU45/30WE-1R	4.5"	3.0"	Epoxy G1	1 side	3	3.27	2.94
38F1196	CU65/27WE-1R	6.5"	2.73"	Epoxy G1	1 side	3	4.67	4.20
38F1197	CU159/80WE-1R	15.85"	7.98"	Epoxy G1	1 side	2	19.20	17.28

POSITIVE ACTING DEVELOPER

Stk. No.	Type	Description	Each
38F1198	0088-21-15	1 oz. bottle	1.25
38F1199	0088-21-16	8 oz. bottle	1.95

IC Sockets & Accessories



NOW AVAILABLE from NEWARK

The Complete TI Line of IC Panels Including . . .

- Socket Panels/Standard Select-A-Wrap/Multipurpose
- Pin Panels/Standard Select-A-Wrap/Universal
- Socket Cards/Standard Multipurpose
- Pin Cards/Standard Universal
- Interconnecting Cables

D1000 Series Socket Panels. 14, 16 pin socket patterns. Modular construction—to 6 modules/panel. Std. hdwe. Std. ground and power pin committed or uncommitted. **D2000 Series Pin Panels.** Modular construction—to 6 modules/panel. 30 IC patterns/module—14, 16 pin patterns. Optional I/O interface—cable plug receptacle or feedthru pins. Select-A-Wrap, VCC, GRD planes. Meets automatic wire wrapping tolerances. Screw machine pins. Beryllium copper spring material.
Multipurpose socket or pin panels. Modular construction—to 6 modules/panel. Pins on continuous .100" ctr's within rows, .300" between rows. Accepts 14, 16, 18, 24, 28, 36, 40 pin dual-in-line pkgs., discrete component platforms, interfacing plugs. Select-A-Wrap, VCC, GRD planes. Meets automatic wire wrapping tolerances.

TI offers a wide selection of off-the-shelf pin and socket panel products. With features like Select-A-Wrap® ground/power systems; and bonded wrought gold contacts.

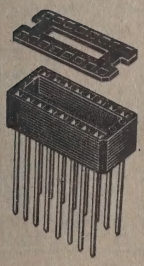
Select-A-Wrap is a unique ground/power system. It increases design flexibility since you can solder any pin to ground and power planes—before, during and after production. And you can get it committed or uncommitted.

Pin panels and cards offer hi reliability, low profile. Contacts have low resistance, hi retention force; stand up to vibration and rough use. The multi-purpose pin grid lets you mount almost any component.

Take your pick of copper/nickel alloy with gold clad contacts or phosphor bronze with gold or tin plating. From 30 to 180 functions per panel in a variety of I/O designs.

For Your FREE Texas Instruments IC Panel and Logic Board Catalog, Price and Availability Information Call or Wire Your Nearest Newark Facility

IC SOCKETS

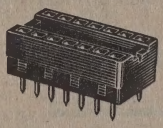


WIRE-WRAP SOCKETS
STANDARD PROFILE
C-91 SERIES
GOLD CLAD CONTACTS

- Standard Profile
- Closed Entry—.280" High
- Glass Filled Nylon Insulation
- 8, 14, 16, 18, 24, 28, 36, 40 pins

Series C-91 wirewrap, gold inlay black colored sockets give you premium performance at no premium in price. Gold contacts are reliable and long lasting. If you increase the gold, you improve the contact. But gold is precious, so your improved performance has to be costly—right? Wrong. Because now you can put the gold only where it is needed—at the point of contact. How? With selective metallurgical bonding: a gold stripe inlay. Not porous plating, but durable wrought gold. The result? Low cost sockets featuring an extra measure of gold where it's needed. These sockets are copper nickel alloy contact per AS TM B-122. Meet military specs MIL-STD202C. Closed entry model. Temp. range: −65° to +150°C. Glass filled nylon insulation. Contact finish: 50 micro-inches wrought gold metallurgically bonded at contact point. You get a choice of 8 pin arrangements. Can be used for a wide variety of industrial and military applications.

Stock No.	Type	Contacts	1-99	100-499	500-999	1000-4999	5000-9999
57F1774	C910800	8	.35	.31	.27	.25	.23
57F1775	C911400	14	.60	.54	.49	.42	.37
57F1776	C911600	16	.64	.58	.53	.46	.41
57F1777	C911800	18	.68	.62	.57	.50	.45
57F1778	C912400	24	1.75	1.50	1.25	1.05	.87
40F4031	C912800	28	2.05	1.65	1.35	1.15	1.01
57F1779	C913600	36	2.35	2.05	1.75	1.55	1.33
57F1780	C914000	40	2.45	2.17	1.94	1.73	1.55

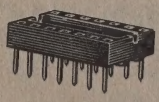


SOLDER TAIL SOCKETS
C-82 SERIES PLATED

- Standard Profile
- Closed Entry—.280" High
- Glass Filled Nylon Insulation

Series C-82 standard solder tail black sockets. Closed entry model. Phosphor bronze (spring temper) per class A QQ-B-750. Glass filled nylon insulation. Contact finish has 200 micro-inches (min.) bright tin plating per MIL-T-10727. Temperature range: −65° to +150°C. Choice of 8 pin arrangements. Meets military specs MIL-STD202C.

Stock No.	Type	Contacts	1-99	100-499	500-999	1000-4999	5000-9999
40F4030	C820804	8	.31	.29	.27	.25	.23
57F1767	C821404	14	.40	.36	.33	.29	.27
57F1768	C821604	16	.46	.42	.39	.35	.33
57F1769	C821804	18	.52	.48	.45	.41	.38
57F1670	C822404	24	1.12	.90	.79	.67	.54
57F1771	C822804	28	1.42	1.11	.95	.81	.70
57F1772	C823604	36	1.62	1.37	1.22	1.08	.91
57F1773	C824004	40	1.75	1.48	1.30	1.15	.98



SOLDER TAIL SOCKETS
GOLD CLAD CONTACTS

- Low Profile
- Closed Entry—.150" High
- Glass Filled Nylon Insulation

Series C-93 low profile solder tail black sockets. Sockets feature protective Mylar Wafer as solder guard. Closed entry model. Copper nickel alloy per AS TM B-122. Contact finish: 100 micro-inches (min.) wrought gold metallurgically bonded at contact point (solder contacts). Temperature range: −65° to +150°C. Meets mil. specs MIL-STD202C.

Stock No.	Type	Contacts	1-99	100-499	500-999	1000-4999	5000-9999
57F1781	C930802	8	.28	.26	.24	.22	.20
57F1782	C931402	14	.37	.34	.31	.28	.25
57F1783	C931602	16	.41	.38	.35	.33	.31
57F1784	C931802	18	.45	.42	.39	.37	.35
57F1785	C932402	24	.99	.88	.76	.63	.49

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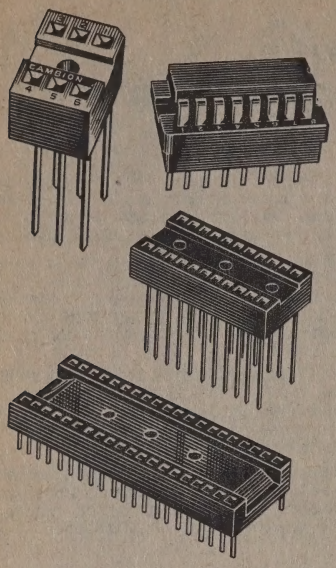
IC Sockets & Accessories



For 6, 8, 14, 16, 18, 22, 24, 36 and 40 pin dual-in-line IC's with either Wire-Wrap* or solder-tab terminations. One-piece molded diallyl insulators withstand high temp. and provide excellent mechanical stability (Nos. -3777 and -3778 are one-piece molded glass-filled nylon with anti-moisture bosses). Phosphor bronze contacts accept flat or round pins up to .024" dia. Standard terminal plating is **-03** gold for all Wire-Wrap; **-04** electrotin for all solder tab sockets. Sockets can be supplied with electrotin plating or Wire-Wrap pins or with gold plating on solder tab pins—prices on request. May be permanently mounted individually (rivet or screw) or press-mounted in PC boards or panels for production or breadboarding. Metric dimensional sockets for standard 14 and 16 pin DIP's are also available. *Reg. Gardner-Denver Co. TM.

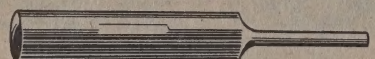
Stock No.	Type 703-	No. Contacts	Terminals	Inches: Overall Length	Inches: Term. Grid	Net Each: 1-9	10-99	100-499	500-999
13F3160	3771-01-04-16	6	Solder tab	.334	.100 x .300	1.04	1.00	.70	.63
13F3161	3881-01-03-16	6	Wire-Wrap	.334					
13F3162	3772-01-04-16	8	Solder tab	.434		1.09	1.05	.73	.66
13F3163	3882-01-03-16	8	Wire-Wrap	.434					
13F3164	3777-01-04-12	14	Solder tab	.780		1.22	1.17	.82	.74
40F4014	3788-01-04-16	14	Solder tab	.784					
40F4020	3897-01-03-16	14	Wire-Wrap	.784					
13F3165	3778-01-04-12	16	Solder tab	.834		1.34	1.29	.90	.82
40F4015	3789-01-04-16	16	Solder tab	.884					
40F4009	3898-01-03-16	16	Wire-Wrap	.884					
13F3166	3787-01-04-16	18	Solder tab	.934		1.61	1.55	1.08	.98
13F3167	3895-01-03-16	18	Wire-Wrap	.934					
13F3168	3785-01-04-16	22	Solder tab	1.180	.100 x .400	2.15	2.06	1.44	1.31
13F3169	3892-01-03-16	22	Wire-Wrap	1.180					
40F4016	3790-01-04-16	24	Solder tab	1.280	.100 x .600	2.42	2.32	1.62	1.48
40F4019	3896-01-03-16	24	Wire-Wrap	1.280					
13F3170	3783-01-04-16	28	Solder tab	1.480		2.65	2.54	1.78	1.62
13F3171	3890-01-03-16	28	Wire-Wrap	1.480					
40F4017	3791-01-04-16	36	Solder tab	1.880		3.05	2.93	2.04	1.86
40F4018	3893-01-03-16	36	Wire-Wrap	1.880					
13F3172	3766-01-04-16	40	Solder tab	2.080		3.30	3.15	2.21	2.01
13F3173	3885-01-03-16	40	Wire-Wrap	2.080					

PRECUT AND STRIPPED WIRE KIT

For wire-wrapping. Solid copper 30 AWG white insulated Kynar* wire, silver plated, ends stripped to tolerance. Kit contains 13 pkgs. of varied lengths from 1" thru 9". Per pkg.: 1" thru 4.5", 100 pcs.; 5" thru 9", 50 pcs. Also available 1.0" thru 25.0" lengths in black, red and white insulation on request. *Reg. Pennsalt Chemicals Corp. TM.

13F3174. Type 718-1010-01-01-19—NET **40.80**

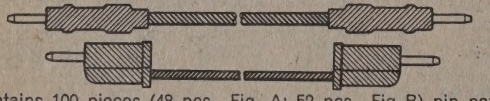
HAND WIRE WRAP TOOL



For wrapping solid copper 30 AWG wire. Low cost alternative to power equipment. Molded glass filled nylon. Size, 3.225" x .480" dia.

13F3175. Type 435-1816-01-00-16—NET **2.00**

IC PATCH CORD KITS



Contains 100 pieces (48 pcs., Fig. A; 52 pcs., Fig B) pin patch cords .040" dia. Red, blue and black in 2", 4", 6" and 8" lengths.

40F6190. Type 446-3892-01-00-00 ..... Net **60.70**

Type 446-3990-01-00-00. Contains 55 pieces stackable patch cords (Fig. B). Red, black, blue in 2", 4", 6", 8" lengths.

13F3176 ..... Net **36.20**

Type 446-3991-01-00-00. Contains 73 pcs. stackable patch cords (Fig. B). Red, black and blue in 2", 4", 6" and 8" lengths.

13F3177 ..... Net **48.30**

SOCKET TYPE HIGH DENSITY BREADBOARDS

16 pin dual-in-line sockets. Socket terminals connected via printed wiring to .040" cage jacks. Use with Cambion IC patch boards. Power and ground planes included.

Type 705-1024-01-00-00. 16 sockets. Board: 6.5" x 6.5".

13F3178. Net Each, 1-4 ..... **53.70; 5-9** **51.00**

Type 705-1022-01-00-00. 32 sockets. Board: 6.5" x 11.5".

13F3179. Net Each, 1-4 ..... **94.80; 5-9** **90.10**

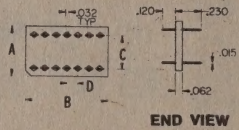
EXPERIMENTAL BREADBOARDS

Socket type breadboards for small circuit building applications. Socket terminal connected via printed wiring to .040" cage jacks. Use with Cambion IC patch cords. Binding posts for power supply connections. 4.5" x 6.5".

Stock No.	Type 705-	Sockets	Pins/Socket	Accepts X-Pin DIPs	Net Each: 1-4	5-9
13F3180	2105-02-00-00	4	18	6, 8, 14, 16, 18	18.70	17.80
13F3181	2109-02-00-00	2†	22	22	18.50	17.60
13F3182	2115-02-00-00	2	28	24, 28	17.50	16.60
13F3183	2118-02-00-00	1*	40	24, 28, 36, 40	22.90	21.80

*Zero insertion force socket. †Includes decals for pin identification.

COMPONENT SOCKET ADAPTERS

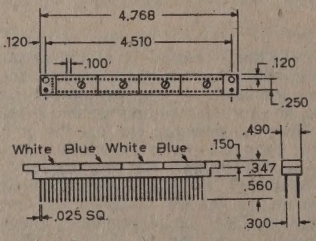


END VIEW

Plug into standard 14, 16, 24 or 36 pin dual in-line sockets or Cambion Integrated socket strip. Larger width sizes for wider components straddle two sockets or socket strips. Terminal pairs are on .100" or .200" grid centers; Terminal is phosphor bronze, spring tempered per QQ-B-750; Comp. A. Finish is hard gold plate. Board material, .062" type GEE glass epoxy per MIL-P-18177.

Stock No.	Type† 702-	Dimensions, In.: Board A	Board B	Term. Ctr. C	Term. Ctr. D	*	Net Each: 1-9	10-49	50-99
13F3184	3723	.450	.750	.300	.200	8	.66	.59	.53
13F3185	3724	.950	.750	.800	.200	8	.66	.59	.53
13F3186	3725	.450	.750	.300	.100	14	1.00	.90	.80
13F3187	3726	.950	.750	.800	.100	14	1.00	.90	.80
13F3188	3728	.450	.850	.300	.100	16	1.20	1.08	.96
13F3189	3730	.950	.850	.800	.100	16	1.20	1.08	.96
13F3190	3732	.750	1.235	.600	.200	12	.88	.79	.70
13F3191	3734	.750	1.835	.600	.200	18	1.41	1.27	1.13

*No. of terminals. †Suffix is **-01-03-00.**



80 PIN DUAL IN-LINE SOCKET STRIP

Molded diallyl body .025" sq., Wire-Wrap posts and spring contacts. Mounts all dual in-line devices without a PC board. For independent mounting or into Cambion mounting frame or relay rack drawers. Pins are replaced by removing the screw down covers. Socket strips accept five 14 pin DIPs, four or five 16 pin DIPs. Wider MSI or LSI DIPs can be mounted by bridging between two properly-spaced strips.

13F3192. Type 703-1000-01-04-00. Net Each, 1-9 ..... **4.15**

10-99 ..... **4.00; 100-499** ..... **2.78; 500-999** **2.53**

Type 706-6050-01-00-00. Mounting frame. Holds 21 socket strips (approx. 100 ICs). Approx. size, 5" x 11".

13F3193. Net Each, 1-4 ..... **16.80; 5-9** **15.10**

Type 706-6051-01-00-00. Double mounting frame—Holds 2 rows of 21 socket strip each (approx. 200 IC total). Approx. size: 10" x 11".

13F3194. Net Each, 1-4 ..... **24.70; 5-9** **22.20**

Type 706-6054-01-00-00. Mini Mounting frame—Holds 6 socket strips (approx. 28 ICs). Approx. size, 4" x 5".

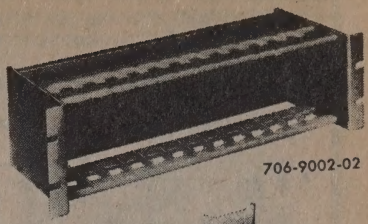
13F3195. Net Each, 1-4 ..... **10.10; 5-9** **9.10**

Drawer for 19" relay rack 1¾" h. or 3½" h.; holds approx. 600 ICs. Information on request: 706-6000 Series.

13 POSITION CARD FILE

Designed to provide maximum flexibility in a choice of logic accessories. Thirteen position card file has 1¼" card spacing. With 13 Wire-Wrap connectors, voltage and ground power planes. Other styles and sizes available.

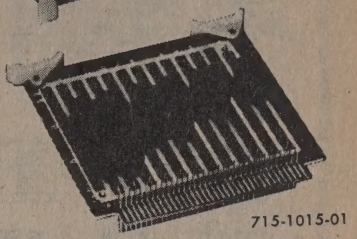
Stock No.	Type	For Card Size, In.	Net Each 1-4	Net Each 5-9
40F1454	706-9002-02	4.5 x 9.25	197.20	177.50
40F1453	706-9005-02	4.5 x 4.5	194.30	174.90



706-9002-02

HIGH DENSITY WIRE-WRAP CAMBI-CARDS®

PC boards accept dual-in-line IC sockets, in-line IC's and discrete components in a tightly arranged package for Wire-Wrap interconnections. Each socket position on **715 Series** (on every other row on **714 Series**) has two auxiliary pins to permit connecting each IC to power and ground planes. Cards with sockets affixed; with sockets and spaces for discretes; for all discretes; copper-clad and blank cards; card extenders and general purpose cards without sockets but with grid patterns permitting mixing any combination of in-line ICs in any mounting pattern. All cards have edge connectors which plug into standard Cambion card files, available with or without mating power planes. Board material—.062" thick, double clad copper, epoxy glass cloth type FL-GE per MIL-P-13949. Pin plating, gold over phosphor bronze material. **715** Cards, 4.5" wide. **714** Cards, 9.75" wide.

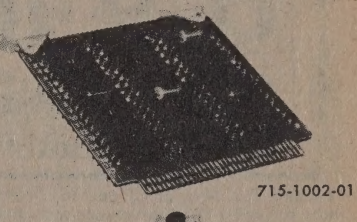


715-1015-01

715 SERIES—70 PIN INPUT/OUTPUT CONNECTORS

Stock No.	Type 715-	Card Lgth. In.	No. Sockets per card	†	Net Each 1-4	Net Each 5-9	Net Each 10-24
13F3200	1000-01	4.5	Card extender	.....	38.10	34.30	30.50
13F3201	1001-01	4.5	Blank comp. card	.....	23.40	21.10	18.70
13F3202	1002-01	4.5	Discretes only	.....	39.40	35.50	31.50
13F3203	1004-01	4.5	10 plus discretes	24	67.90	61.10	54.30
13F3204	1005-01	4.5	16 plus discretes	16	68.00	61.20	54.40
13F3205	1006-01	4.5	16 plus discretes	14	65.50	59.00	52.40
40F1449	1011-01	4.5	24	16	68.00	61.20	54.40
40F1447	1013-01	4.5	24	14	65.50	59.00	52.40
13F3206	1015-01	4.5	Gen'l purpose (w/o sockets)	.....	29.90	26.90	23.90
13F3207	1016-01	4.5	Copper clad card	.....	9.15	8.25	7.30
13F3208	1100-01	9.25	Card extender	.....	38.10	34.30	30.50
13F3209	1101-01	9.25	Blank comp. card	.....	28.00	25.20	22.40
13F3210	1102-01	9.25	Discretes only	.....	44.80	40.30	35.80
13F3211	1104-01	9.25	25 plus discretes	24	117.60	105.80	94.10
13F3212	1105-01	9.25	56 plus discretes	16	120.20	108.20	96.20
13F3213	1106-01	9.25	56 plus discretes	14	115.30	103.80	92.20
40F1450	1111-01	9.25	64	16	120.20	108.20	96.20
40F1448	1113-01	9.25	64	14	115.30	103.80	92.20
13F3214	1115-01	9.25	Gen'l purpose (w/o sockets)	.....	39.60	35.60	31.70
13F3215	1116-01	9.25	Copper clad card	.....	10.10	9.10	8.10

†No. of Pins/Socket.

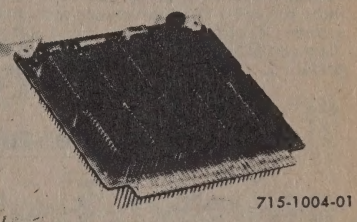


715-1002-01

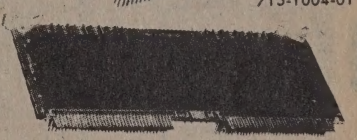
714 SERIES—140 PIN INPUT/OUTPUT

Stock No.	Type 714-	Card Lgth. In.	No. Sockets per card	†	Net Each 1-4	Net Each 5-9	Net Each 10-24
13F3216	1011-01	4.5	54	16	137.00	123.30	109.60
13F3217	1013-01	4.5	54	14	127.20	114.50	101.80
13F3218	1015-01	4.5	Gen'l purpose (w/o sockets)	.....	42.70	38.40	34.20
13F3219	1016-01	4.5	Copper clad card	.....	19.20	17.30	15.40
13F3220	1111-01	9.25	126	16	236.10	212.50	188.90
13F3221	1113-01	9.25	126	14	204.00	183.60	163.20
13F3222	1115-01	9.25	Gen'l purpose (w/o sockets)	.....	48.20	43.40	38.60
13F3223	1116-01	9.25	Copper clad board	.....	19.20	17.30	15.40

†No. of Pins/Socket.



715-1004-01



714-1011-01

LOGIC FUNCTION CARDS

Cambion offers a complete line of logic function cards, all of which may be used with above standard, 4½"h., "714" and "715" series Wire-Wrap cards. Write for complete information on logic function cards.

UNIVERSAL PANELS

Cambion universal panels support Wire-Wrap jacks arranged in columns .300" apart which accept dual-in-line packages with .300" and .600" pin alignment. Separate power planes are provided on each side of the panels. Several Wire-Wrap pins are provided adjacent to each column with direct connection to the power planes. Panels are available with one through six sections. Each section has large power and ground terminals for connection to power supplies and for the mounting of bulk decoupling capacitors.

Stock No.	Type	Power panel	Net Each 1-4	Net Each 5-9
13F3224	707-1040-01-00-00	1-section	60.60	54.50
13F3225	707-1040-02-00-00	2-section	119.40	107.50
13F3226	707-1040-03-00-00	3-section	178.50	160.70
13F3227	707-1040-04-00-00	4-section	237.30	213.60
13F3228	707-1040-05-00-00	5-section	296.40	266.80
13F3229	707-1040-06-00-00	6-section	355.40	319.90

70 PIN CARD CONNECTOR

Stock No.	Type 706-	Terminals	Net Each 1-4	Net Each 5-9	Net Each 10-24
40F1452	7029-01	Solder lug	6.35	5.70	5.40
40F1451	7015-01*	Wire-Wrap	7.45	6.70	6.35

*For use with CAMBION Power Planes.

IC INSERTION-EXTRACTION TOOL

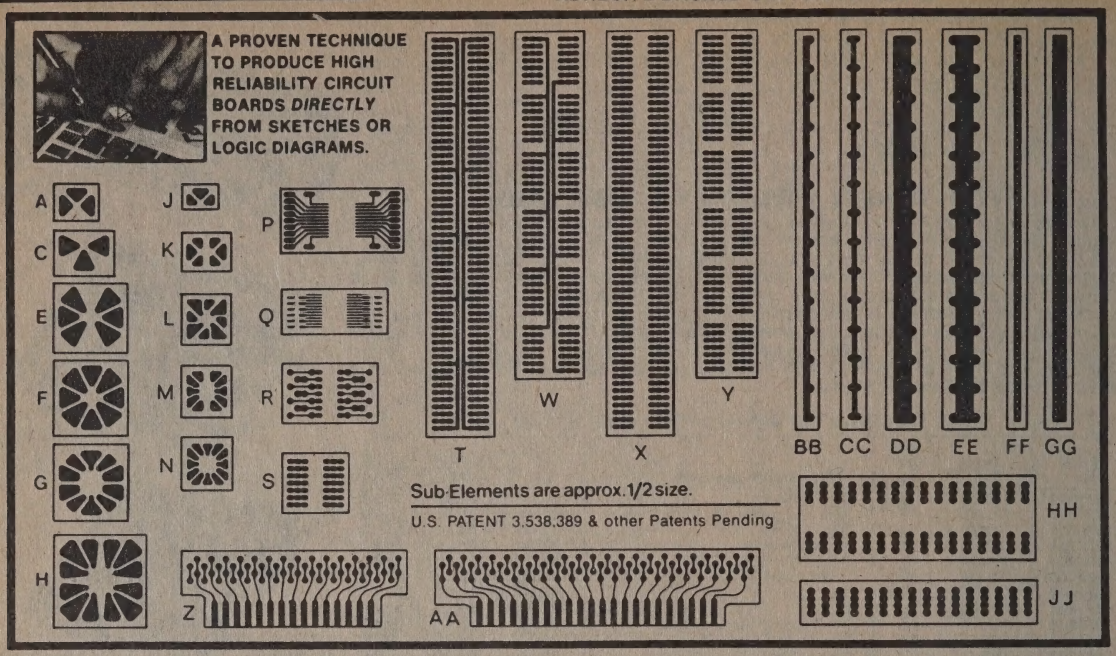
Handy tool properly positions integrated circuits for insertion or extraction by securely gripping the IC between the leads and under the body. Practically any IC with 14 or 16 leads aligned on 0.300" centers can easily be inserted or extracted regardless of tight packaging and without damage to the fragile IC leads. Basic material of insertion-extraction tool is plastic.

13F3230. Type 706-3739-01.....1-4, Each **.97**
5-9, Each **.87**.....10-24, Each **.82**

IC TESTERS

Provide easy test point access to 14 and 16 pin Dual-In-Line IC's under operating conditions. Tester is placed over top of IC and makes contact with the exposed portion of each lead.

13F3231. Type 706-1020-01-00-00. 14-Pin Tester.
1-4, Each **2.22**.....5-9, Each **2.00**
13F3232. Type 706-1019-01-00-00. 16-Pin Tester.
1-4, Each **2.41**.....5-9, Each **2.17**



This aero space-proven concept in circuit packaging now permits rapid assembly of all prototypes and limited quantity production systems directly from engineering schematics and logic flow diagrams. All sub-element conductors are preplated and ready for soldering. Etched copper sub-elements are supplied on thin substances which have a pressure sensitive adhesive backing. They are designed to withstand soldering temperatures, and offer exceptionally good adhesion strength, yet can be quickly and easily removed when changes require a Circuit-Stik "instant" modification.

THE "1000" SERIES (MFR'S. TYPE) CIRCUIT-STIK SUB-ELEMENTS ARE PRE-DRILLED ON .100-INCH GRID REQUIRE NO DRILLING AND NO TERMINALS.

TO-5/TO-18 SUB-ELEMENTS

Stk. No.	Type No.	Fig.	Pcs. Per. Pkg.	Description	PER PKG.
38F1237	1001-010	A	10	TO-18, TO-5 3 Lead	2.50
38F1238	1001-030	A	30	TO-18, TO-5 3 Lead	6.75
38F1239	1021-010	C	10	TO-5 3 Lead	2.50
38F1240	1021-030	C	30	TO-5 3 Lead	6.75
38F1241	1023-010	E	10	TO-5 6 Lead	3.00
38F1242	1023-030	E	30	TO-5 6 Lead	8.10
38F1243	1024-010	F	10	TO-5 8 Lead	3.00
38F1244	1024-030	F	30	TO-5 8 Lead	8.10
38F1245	1025-010	G	10	TO-5 10 Lead	3.00
38F1246	1025-030	G	30	TO-5 10 Lead	8.10
38F1247	1026-010	H	10	TO-5 12 Lead	3.50
38F1248	1026-030	H	30	TO-5 12 Lead	9.45

COMPACT TO-5 SUB-ELEMENTS

22F1100	1031-010	J	10	TO-5, TO-18 3 Lead	2.50
22F1101	1031-030	J	30	TO-5 3 Lead	6.75
22F1102	1033-010	K	10	TO-5 6 Lead	3.00
22F1103	1033-030	K	30	TO-5 6 Lead	8.10
22F1104	1034-010	L	10	TO-5 8 Lead	3.00
22F1105	1034-030	L	30	TO-5 8 Lead	8.10
22F1106	1035-010	M	10	TO-5 10 Lead	3.00
22F1107	1035-030	M	30	TO-5 10 Lead	8.10
22F1108	1036-010	N	10	TO-5 12 Lead	3.50
22F1109	1036-030	N	30	TO-5 12 Lead	9.45

FLAT PACK SUB-ELEMENTS SPREAD LEAD CONFIGURATION

22F1110	1061-010	P	10	10 Lead	3.00
38F1252	1062-010	P	10	14 Lead	3.00
22F1111	1066-010	P	10	22 Lead	6.00
22F1113	1067-010	P	10	24 Lead	6.00
22F1114	1069-005	P	5	28 Lead	4.25
22F1115	1073-005	P	5	36 Lead	5.00
22F1116	1075-005	P	5	40 Lead	6.50
22F1117	1076-005	P	5	42 Lead	6.50

COMPACT FLAT PACK SUB-ELEMENTS

22F1118	1081-010	Q	10	10 LEAD	3.00
22F1119	1082-010	Q	10	14 Lead	3.00
22F1120	1086-010	Q	10	22 Lead	5.00
22F1121	1087-010	Q	10	24 Lead	5.00
22F1122	1089-005	Q	5	28 Lead	3.00

COMPACT FLAT PACK SUB-ELEMENTS CONT'D

Stk. No.	Type No.	Fig.	Pcs. Per. Pkg.	Description	PER PKG.
22F1123	1093-005	Q	5	36 Lead	4.00
22F1124	1095-005	Q	5	40 Lead	5.00
22F1125	1096-005	Q	5	42 Lead	5.00

DUAL-IN-LINE PACKAGE SUB-ELEMENTS

38F1254	1101-010	R	10	14 Lead	3.00
38F1255	1101-030	R	30	14 Lead	8.10
38F1256	1102-010	S	10	14 Lead	3.00
38F1262	1202-005	T	5	6 DIP's/Strip, 14/16 Lead*	7.75
38F1263	1204-005	W	5	6 DIP's/Strip, 14 Lead†	6.50
38F1264	1206-005	X	5	Universal 30 DIP's	7.75
38F1265	1208-005	Y	5	6 DIP's/Strip 14 Lead	6.50

(*) Pwr. and grd. avail. (†) Pwr. and grd. pins 7/14.

PLUG-IN CONNECTOR STRIPS/HARD GOLD OVER NICKEL PLATE

38F1266	1351-005	Z	5	15 Pin, .100" Spacing*	7.50
38F1267	1352-005	Z	5	15 Pin, .100" Spacing	
38F1268	1353-005	Z	5	15 Pin, .125" Spacing*	
38F1269	1354-005	Z	5	15 Pin, .125" Spacing	
38F1270	1355-005	Z	5	15 Pin, .156" Spacing*	
38F1271	1356-005	Z	5	15 Pin, .156" Spacing	
38F1272	1361-005	AA	5	22 Pin, .100" Spacing*	9.00
38F1273	1362-005	AA	5	22 Pin, .100" Spacing	
38F1274	1363-005	AA	5	22 Pin, .125" Spacing*	
38F1275	1364-005	AA	5	22 Pin, .125" Spacing	
38F1276	1365-005	AA	5	22 Pin, .156" Spacing*	
38F1277	1366-005	AA	5	22 Pin, .156" Spacing	

(*) Component Side, others are circuit side.

DISCRETE COMPONENT STRIPS

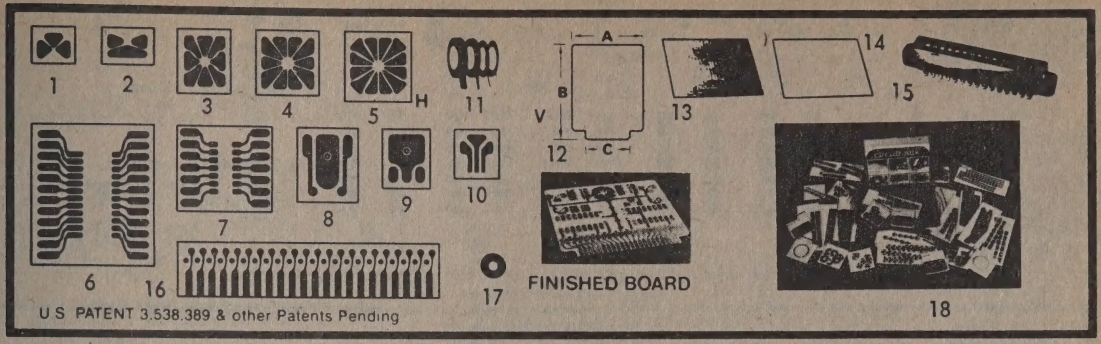
38F1278	1302-005	HH	5	16 Discrete, mounts 80	5.50
38F1279	1311-010	JJ	10	Universal Strip, mts. 80	6.00

DISTRIBUTION STRIPS

38F1280	1321-010	BB	10	.100" wide	3.50
38F1282	1322-010	CC	10	.063" wide	4.10
38F1281	1323-010	DD	10	.250" wide	4.50
38F1283	1324-010	EE	10	.250" wide	5.00
22F1126	1325-010	FF	10	Sgl. Row, .100" Spacing	4.00
22F1127	1326-010	GG	10	Dble. Row, .100" Spacing	4.50

Instant Circuit Boards by circuit-stik®

ADHESIVE BACKED COPPER PATTERNS



THE "2000" SERIES (MFR'S TYPE) CIRCUIT-STIK SUB-ELEMENTS ARE DESIGNED FOR COMPACTNESS AND ARE NOT DRILLED

SUB-ELEMENTS

Stk. No.	Type No.	Fig.	Pcs. Per Pkg.	Description	Per Pkg.
38F1284	2001-010	1	10	TO-18 3 Lead	2.00
38F1285	2001-030	1	30	TO-18 3 Lead	5.40
38F1286	2021-010	2	10	TO-5 3 Lead	2.00
38F1287	2021-030	2	30	TO-5 3 Lead	5.40
38F1288	2024-010	3	10	TO-5 8 Lead	2.50
38F1289	2024-030	3	30	TO-5 8 Lead	6.75
38F1290	2025-010	4	10	TO-5 10 Lead	2.50
38F1291	2025-030	4	30	TO-5 10 Lead	6.75
38F1292	2026-010	5	10	TO 5 12 Lead	3.00
38F1293	2026 030	5	30	TO-5 12 Lead	8.10
22F1128	2101-010	7	10	Dual-in-Line 14 Lead DIP	3.00
38F1294	2102-010	6	10	Dual-in-Line 24 Lead MSI	6.00
38F1295	2367-005	16	5	22 Pin Con. .156" Spacing*	6.25
38F1296	2368-005	16	5	22 Pin Con. .156" Spacing	6.25
38F1297	2301-005	.....	5	21 Discrete Components	4.75
22F1129	1404-010	8	10	TO-3 Flange Mtg.	5.00
22F1130	1405-010	9	10	SCR Stud Mtg.	3.00
22F1131	1406-010	10	10	SCR Flat Pkg. Mtg.	3.00

(*) Component side. 2368-005, circuit sid.

MYLAR TAPE PRESSURE SENSITIVE ADHESIVE

38F1302	7151	11	1	.100"W x 30' L	1.00
38F1303	7152	11	1	.150"W x 30' L	1.25
38F1304	7153	11	1	.200"W x 30' L	1.50
38F1305	7154	11	1	.300"W x 30' L	2.00

PRESSURE SENSITIVE COPPER CONDUCTIVE TAPE

38F1298	7101	.....	1	.062"W x 9' L	.75
38F1299	7102	.....	1	.100"W x 9' L	.90
38F1300	7103	.....	1	.125"W x 9' L	1.00
38F1301	7104	.....	1	.250"W x 9' L	2.00
22F1132	7105	.....	1	.031"W x 9' L	.75
22F1133	7106	.....	1	.040"W x 9' L	.75
22F1134	7107	.....	1	.050"W x 9' L	.75
22F1135	7108	.....	1	.200"W x 9' L	2.00

COPPER DONUT PADS, PRESSURE SENSITIVE ADHESIVE

Stk. No.	Type	Fig.	Pcs. Per Pkg.	Description	Per Pkg.
38F1306	7201	17	250	.100" diameter	2.50
38F1307	7202	17	250	.125" diameter	2.50
38F1220	7203	17	250	.187" diameter	3.00
38F1221	7204	17	250	.250" diameter	3.50
38F1222	7251	14	5	5x6" copper sheet	5.75
22F1136	7261	14	5	5x7" epoxy glass sheet	5.75

EPOXY-GLASS BOARD MATERIAL PRE-DRILLED AND PLAIN

38F1223	7301	13	1	8½x17" .100" Spacing	8.00
38F1224	7351	14	1	6x12", Plain	1.95
38F1225	7352	14	1	12x18", Plain	5.35

CONDUCTORS .156" SPACING

38F1230	7501	15	1	15 Pins	2.35
38F1231	7502	15	1	30 Pins	2.75
38F1232	7503	15	1	22 Pins	3.00
38F1233	7504	15	1	44 Pins	3.50
38F1236	8951	18	1	Prototype Kit	99.50

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PRE-SHAPED EPOXY-GLASS BOARDS

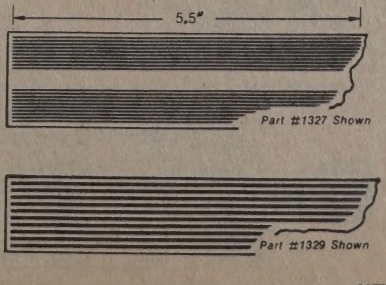
Designed for standard card cages and routed to shape .042" diameter holes. See illustration 12 for dimension key. 7402, 7405 are pre-drilled on .100" grid pattern. 7452, 7455 are plain. Notched for proper insertion depth in connector.

Stk. No.	Type No.	"A" Dim.	"B" Dim.	"C" Plug-In Width	Each
38F1226	7402	4.5"	6.5"	22/44 Pins. .156" Ctrs.	5.25
22F1138	7405	4.0"	4.5"	15/30 Pins. .156" Ctrs.	4.25
38F1229	7452	4.5"	6.5"	22/44 Pins. .156" Ctrs.	2.95
22F1139	7455	4.0"	4.5"	15/30 Pins. .156" Ctrs.	2.35

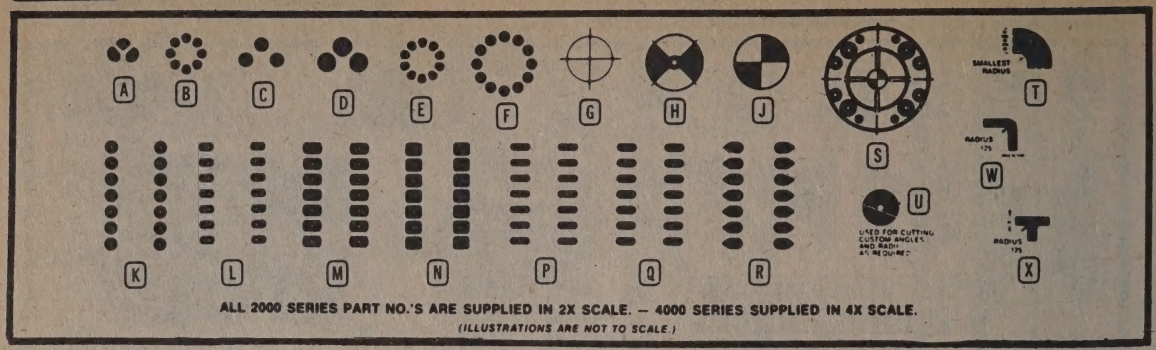
STRIPLINE CONDUCTORS, INSULATED SUBSTRATE

For high and medium density interconnections

Stk. No.	Type No.	Line Width	Lgth.	Center Spacing	Lines /Pkg.	Per Pkg.
22F1140	1327-020	.010"	5.5"	.025"	20	2.00
22F1141	1328-020	.020"	5.5"	.040"	20	2.00
22F1142	1329-020	.020"	5.5"	.050"	20	2.50
22F1143	1330-010	.031"	5.5"	.081"	10	2.50
22F1144	1331-010	.040"	5.5"	.090"	10	2.50
22F1145	1332-010	.050"	5.5"	.100"	10	2.50
22F1146	1333-010	.062"	5.5"	.112"	10	3.00



PC Artwork Symbols



ALL 2000 SERIES PART NO.'S ARE SUPPLIED IN 2X SCALE. — 4000 SERIES SUPPLIED IN 4X SCALE.

(ILLUSTRATIONS ARE NOT TO SCALE.)

PRINTED SYMBOLS

Stock No.	Type	Fig.	Description	Per Pkg.	Per Package Price 1-24	25-99	100-Up
38F1200	2001	A	TO-18 2x 3 lead	250	6.50	6.17	5.85
38F1455	2015	D	TO-5 2x 3 lead	250	6.50	6.17	5.85
38F1456	2028	K	14 Lead DIP 2x	250	7.50	7.12	6.75
38F1457	4028	K	14 lead DIP 4x	100	9.50	9.02	8.55
38F1458	2033	K	16 lead DIP 2x	250	7.50	7.12	6.75
38F1459	4033	K	16 lead DIP 4x	100	9.50	9.02	8.55
38F1460	2103	F	TO-5 2x 12 Lead	250	7.50	7.12	6.75
38F1201	2011	C	TO-5 2x 3 Lead	250	6.50	6.17	5.85
38F1202	2007	B	TO-5 2x 8 Lead	250	6.50	6.17	5.85
38F1203	2010	E	TO-5 2x 10 Lead	250	6.50	6.17	5.85
38F1461	2020	R	14 Lead DIP 2x	250	7.50	7.12	6.75
38F1462	2026	R	16 Lead DIP 2x	250	7.50	7.12	6.75
38F1207	2029	L	14 Lead DIP 2x	250	7.50	7.12	6.75
38F1463	2034	L	16 Lead DIP 2x	250	7.50	7.12	6.75

Stock No.	Type	Fig.	Description	Per Pkg.	Per Package Price 1-24	25-99	100-Up
38F1208	2030	M	14 Lead DIP 2x	250	7.50	7.12	6.75
38F1464	2035	M	16 Lead DIP 2x	250	7.50	7.12	6.75
38F1465	2070	N	14 Lead DIP 2x	250	7.50	7.12	6.75
38F1466	4070	N	14 Lead DIP 4x	100	9.50	9.02	8.55
38F1467	2071	N	16 Lead DIP 2x	250	7.50	7.12	6.75
38F1468	4071	N	16 Lead DIP 4x	100	9.50	9.02	8.55
38F1469	2072	P	14 Lead DIP 2x	250	7.50	7.12	6.75
38F1470	4072	P	14 Lead DIP 4x	100	9.50	9.02	8.55
38F1471	2073	P	16 Lead DIP 2x	250	7.50	7.12	6.75
38F1472	4073	P	16 Lead DIP 4x	100	9.50	9.02	8.55
38F1473	2074	Q	14 Lead DIP 2x	250	7.50	7.12	6.75
38F1474	4074	Q	14 Lead DIP 4x	100	9.50	9.02	8.55
38F1475	2075	Q	16 Lead DIP 2x	250	7.50	7.12	6.75
38F1476	4075	Q	16 Lead DIP 4x	100	9.50	9.02	8.55

REGISTRATION TARGETS

Stock No.	Type	Fig.	Dia.	Per Pkg.	Per Package Price 1-24	25-99	100-Up
38F1477	1001	G	.186"	250	5.75	5.46	5.17
38F1478	1002	G	.375"	250	6.50	6.17	5.85
38F1479	1008	J	1.000"	250	7.50	6.17	5.85
38F1206	1009	H	.625"	250	6.50	6.17	5.85
38F1480	1010	H	1.000"	250*	7.50	7.12	6.75
38F1481	1011	H	.312"	250	5.75	5.46	5.17
38F1482	1026	S	1.500"	100	9.50	9.02	8.55

CIRCUIT ARTWORK TAPE

(20-yd. rolls) 5 Per Pkg.

Black Crepe Stk. No.	CT-100	Black Matte Stk. No.	MT-200	Size	Price Per Pkg.
38F1210	-031B5	38F1483	-031B5	.031"	3.00
38F1211	-040B5	38F1484	-040B5	.040"	
38F1212	-050B5	38F1485	-050B5	.050"	
38F1213	-062B5	38F1486	-062B5	.062"	
38F1214	-080B5	38F1487	-080B5	.080"	
38F1215	-093B5	38F1488	-093B5	.093"	
38F1216	-100B5	38F1489	-100B5	.100"	
38F1217	-125B5	38F1490	-125B5	.125"	
38F1218	-156B5	38F1491	-156B5	.156"	
38F1219	-187B5	38F1492	-187B5	.187"	
38F1308	-200B5	38F1493	-200B5	.200"	
38F1309	-250B5	38F1494	-250B5	.250"	

Ⓢ DONUT PADS (BLACK)

Stock No.	Type	O.D.	I.D.	Price/Roll of 500 1-24	25-99	100-Up
38F1310	P7100	.100"	.031"	2.50	2.37	2.25
38F1311	P7140	.125"	.031"	2.00	1.90	1.80
38F1495	P7150	.125"	.040"	2.00	1.90	1.80
38F1496	P7170	.140"	.031"	2.00	1.90	1.80
38F1497	P7190	.156"	.031"	2.00	1.90	1.80
38F1498	P7200	.156"	.040"	2.00	1.90	1.80
38F1499	P7250	.187"	.031"	2.00	1.90	1.80
38F1312	P7260	.187"	.040"	2.00	1.90	1.80
38F1500	P7290	.200"	.031"	2.00	1.90	1.80
38F1313	P7300	.200"	.040"	2.00	1.90	1.80
38F1501	P7310	.200"	.050"	2.00	1.90	1.80
38F1502	P7320	.200"	.062"	2.00	1.90	1.80
38F1314	P7400	.250"	.040"	2.00	1.90	1.80
38F1503	P7420	.250"	.062"	2.00	1.90	1.80
38F1315	P7460	.300"	.062"	2.50	2.37	2.25
38F1316	P7500	.312"	.062"	2.50	2.37	2.25
38F1317	P7540	.375"	.062"	2.50	2.37	2.25
38F1318	P7600	.400"	.062"	3.25	3.08	2.92
38F1319	P7720	.500"	.062"	3.75	3.56	3.37
38F1504	P7780	.562"	.062"	4.50	4.27	4.05

Ⓦ 90° ELBOWS (Roll of 250)

Stock No.	Type	Line Width	Price per Roll 1-24	25-99	100-Up
38F1505	E912	.062"	2.00	1.90	1.80
38F1506	E914	.080"			
38F1507	E916	.093"			
38F1508	E920	.100"			
38F1509	E922	.125"			
38F1510	E926	.156"	2.50	2.40	2.30

Ⓧ TEES (Roll of 250)

Stock No.	Type	Line Width	Price per Roll 1-24	25-99	100-Up
38F1511	T962	.062"	2.00	1.90	1.80
38F1512	T964	.080"			
38F1513	T966	.093"			
38F1514	T970	.100"			
38F1515	T972	.125"			
38F1516	T976	.156"	2.50	2.37	2.25

Ⓣ 90° NESTLED ELBOWS (Roll of 250)

Stock No.	Type	Line W.	Rings in Nest	Price per Roll 1-24	25-99
38F1517	NE862	.062"	4	3.00	2.85
38F1518	NE864	.080"	4	2.50	2.37
38F1519	NE866	.093"	4	2.50	2.37
38F1520	NE870	.100"	3	2.50	2.37
38F1521	NE872	.125"	3	3.00	2.85
38F1522	NE876	.156"	3	4.00	3.80

ORIENTATION SYMBOLS

DIODE DIRECTION

Stock No.	Type	Height In.	Height mm	Roll of
38F1531	5201	.125	3.17	500
38F1532	5202	.250	6.35	350
38F1533	5203	.375	9.52	350
38F1534	5204	.500	12.70	250

Price per Roll. 1-24.....6.50
25-99.....6.17 100-Up.....5.85

POLARITY

Stock No.	Type	Height In.	Height mm	Roll of
38F1535	5209	.125	3.17	500
38F1536	5210	.250	6.35	350
38F1537	5211	.375	9.52	350
38F1538	5212	.500	12.70	250

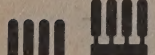
Price per Roll. 1-24.....6.50
25-99.....6.17 100-Up.....5.85

UNIVERSAL CORNERS

Ⓤ Roll of 250. Four rings in nest.

Stock No.	Type	Line W.	Nest O.D.	Nest I.D.	Price/Roll 1-24	25-99
38F1523	UC812	.062"	.625	.125	3.00	2.85
38F1524	UC814	.080"	.890	.250	5.00	4.75
38F1525	UC816	.093"	1.062	.312	5.00	4.75
38F1526	UC820	.100"	1.100	.300	5.00	4.75
38F1527	UC822	.125"	1.375	.375	5.00	4.75
38F1528	UC828	.187"	2.000	.500	8.00	7.60
38F1529	UC830	.200"	2.100	.500	12.00	11.40
38F1530	UC834	.250"	2.500	.500	14.00	13.30

CONNECTOR STRIPS (Continuous Mylar)



Stock No.	Type	Lgth.	Width	Contact Spacing	Pad Clearance	Contacts per Strip	Strips per Package	Per Package Price 1-24	25-99	100-Up
38F1539	2079	.750	.100"	.200"	.100"	36	30	5.00	4.75	4.50
38F1540	4079	1.500"	.200"	.400"	.200"	36	30	8.00	7.60	7.20
38F1541	2080	.750"	.125"	.250"	.125"	22	30	5.00	4.75	4.50
38F1542	4080	1.500"	.250"	.500"	.250"	22	30	7.00	6.65	6.30
38F1209	2081	.750"	.187"	.312"	.125"	22	30	5.00	4.75	4.50
38F1543	4081	1.500"	.375"	.625"	.250"	22	30	8.00	7.60	7.20

Circuit Cards and IC Accessories

TRIAD INTEGRATED CIRCUIT CARDS

Triad Integrated Circuit and Printed Circuit cards are made of either G-10 glass epoxy or paper epoxy. All models are available with a Winchester connector which mates with the edge contacts for plug-in versatility. PCM connectors are molded from flame resistant material per MIL-M-14. Contacts are beryllium, copper, gold plated, maintaining constant contact.

No. 13540. 25 contact double readout type with 6 flat-pack pads on one side and 6 TO-5 pads on the other. Made of G-10 glass epoxy, gold plated.

No. 13542. G-10 glass epoxy board for dual in-line packages. Size: 2.976' x 3.273'. Used with an 18 contact double-sided type of connector with bifurcated contacts on .156" centers.

No. 13543. Board for dual in-line packages. Size: 3" x 3.187". Used double-sided connector with 25 contacts on .050" centers. Meets MIL-M-14, type SDG-F.

No. 13546. Same as 13545, but with overall dimensions 2.976" x 3.273", has 18 contact type.

INTEGRATED CIRCUIT CARDS

Stk. No.	Type	1-9	10-24	25-49	50-99
2F976	13540	8.18	7.36	6.62	6.16
2F985	13542	8.18	7.36	6.62	6.16
2F986	13543	8.18	7.36	6.62	6.61
2F852	13546	8.18	7.36	6.62	6.61

INTEGRATED CIRCUIT CARDS WITH WINCHESTER CONNECTORS

2F980	CO-13540	17.10	15.39	13.85	12.88
2F983	CO-13542	11.07	9.96	8.96	8.33
2F984	CO-13543	17.10	15.39	13.85	12.88
2F855	CO-13546	11.07	9.96	8.96	8.33

UNIVERSAL CIRCUIT CARDS

No. 13510-1. 0.1" grid design. Hole size: .052". Base material is 1/16" paper epoxy .421 holes. Sizes: 4"x4½".

No. 13510-2. Same as 13510-1, but made of G-10 glass epoxy.

No. 13500-1. Similar to 13510, but 223 mounting pads, 444 holes. 22 plug-in fingers on .156" spacing. Hole size: .052". Overall size: 4" x 4½". Made of 1/16" paper epoxy.

No. 13500-2. Same as 13500-1, but made of G-10 glass epoxy.

No. 13125. NASA soldering training board. Made of G-10 glass epoxy. 1/16" thick. Size: 3½ x 6¼". Copper one side; conductor widths .062" and .031".

No. 13600-2. Extender card. Used to extend the fingers of a card into otherwise inaccessible places. Size: 5" x 8" with 43 extension strips per side. Made of G-10 glass epoxy.

No. 13800. An overall grid of holes for bread boarding .646 holes (19 x 34) on 0.20" centers. 1/16" paper epoxy. Size: 4" x 7". .062" holes.

Stk. No.	Type	1-9	10-24	25-49	50-99
2F969	13510-1	7.65	6.89	6.20	5.77
2F856	13510-2	8.18	7.36	6.62	6.16
2F971	13500-1	7.65	6.89	6.20	5.77
2F857	13500-2	8.18	7.36	6.62	6.16
2F860	13600-2	13.32	11.99	10.79	10.03

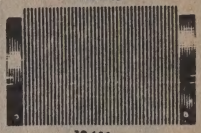
UNIVERSAL CIRCUIT CARDS WITH WINCHESTER CONNECTORS

2F865	CO-13500-2	11.50	10.35	9.32	8.67
2F867	CO-13511-B	20.27	18.24	16.42	15.27

CO-13540

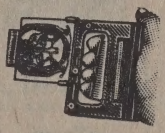
13543

13546



13600

CIRCUIT CARD EXTRACTORS



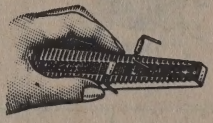
Type CE-1. Cam action quick release. One-handed operation with 60-lb. pull. Small space requirement. Becomes integral part of card until release. Sturdy plastic 4¼" x 2½"

Type CE-4. Adjusts to fit card widths from 4 to 6". Heavy gauge steel nickel finish. 6½" x 4⅜"

Type CE-5. For cards from 1" to 4" in width. Ideal for miniature integrated circuit cards and modules. Measured 4¼" x 4½"

Stk. No.	Type	1-9	10-24	25-49	50-99
2F967	CE-1	12.33	11.09	9.98	9.28
2F968	CE-4	12.83	11.55	10.39	9.66
2F872	CE-5	12.60	11.34	10.21	9.49

LEAD BENDING GAUGES



Type MK-1. For ¼ watt resistors.
Type MK-2. For ½ watt resistors.
Type MK-3. For 1 watt resistors
Type MK-4. For 2 watt resistors.

MK gauges may also be used on other similar components. Each has 40 different numbered positions, the sizes of which vary between the limits in the size column in the tab below.

Stk. No.	Type	Size	1-9	10-24	25-49	50-99
2F972	MK-1	.375-1.50	3.78	3.40	3.06	2.85
2F973	MK-2	.50-1.50	3.78	3.40	3.06	2.85
2F974	MK-3	.75-2.50	4.42	3.98	3.58	3.33
2F975	MK-4	.875-2.50	4.42	3.98	3.58	3.33

H.H. SMITH

ADJUSTABLE PRINTED CIRCUIT RACK

A universally adjustable extruded aluminum printed circuit card rack that accommodates up to 39 cards and fits 19" rack. For card widths 2⅜" to 4¾", lengths 3½" to 7¼" and 1/16" thick. Adjustable card spacing at .400" increments. A locking bar holds cards securely against rear connectors. Includes card guides of molded plastic — four for each card. Size: (assemb.) 19x5¼x8". Wt. 2½ lbs.

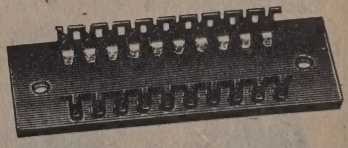
Stk. No.	Type	1-9	10-24	25-99
65F020	3050	27.95	25.95	23.95

39F1780. 3051 Extra Card Guides.

Pkg. of 100 ..... 5.00

ERIE STRIP PACKAGE SYSTEM

Stk. No.	Type	Stat.	Overall Length	Dist. Bwtn. Mtg. Ctr.	1-49	50-99	100-249	250-499	500-999
19F3069	3976-205-1	5	1.875	1.362	.52	.44	.38	.32	.28
19F545	3976-205-2	10	2.875	2.362	.61	.52	.41	.36	.30
19F546	3976-205-3	15	3.875	3.362	.64	.58	.47	.41	.36
19F547	3976-205-4	20	4.875	4.362	.72	.63	.58	.49	.41
19F548	3976-205-5	25	5.875	5.362	.86	.78	.69	.63	.55
19F549	3976-205-6	30	6.875	6.362	.95	.86	.78	.69	.61
19F1770	3976-228-2	10	2.875	2.362	.86	.78	.67	.62	.58
19F1771	3976-228-3	15	3.875	3.362	.95	.86	.78	.70	.64
19F1772	3976-228-4	20	4.875	4.362	1.02	.95	.86	.78	.72
19F1773	3976-228-5	25	5.875	5.362	1.15	1.04	.95	.90	.81
19F1774	3976-228-6	30	6.875	6.362	1.24	1.15	1.07	.98	.86



Provides quick, more efficient assembly than with piece-by-piece construction. Features automatic clip assembly, connector cutting, component insertion, and component soldering. Tolerance: ±.005.

MAKE NEWARK YOUR DEPENDABLE SOURCE FOR ALL ELECTRONIC PARTS & EQUIPMENT

Whether ordering in quantity for production, or in small lots for special projects, make NEWARK your headquarters for electronic supplies·Get the exact part you need from an inventory of over 70,000 items.

FAST — DEPENDABLE SERVICE

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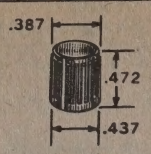

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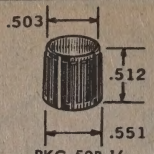

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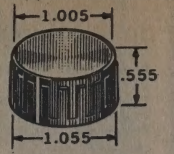
PKG-50B-1.8

PKG-70B-¼



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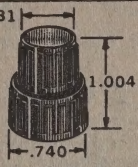

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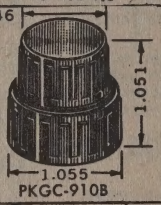

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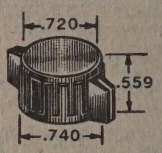

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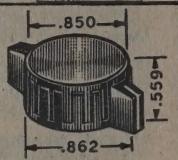

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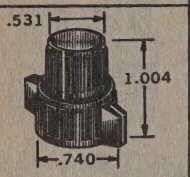

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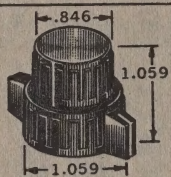

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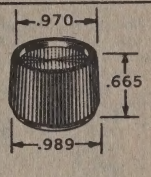

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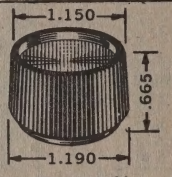
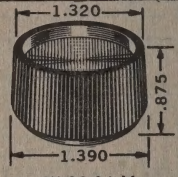


PH-14-17-¼



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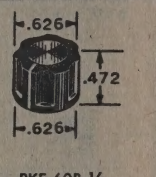

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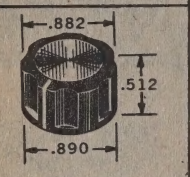

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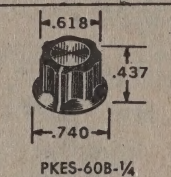

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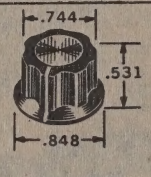
PKES-60B-⅛



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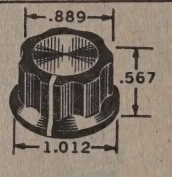

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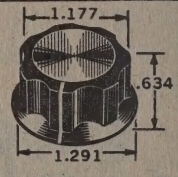

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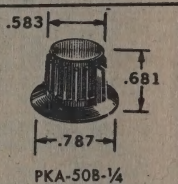

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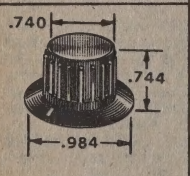

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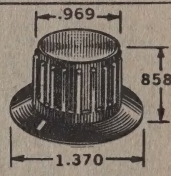

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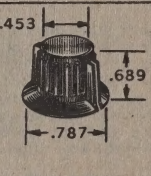

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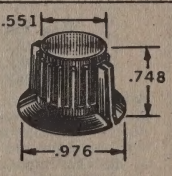

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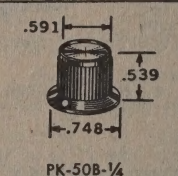
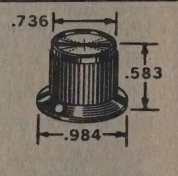


PK-50B-¼
PK-50B-⅛



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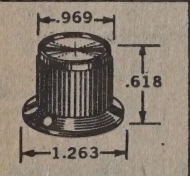

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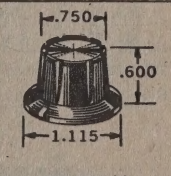

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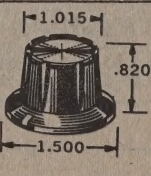

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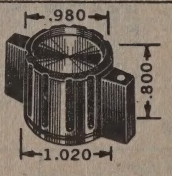

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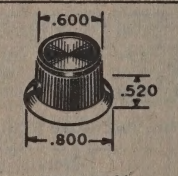

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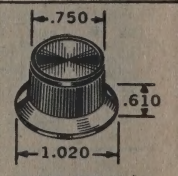

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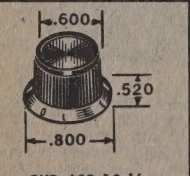
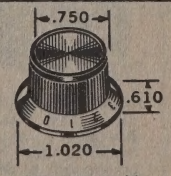


PKD-60B-10-⅛



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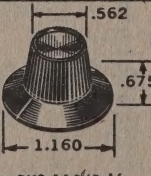

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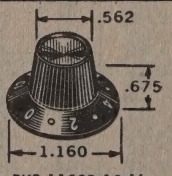

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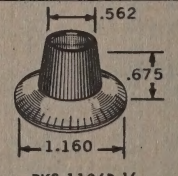

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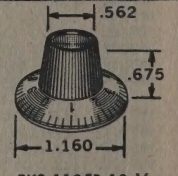

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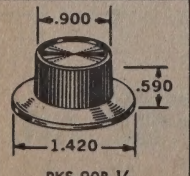

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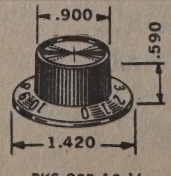

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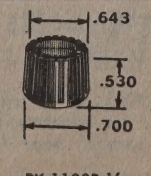

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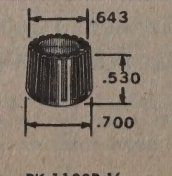
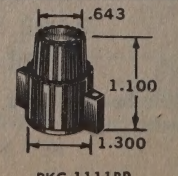


PK-1100R-⅛



PKC-1111BR

-10= Skirted, with numerals
R= Red
B= Black
⅛= ⅛" shaft
¼= ¼" shaft

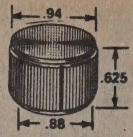
12

Aluminum Knobs

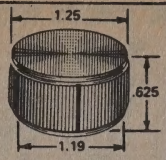
ALCO

KN-500-¼
KN-500-⅛

KN-700-¼

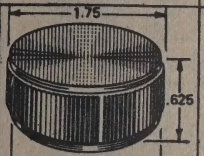


KN-900-¼

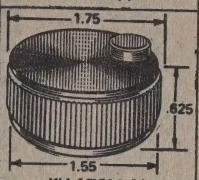


KN-1250-¼
KN-1251-¼

FOR ORDERING INFORMATION SEE PAGE 412



KN-1750-¼
KN-1751-¼

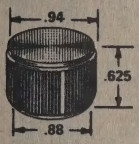


KN-1751S-¼

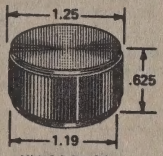
KN-500-¼
KN-500-⅛

KN-700-¼

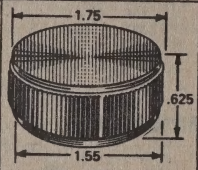
Specify Finish Code For Types Listed Below



KN-900-¼

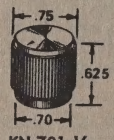


KN-1250-¼



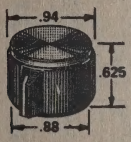
KN-1751-¼

KN-501-¼
KN-501-⅛



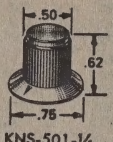
KN-701-¼
KN-701-⅛

KPN-500-¼

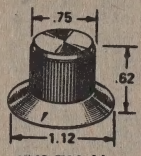


KPN-900-¼

KN-5700

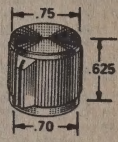


KNS-501-¼
KNS-501-⅛



KNS-701-¼

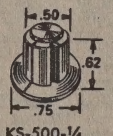
KPN-700-¼



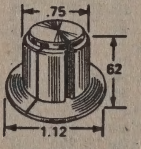
KPN-700-¼

KPN-900-¼

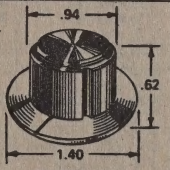
KB-500-¼
KB-500-⅛



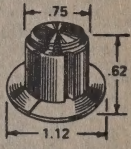
KS-500-¼
KS-500-⅛



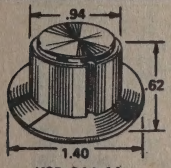
KS-700-¼



KS-900-¼

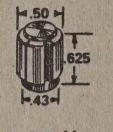


KSP-700-¼

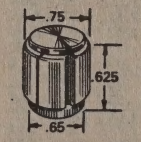


KSP-900-¼

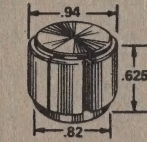
KC-500-⅛
KC-500-10-⅛



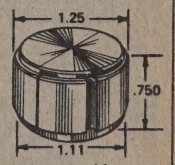
K-500-¼
K-500-⅛



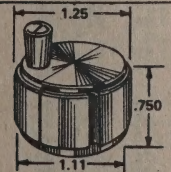
K-700-¼



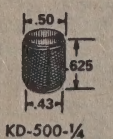
K-900-¼



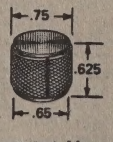
K-1250-¼



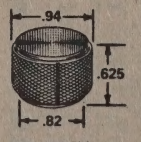
K-1251S-¼



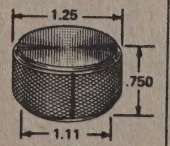
KD-500-¼
KD-500-⅛



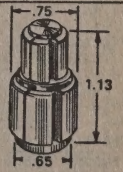
KD-700-¼



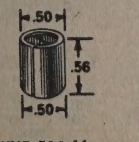
KD-900-¼



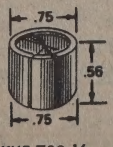
KD-1250-¼



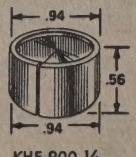
K-5700



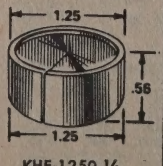
KHF-500-¼



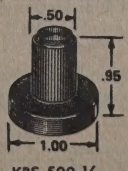
KHF-700-¼



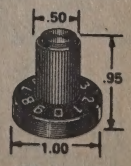
KHF-900-¼



KHF-1250-¼



KBS-500-¼



KBS-500-10-¼

12

Knobs

PLASTIC KNOBS WITH ALUMINUM INLAYS

Stock No.	Type* No.	Description	1-99	100-249	250-499	500-999
57F2368	PKG-40B-⅛	Straight Knurl	.45	.41	.38	.36
57F2370	PKG-50B-¼	Straight Knurl	.50	.45	.43	.40
57F2369	PKG-50B-⅛	Straight Knurl	.50	.45	.43	.40
57F2371	PKG-70B-¼	Straight Knurl	.55	.50	.47	.44
57F2372	PKG-100B-¼	Straight Knurl	.70	.63	.60	.56
57F2376	PKGC-570B†	Straight Knurl	1.00	.90	.85	.80
57F2375	PKGC-910B†	Straight Knurl	1.25	1.13	1.06	1.00
57F2374	PKGP-70B-¼	Strght. w/Pntr.	.70	.63	.60	.56
57F2377	PKGP-90B-¼	Strght. w/Pntr.	.75	.68	.64	.60
57F2378	PKGC-570BP†	Strgth. w/Pntr.	1.05	.95	.89	.84
57F2379	PKGC-910BP†	Strght. w/Pntr.	1.25	1.13	1.06	1.00
57F2350	PH-15-18¼	Tuning Knob	.30	.27	.26	.24
57F2351	PH-14-17¼	Tuning Knob	.35	.32	.30	.28
57F2352	PH-13-16¼	Tuning Knob	.40	.36	.34	.32
57F2343	PKE-60B-¼	Fluted Knob	.40	.36	.34	.32
57F2344	PKE-90B-¼	Fluted Knob	.50	.45	.43	.40
57F2346	PKES-60B-¼	Fluted w/Skirt	.45	.41	.38	.36
57F2345	PKES-60B-⅛	Fluted w/Skirt	.45	.41	.38	.36
57F2347	PKES-70B-¼	Fluted w/Skirt	.50	.45	.43	.40
57F2348	PKES-90B-¼	Fluted w/Skirt	.55	.50	.47	.44
57F2349	PKES-120B-¼	Fluted w/Skirt	.65	.59	.56	.52
57F2357	PKA-50B-¼	Ribbed w/Skirt	.35	.32	.30	.28
57F2356	PKA-50B-⅛	Ribbed w/Skirt	.35	.32	.30	.28
57F2358	PKA-70B-¼	Ribbed w/Skirt	.40	.36	.34	.32
57F2359	PKA-90B-¼	Ribbed w/Skirt	.60	.54	.51	.48
57F2373	PKAP-50B-¼	Ribbed w/Pntrs.	.45	.41	.38	.36
57F2360	PKAP-70B-¼	Ribbed w/Pntrs.	.50	.45	.43	.40
57F2334	PK-50B-¼	Strght. w/Skirt	.25	.23	.21	.20
57F2333	PK-50B-⅛	Strght. w/Skirt	.25	.23	.21	.20
57F2335	PK-70B-¼	Strght. w/Skirt	.30	.27	.26	.24
57F2336	PK-90B-¼	Strght. w/Skirt	.35	.32	.30	.28
57F2341	PKB-70B-¼	Fluted w/Skirt	.40	.36	.34	.32
57F2342	PKB-90B-¼	Fluted w/Skirt	.50	.45	.43	.40
57F2361	PKP-194B-¼	Bar Pointer	.65	.59	.56	.52
57F2337	PKD-60B-¼	Alum. Skirt	.50	.45	.43	.40
57F2338	PKD-70B-¼	Alum. Skirt	.55	.50	.47	.44
57F2339	PKD-60B-10⅛	0-10 Alum. Dial	.55	.50	.47	.44
57F2340	PKD-70B-10¼	0-10 Alum. Dial	.60	.54	.51	.48
57F2364	PKS-1104B-¼	Alum. Skirt	.45	.41	.38	.36
57F2365	PKS-1103B-10¼	0-10 Alum. Dial	.50	.45	.43	.40
57F2366	PKS-1106B-¼	Alum. Skirt	.50	.45	.43	.40
57F2367	PKS-1105B-10¼	0-10 Alum. Dial	.55	.50	.47	.44
57F2362	PKS-90B-¼	Alum. Skirt	.55	.50	.47	.44
57F2363	PKS-90B-10¼	0-10 Alum. Dial	.60	.54	.51	.48
57F2354	PK-1100B-¼	Control Knob	.35	.32	.30	.28
57F2353	PK-1100R-⅛	Control Knob	.40	.36	.34	.32
57F2355	PKC-1111BR†	Control Knob	1.00	.90	.85	.80

(*) R=red. B=black. ¼, ⅛=shaft dia./inches.

(†) Concentric-¼" shaft bottom, ⅛" shaft top.

ANODIZED ALUMINUM KNOBS

Stock No.	Type* No.	Description	1-99	100-249	250-499	500-999
61F1176	KN-500A-¼	Straight Knurl	.75	.68	.64	.60
57F2288	KN-500B-¼	Straight Knurl	.75	.68	.64	.60
61F1177	KN-500A-⅛	Straight Knurl	.75	.68	.64	.60
57F2287	KN-500B-⅛	Straight Knurl	.75	.68	.64	.60
61F1178	KN-700A-¼	Straight Knurl	.80	.72	.68	.64
57F2289	KN-700B-¼	Straight Knurl	.80	.72	.68	.64
61F1179	KN-900A-¼	Straight Knurl	.95	.85	.82	.76
57F2290	KN-900B-¼	Straight Knurl	.95	.85	.82	.76
61F1180	KN-1250A-¼	Straight Knurl	1.15	1.04	.98	.92
57F2292	KN-1250B-¼	Straight Knurl	1.15	1.04	.98	.92
57F2410	KN-1251A-¼	less hairline	1.10	.99	.94	.88
57F2411	KN-1251B-¼	less hairline	1.10	.99	.94	.88
57F2295	KN-1751AS-¼	less hairline	2.40	2.16	2.04	1.92
57F2296	KN-1751BS-¼	less hairline	2.40	2.16	2.04	1.92
61F1181	KN-500AB-¼	Straight Knurl	.95	.85	.82	.76
57F2412	KN-500BA-¼	Straight Knurl	.95	.85	.82	.76
57F2297	KN-500AB-⅛	Straight Knurl	.95	.85	.82	.76
57F2298	KN-500BA-⅛	Straight Knurl	.95	.85	.82	.76
61F1182	KN-700AB-¼	Straight Knurl	1.05	.95	.89	.84
57F2413	KN-700BA-¼	Straight Knurl	1.05	.95	.89	.84
61F1183	KN-900AB-¼	Straight Knurl	1.20	1.08	1.03	.96
57F2300	KN-900BA-¼	Straight Knurl	1.20	1.08	1.03	.96
57F2301	KN-1250AB-¼	Straight Knurl	1.40	1.26	1.20	1.12
57F2302	KN-1250BA-¼	Straight Knurl	1.40	1.26	1.20	1.12
57F2293	KN-1750A-¼	Straight Knurl	2.05	1.85	1.74	1.64
57F2294	KN-1750B-¼	Straight Knurl	2.05	1.85	1.74	1.64
57F2416	KN-1751ABS-¼	less hairline	2.70	2.43	2.30	2.16
57F2417	KN-1751BAS-¼	less hairline	2.70	2.43	2.30	2.16
57F2418	KN-501BA-¼	w/Arrowhead	.90	.81	.77	.72
57F2307	KN-501BA-⅛	w/Arrowhead	.90	.81	.77	.72
57F2309	KN-7015BA-¼	w/Arrowhead	.95	.85	.82	.76
57F2308	KN-701BA-⅛	w/Arrowhead	.95	.85	.82	.76
57F2313	KPN-500A-¼	w/Pointer	1.90	1.71	1.62	1.52
57F2314	KPN-500B-¼	w/Pointer	1.90	1.71	1.62	1.52
57F2319	KPN-900B-¼	w/Pointer	2.45	2.21	2.08	1.96
57F2305	KN-5700A†	Straight Knurl	1.70	1.53	1.45	1.36
57F2306	KN-5700B†	Straight Knurl	1.70	1.53	1.45	1.36
57F2311	KNS-501BA-¼	Skirt w/Arrowhd.	1.10	.99	.94	.88
57F2310	KNS-501BA-⅛	Skirt w/Arrowhd.	1.10	.99	.94	.88
57F2312	KNS-701BA-¼	Skirt w/Arrowhd.	1.25	1.13	1.06	1.00
57F2315	KPN-700A-¼	w/Pointer	2.05	1.85	1.74	1.64
57F2316	KPN-700B-¼	w/Pointer	2.05	1.85	1.74	1.64
57F2317	KPN-700AB-¼	w/Pointer	2.30	2.07	1.96	1.84
57F2318	KPN-700BA-¼	w/Pointer	2.30	2.07	1.96	1.84
57F2320	KPN-900BA-¼	w/Pointer	2.65	2.39	2.25	2.12
57F2322	KB-500A-¼	Contrl. w/Knurl	.85	.77	.73	.68
57F2419	KB-500B-¼	Contrl w/Knurl	.85	.77	.73	.68
57F2321	KB-500A-⅛	Contrl. w/Knurl	.85	.77	.73	.68
57F2323	KB-500B-⅛	Contrl. w/Knurl	.85	.77	.73	.68
61F920	KS-500A-¼	w/Skirt	.85	.77	.73	.68
61F921	KS-500B-¼	w/Skirt	.85	.77	.73	.68
57F2272	KS-500A-⅛	w/Skirt	.85	.77	.73	.68
57F2273	KS-500B-⅛	w/Skirt	.85	.77	.73	.68
61F941	KS-700A-¼	w/Skirt	.95	.85	.82	.76
61F942	KS-700B-¼	w/Skirt	.95	.85	.82	.76
57F2406	KS-900A-¼	w/Skirt	1.10	.99	.94	.88
57F2407	KS-900B-¼	w/Skirt	1.10	.99	.94	.88
61F922	KSP-700A-¼	w/Acrylic Skirt	.90	.81	.77	.72
61F923	KSP-700B-¼	w/Acrylic Skirt	.90	.81	.77	.72
61F943	KSP-900A-¼	w/Acrylic Skirt	1.05	.95	.89	.84
61F944	KSP-900B-¼	w/Acrylic Skirt	1.05	.95	.89	.84
57F2274	KC-500A-⅛	Miniature Knob	.90	.81	.77	.72
57F2420	KC-500B-⅛	Miniature Knob	.90	.81	.77	.72
57F2275	KC-500A-10⅛	Min. w/dial face	1.05	.95	.89	.84
57F2421	KC-500B-10⅛	Min. w/Dial face	1.05	.95	.89	.84
61F917	K-500A-¼	Industrial Use	.65	.59	.56	.52
61F918	K-500B-¼	Industrial Use	.65	.59	.56	.52
57F2265	K-500A-⅛	Industrial Use	.65	.59	.56	.52
57F2266	K-500B-⅛	Industrial Use	.65	.59	.56	.52
61F937	K-700A-¼	Industrial Use	.70	.63	.60	.56
61F938	K-700B-¼	Industrial Use	.70	.63	.60	.56
61F939	K-900A-¼	Industrial Use	.80	.72	.68	.64
61F940	K-900B-¼	Industrial Use	.80	.72	.68	.64
57F2267	K-1250A-¼	Industrial Use	1.05	.95	.89	.84
57F2268	K-1250B-¼	Industrial Use	1.05	.95	.89	.84
57F2269	K-1251AS-¼	less hairline	1.65	1.49	1.40	1.32
61F1171	KD-500A-¼	Diamond Knurl	.75	.68	.64	.60
57F2284	KD-500B-¼	Diamond Knurl	.75	.68	.64	.60
61F1172	KD-500A-⅛	Diamond Knurl	.75	.68	.64	.60
57F2423	KD-500B-⅛	Diamond Knurl	.75	.68	.64	.60
61F1173	KD-700A-¼	Diamond Knurl	.80	.72	.68	.64
57F2285	KD-700B-¼	Diamond Knurl	.80	.72	.68	.64
61F1174	KD-900A-¼	Diamond Knurl	.95	.85	.82	.76
57F2422	KD-900B-¼	Diamond Knurl	.95	.85	.82	.76
61F1175	KD-1250A-¼	Diamond Knurl	1.15	1.04	.98	.92
57F2286	KD-1250B-¼	Diamond Knurl	1.15	1.04	.98	.92
57F2270	K-5700A	Concentric	1.50	1.35	1.28	1.20
57F2271	K-5700B	Concentric	1.50	1.35	1.28	1.20
57F2276	KHF-500A-¼	HI-FI Knob	.65	.59	.56	.52
57F2277	KHF-500G-¼	HI-FI Knob	.65	.59	.56	.52
57F2278	KHF-700A-¼	HI-FI Knob	.70	.63	.60	.56
57F2279	KHF-700G-¼	HI-FI Knob	.70	.63	.60	.56
57F2280	KHF-900A-¼	HI-FI Knob	.80	.72	.68	.64
57F2281	KHF-900G-¼	HI-FI Knob	.80	.72	.68	.64
57F2282	KHF-1250A-¼	HI-FI Knob	1.05	.95	.89	.84
57F2283	KHF-1250G-¼	HI-FI Knob	1.05	.95	.89	.84
57F2324	KBS-500A-¼	w/Skirt	1.05	.95	.89	.84
57F2325	KBS-500A-10¼	w/Dial Face	1.30	1.17	1.11	1.04
57F2326	KBS-500B-10¼	w/Dial Face	1.30	1.17	1.11	1.04

(*) A=Aluminum, black indicator. B=Black, white ind. G=Gold, red ind. AB=Nat. body, black top and ind. BA=Black body, nat. top, white ind. (†) Concentric, ¼" shaft bottom, ⅛" top. S=spinner

For Vernier knobs. Eliminates backlash and play. Torque exceeds 30 oz. ins. with self-contained limitations.

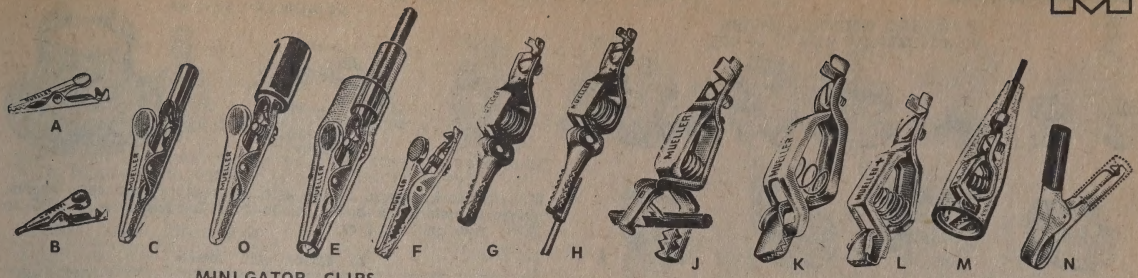
KNOB ACCESSORIES

Stock No.	Type No.	Description	1-99	100-249	250-499	500-999
57F2329	KR-1	¼" to ⅛" reducer	.15	.14	.13	.12
57F2330	KR-2	¼" to 3/16" reducer	.15	.14	.13	.12

PLANETARY DRIVE

Stock No.	Type No.	Description	1-99	100-249	250-499	500-999
57F2331	PD-10-1	10:1 reduction ⅜" L	4.95	4.46	4.20	3.96
57F2332	PD-10-2	10:1 reduction ⅞" L	4.95	4.46	4.20	3.96

Mueller Clips



MINI-GATOR CLIPS

Miniaturized. For No. 20 wire or smaller, provides quick, strong connection even in smallest areas. Penetrates corrosion. Easily removed. 1 3/32" length, 3/16" jaw spread. Shpg. wt. 1/4 lb. per 100.

Stock No.	Type	Fig.	Description	1-9	10-99	100-Up
28F528	30	A	Steel Cad. Plated	.09	.065	.055
28F529	30C	A	Copper	.11	.079	.068

MICRO-GATOR CLIPS

Designed for printed circuits and tight spots. Tip is no bigger than the head of a pin yet will stand up straight on the smallest terminals. Uses No. 20 or smaller wire. Length, 1 3/32". Jaw spread, 7/32". Tips, 1/32" across. Shpg. wt., 1/4 lb. per 100.

Stock No.	Type	Fig.	Description	1-9	10-99	100-Up
28F496	34	B	Cad. Plated Steel	.08	.052	.045
28F497	34C	B	Copper	.10	.068	.058

2" ALLIGATOR CLIPS

28F500	60	C	†Solder connection	.12	.083	.071
28F501	60-S	C	†Screw connection	.14	.095	.081
28F502	60-CS	C	*Screw connection	.20	.142	.122
28F464	60PR-2	C	Adapted for phone Tip or test prod. tip	.17	.12	.103

INSULATED ALLIGATOR CLIPS

Insulating sleeves on barrel, Fig. D or skin-tight flexible insulation, Fig. E. Barrel takes wire or banana plug. 2 1/8" long.

Stock No.	Type	Fig.	Description	1-9	10-99	100-Up
28F503	60-HS	D	†Screw conn. Red	.18	.127	.109
28F504	60-HS	D	†Screw conn. Black	.18	.127	.109
28F505	60CHS	D	*Screw conn. Red	.25	.173	.148
28F506	60CHS	D	*Screw conn. Black	.25	.173	.148

Clip 60 S with skin-tight two piece flexible vinyl cover.

28F533	63	E	†Screw conn. Black	.25	.176	.151
28F534	63	E	†Screw conn. Red	.25	.176	.151
28F535	63C	E	*Screw conn. Black	.30	.208	.178
28F536	63C	E	*Screw conn. Red	.30	.208	.178

2" INSULATION PIERCING ALLIGATOR CLIP

Like COS with Beryllium copper needle in one jaw for electrical contact thru insulation. Ideal for test leads, etc.

28F469	60NS	C	†Screw connection	.26	.184	.157

SERIES 70 CLIPS

Designed similar to No. 30 mini-gator clip but with dimensions of popular No. 60 alligator. In either *solid copper or †cadmium plated steel. Meshing teeth and slim jaws. 1 11/16" long.

Stock No.	Type	Fig.	Description	1-9	10-99	100-Up
28F530	70	F	† Solder Conn.	.09	.061	.052
28F531	70S	F	† Screw Conn.	.10	.073	.062
28F532	70CS	F	* Screw Conn.	.17	.12	.103

CROCODILE CLIPS

Nesting teeth give solid contact along entire length of jaw. Jaws open 5/16". Shpg. wt.: 1 1/2, 2 & 2 1/2 lbs. per 100. Sizes Fig. G—2 1/8"; Fig. H—2 5/8"; Fig. J—2 1/4".

Stock No.	Type	Fig.	Description	1-9	10-99	100-Up
28F507	85	G	†Screw connection	.14	.098	.084
28F508	85-C	G	*Screw connection	.27	.185	.159
28F509	85-T	H	†Tip Clip phone tip	.36	.25	.213
28F510	50-C	J	*Needle clip, screw conn.	.40	.28	.24
28F511	51-C	J	*Less needle, screw conn.	.28	.20	.17

"PEE WEE" CLIPS—Fig. L

Type 45. Steel, cadmium plated. A very small clip for general test purposes. Jaw teeth mesh. Shipping weight: 1 lb. per 100.
Type 45C. Solid copper, phosphor bronze spring, brass screw connection. No heating from hysteresis effect. 1 1/4 lbs. per 100.

Stock No.	Type	Amp.	Size	Open	1-9	10-99	100-Up
28F513	45†	5	1 1/2"	5/16"	.11	.077	.066
28F514	45C*	10	1 1/2"	1/4"	.20	.139	.119

KEY TO CLIP CONSTRUCTION MATERIAL
*solid copper **lead-plated steel †cadmium-plated steel

3-SIDED MESH TEETH CLIPS—Fig. K

Stock No.	Type	Amp.	Size	Open	1-9	10-99	100-Up
28F523	27†	20	2 7/16"	5/8"	.20	.14	.121
28F524	27C*	40	2 7/16"	5/8"	.34	.24	.204
28F515	48B†	10	2"	1/2"	.17	.12	.103
28F538	48C*	20	2"	1/2"	.25	.172	.147

HEAVY DUTY SOLID COPPER CLIPS

Type 25-C—Fig K 6 3/4 lbs. per 100 Type 21C—Fig. L is 18 lbs. per 100
Type 11C—Fig. L, 41 lbs. per 100 Type 33C—Fig. L 82 lbs. per 100.

Stock No.	Type	Amp.	Size	Open	1-9	10-99	100-Up
28F519	25C*	75	3"	3/4"	.57	.40	.344
28F520	21C*	100	4 1/2"	1 1/16"	1.47	1.03	.88
28F521	11C*	200	6"	1 5/8"	2.89	2.02	1.73
28F522	33C*	300	7 3/4"	2 1/4"	5.35	3.74	3.21

BATTERY CLIPS—Fig. L

Heavy duty lead plated clips especially designed for battery connection, or for general testing.

Stk. No.	Type	Amp.	Size	Open	1-9	10-99	100-Up
28F516	24A**	25	2 7/8"	3/4"	.34	.24	.203
28F517	21A**	50	4"	1 1/16"	.61	.43	.365
28F518	11A**	100	6"	1 5/8"	1.66	1.16	1.00

PLIER-TYPE BATTERY CLIPS

Bright copper plated with vinyl insulating sleeves and heavy duty plated springs.
Type 41. For fast chargers, battery booster cables.
Type 46. For small overnight charges, and battery power pickup.

Stk. No.	Type	Color	Fig.	Amp.	Size	Open	NET
28F468	46A	Red	N	50	3"	1 1/8"	.20
28F467	46A	Black	N	50	3"	1 1/8"	.20
28F465	41A	Red	N	100	6"	1 9/16"	.70
28F466	41A	Black	N	100	6"	1 9/16"	.70

FLEXIBLE INSULATORS FOR CLIPS LISTED ABOVE

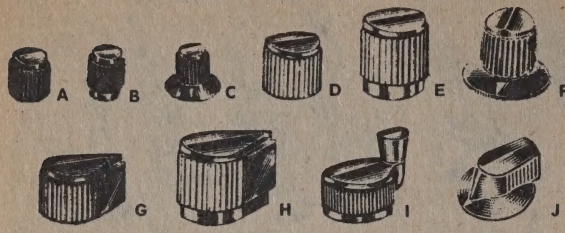
Fig. M-Protect against electric shock and short circuit. All insulators made of vinyl. Insulators available also in white blue, yellow and green on special order. Add 10% to price.

Stock No.	Type	Color	For Clip	1-9	10-99	100-Up
28F476	47	Red	45, 45C	.08	.057	.049
28F477	47	Blk	45, 45C	.08	.057	.049
28F478	49	Red	48B-C, 50-51C	.15	.104	.089
28F479	47	Blk	48B-C, 50-51C	.15	.104	.089
28F480	35	Red	33C	3.48	2.43	2.09
28F481	35	Blk	33C	3.48	2.43	2.09
28F482	26	Red	24A, 25, 25C	.33	.23	.20
28F483	26	Blk	24A, 25, 25C	.33	.23	.20
28F484	23	Red	21A-21C	.48	.34	.29
28F485	23	Blk	21A-21C	.48	.34	.29
28F472	32	Red	30, 30C	.05	.033	.029
28F473	32	Blk	30, 30C	.05	.033	.029
28F498	36	Blk	34, 34C	.05	.033	.029
28F499	36	Red	34, 34C	.05	.033	.029
28F474	72	Red	70, 70S, 70CS	.06	.044	.037
28F475	72	Blk	70, 70S, 70CS	.06	.044	.037
28F486	29	Red	27, 27C	.20	.142	.122
28F487	29	Blk	27, 27C	.20	.142	122
28F488	13	Red	11C, 11A	.97	.68	.58
28F489	13	Blk	11C, 11A	.97	.68	.58
28F490	87	Red	85, 85C, 85T	.08	.057	.049
28F491	87	Blk	85, 85C, 85T	.08	.057	.049
28F492	62	Red	60, 60CS, 60S	.06	.044	.037
28F493	62	Blk	60, 60CS, 60S	.06	.044	.037

RAYTHEON

Control Knobs

STANDARD CONTROL KNOBS MEETS MS91528 REV C. SPECS.



Molded plastic knobs fitted with an aluminum insert. Two Allen head set screws fasten to the control shaft. * after type number indicates mirror finish for commercial equipment. G after type number indicates a non-reflecting "matte" finish, which conforms to military specifications. Ave. shpg. wt. 3 oz.

50 Series—.45" Dia. For ⅛" shafts

Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
26F194	50-1-1*	Unskirted knob	A	.60	.51	.48
26F195	50-1-1G	Unskirted knob	A	.67	.57	.54
26F196	50-2-1*	Skirted knob	B	.70	.60	.56
26F197	50-2-1G	Skirted knob	B	.77	.65	.62
26F198	50-3-1*	Dil. Skt. Rd. w/pt.	C	.79	.67	.63
26F199	50-3-1G	Dil. Skt. Rd. w/pt.	C	.81	.69	.65

70 Series—.72" Dia. ⅛" Shaft Knobs

26F339	70-1-1*	Round	D	.82	.70	.66
26F341	70-1-1G	Round	D	.89	.76	.71
26F342	70-2-1G	Skirted Round	E	.98	.83	.79
26F343	70-3-1G	Dil. Skt. Rd. w/pt.	F	1.08	.92	.86
26F344	70-5-1*	Skirted Pointer	H	.92	.78	.73
26F345	70-4-1G	Pointer	G	.89	.76	.71
26F346	70-5-1G	Skirted Pointer	H	.98	.83	.79

70 Series—.72" Dia. For ¼" shafts

26F150	70-1-2*	Round	D	.83	.70	.67
26F151	70-1-2G	Round	D	.90	.77	.71
26F152	70-2-2*	Skirted Round	E	.86	.73	.69
26F153	70-2-2G	Skirted Round	E	.93	.79	.74
26F154	70-3-2*	Dil. Skt. Rd. w/pt.	F	1.04	.89	.83
26F155	70-3-2G	Dil. Skt. Rd. w/pt.	F	1.03	.88	.82
26F156	70-4-2*	Pointer	G	.77	.65	.62
26F157	70-4-2G	Pointer	G	.83	.71	.66
26F158	70-5-2*	Skirted Pointer	H	.86	.73	.69
26F159	70-5-2G	Skirted Pointer	H	.93	.79	.74
26F673	70-8WL-2	Dil. Skt. Bar Pt.	J	1.15	.98	.92
26F674	70-8WL-2G	Dil. Skt. Bar Pt.	J	1.22	1.04	.98

90 Series—.928" Dia. For ¼" shafts

26F160	90-1-2*	Round	D	.81	.69	.65
26F161	90-1-2G	Round	D	.88	.75	.70
26F162	90-2-2*	Skirted Round	E	.91	.77	.73
26F163	90-2-2G	Skirted Round	E	.97	.82	.78
26F164	90-3-2*	Dil. Skt. Rd. w/pt.	F	1.00	.85	.80
26F165	90-3-2G	Dil. Skt. Rd. w/pt.	F	1.07	.91	.86
26F166	90-4-2*	Pointer	G	.87	.74	.70
26F167	90-4-2G	Pointer	G	.93	.79	.74
26F168	90-5-2*	Skirted Pointer	H	97	.82	.78
26F169	90-5-2G	Skirted Pointer	H	1.03	.88	.82

125 Series—1.269" Dia. For ¼" shafts

26F170	125-1-2	Round	D	.86	.73	.69
26F171	125-1-2G	Round	D	.93	.79	.74
26F172	125-2-2*	Skirted Round	E	.95	.81	.76
26F173	125-2-2G	Skirted Round	E	1.02	.86	.81
26F174	125-3-2*	Dil. Skt. Rd. w/pt.	F	1.05	.89	.84
26F175	125-3-2G	Dil. Skt. Rd. w/pt.	F	1.12	.95	.90
26F176	125-6-2*	Crank	I	2.50	2.13	2.00
26F177	125-6-2G	Crank	I	2.53	2.16	2.02

125 Series—2.516" Dia. For ¼" shafts—No skirt

26F338	125-7-2G	Bar Pointer	...	1.42	1.21	1.14

175 Series—1.772" Dia. For ¼" shafts

26F178	175-1-2*	Round	D	1.21	1.03	.97
26F181	175-2-2G	Skirted Round	E	1.37	1.17	1.10
26F182	175-3-2*	Dil. Skt. Rd. w/pt.	E	1.45	1.23	1.16
26F183	175-3-2G	Dil. Skt. Rd. w/pt.	F	1.52	1.30	1.22
26F184	175-6-2*	Crank	I	2.71	2.30	2.17
26F185	175-6-2G	Crank	I	2.79	2.37	2.22

225 Series—2.272" Dia. For ¼" shafts

25F186	225-1-2*	Round	D	1.39	1.19	1.11
26F187	225-1-2G	Round	D	1.47	1.25	1.18
26F190	225-3-2*	Dil. Skt. Rd. w/pt.	F	1.61	1.37	1.29
26F191	225-3-2G	Dil. Skt. Rd. w/pt.	F	1.70	1.44	1.36
26F192	225-6-2*	Crank	I	2.82	2.40	2.26
26F193	225-6-2G	Crank	I	2.88	2.45	2.31

"DESIGNER" SERIES

Molded black plastic knobs with spun aluminum cap inserts. Knobs withstand 25 in/lbs. of torque. Temperature: —55°C to 125°C. Ave. shp. wt. 3 oz.

70 Series—.252 Shafts

Stk. No.	Type	Description	1-99	100-199	200-499
26F464	DS 70-1BD-2	Rd. No Skt. Dot	.93	.86	.81
26F465	DS 70-1BD-2G	Rd. No Skt. Dot	.95	.87	.83
26F466	DS 70-1-2	Rd. No Skt.	.84	.78	.73
26F467	DS 70-1-2G	Rd. No Skt.	.86	.80	.76
26F468	DS 70-2-2	Rd. Pln. Skt.	.98	.91	.85
26F469	DS 70-2-2G	Rd. Pln. Skt.	1.03	.94	.90
26F470	DS 70-2BD-2	Rd. Pln. Skt. Dot	1.17	1.07	1.02
26F471	DS 70-2BD-2G	Rd. Pln. Skt. Dot	1.19	1.09	1.04
26F472	DS 70-3-2	Dl. Skt. Rd. w/pt.	1.00	.92	.87
26F473	DS 70-3-2G	DL. Skt. Rd. w/pt.	1.03	.95	90
26F474	DS 70-4-2	Pt. No Skt.		.84	.80
26F475	DS 70-4-2G	Pt. No Skt.		.87	.83
26F477	DS 70-5-2G	Pt. Pln. Skt.	1.07	.98	.93

70 Series—.190 Shafts

26F478	DS 70-1-3	Rd. No Skt.	.95	.87	.83
26F479	DS 70-1-3G	Rd. No Skt.	.97	.90	.84

90 Series—.252 Shafts

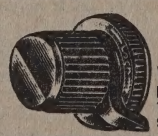
26F484	DS 90-1-2	Rd. No Skt.	.95	.87	.83
26F485	DS 90-1-2G	Rd. No Skt.	.97	.90	.84
26F486	DS 90-1BD-2	Rd. No Skt. Dot	1.10	1.01	.96
26F487	DS 90-1BD-2G	Rd. No Skt. Dot.	1.15	1.06	1.00
26F488	DS 90-2-2	Rd. Pln. Skt.	1.17	1.07	1.02
26F489	DS 90-2-2G	Rd. Pln. Skt.	1.19	1.09	1.04
26F490	DS 90-2BD-2	Rd. Pln. Skt. Dot	1.19	1.09	1.04
26F491	DS 90-2BD-2G	Rd. Pln. Skt. Dot	1.30	1.19	1.12
26F492	DS 90-3-2	Rd. Dl. Skt. w/pt.	1.13	1.05	.98
26F493	DS 90-3-2G	Dl. Skt. Rd. w/pt.	1.16	1.06	1.00
26F494	DS 90-4-2	Pt. No Skt.	1.11	1.03	.97
26F495	DS 90-4-2G	Pt. No Skt.	1.13	1.05	.98
26F496	DS 90-5-2	Pt. Pln. Skt.	1.21	1.11	1.05
26F497	DS 90-5-2G	Pt. Pln. Skt.	1.24	1.14	1.08

90 Series—.190 Shafts

26F498	DS 90-1-3	Rd. No. Skt.	1.17	1.07	1.02

125 Series—.252 Shafts

26F444	DS 125-1-2	Rd. No. Skt.	1.17	1.07	1.02
26F445	DS 125-1-2G	Rd. No. Skt.	1.19	1.09	1.04
26F446	DS 125-2-2	Rd. Pln. Skt.	1.27	1.18	1.11
26F447	DS 125-2-2G	Rd. Pln. Skt.	1.31	1.20	1.13
26F448	DS 125-3-2	Dl. Skt. Rd. w/pt.	1.35	1.24	1.18
26F449	DS 125-3-2G	Dl. Skt. Rd. w/pt.	1.39	1.27	1.20



SPECIAL POINTER KNOB

With knob lock listed below. Knob features pointer arm which curves over skirt at lock toward chassis to increase accuracy. For ¼" shafts. Shpg. wt. 2 oz.

26F302	70-1LK-2	Mirror Finish	1.02	.87	.82
26F303	70-1LK-2G	Matte Finish	1.09	.93	.87
26F307	125-1LK-2G	Matte Finish	1.34	1.13	1.07

KNOB LOCKS

For standard control knobs. Holds precise or critical control settings under shock or vibration. Use with 70, 90, and 125 round standard control knobs. Mirror finish except * Matte. * -32 thread. Shpg. wt. 2 oz.

Stk. No.	Type	Series & Dia.	1-99	100-199	200 499	500-999
26F308	KL701	Series: 70 1" dia.	.95	.81	.76	.67
28F309	KL701G*	Series: 70 1" dia.	1.02	.87	.82	.81
28F310	KL901	Series: 90 1 1/16" dia.	1.09	.93	.87	.76
26F310	KL901G*	Series: 90 1 1/16" dia.	1.15	.98	.92	.81
26F311	KL1251	Series: 125 1 5/8" dia.	1.12	.95	.90	.78
26F312	KL1251G*	Series: 125 1 5/8" dia.	1.19	1.01	.95	.83

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Control Knobs, Jacks, Hardware

RAYTHEON

DESIGNER SERIES 400 CONTROL KNOBS

High impact acrylonitrile-styrene (ABS), with lustreless black, finish. Supplied with metal bushings and two set screws.

407 SERIES—⅛" SHAFTS—.720 DIA.

Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
26F671	407R1K1	Round	A	.45	.39	.37
26F672	407D1K1	Round dial skirted	C	.56	.48	.45

407 SERIES—¼" SHAFTS—.720 DIA.

26F675	407R2K1	Round	A	.42	.36	.33
26F676	407D2K1	Round dial skirted	C	.52	.44	.41
26F678	407PD2K1	Bar pointer dial skirted	I	.57	.49	.45

409 SERIES—⅛" SHAFTS—.875 DIA.

26F679	409R1K1	Round	A	.45	.39	.37

409 SERIES-¼" SHAFTS-.875 CIA.

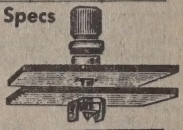
26F682	409R2K1	Round	A	.48	.40	.38
26F683	409D2K1	Round dial skirted	C	.55	.46	.44
26F685	409P2K1	Bar pointer	G	.52	.44	.41
26F687	409PD2K1	Bar pointer dial skirted	I	.63	.53	.50

PANEL BRACKETS

Formed from .090" cold-rolled carbon steel, the bracket is available in four sizes to accommodate panels ranging in width from 1⅜-3 7/16". A pair of brackets will mount either one or two panels. Meet the requirements of MIL-E-16400A (ships). MIL-E-5400 and MIL-P-11268B (Sig. C) Cadmium plated, Shpg. wt., 3 oz.

Stk. No.	Type	Wide Range	1-99	100-199	200-499	500-999
26F326	MB-125	1⅜-1 15/16	.28	.24	.22	.21
26F317	MB-126	2-2 7/16	.29	.25	.23	.22
26F318	MB-127	2½-2 13/16	.30	.26	.24	.23
26F319	MB-128	3-3 7/16	.32	.27	.26	.24

THUMBSCREWS. . .Meet MIL 16400 Specs



Captive hardware; stainless steel fastening. A slotted head thumb screw, insert bushing, captivated floating nut, gasket and gasket retainer make up the assembly. Meet MIL-E-16400 (ships) specs.

Stock No.	Type	Thread Size	L	1-499	500-999	1000-2499
26F351	CS-131	¼-20NC-2	1"	.82	.70	.66
26F362	CS-100	8-32NC-2	⅝	.59	.51	.48
26F364	CS-102	8-32NC-2	⅞	.59	.51	.48
26F368	CS-122	10-32NC-2	1"	.65	.56	.53

PANEL INSERT

Thread Size: 5/16-18NC-2

Stock No.	Cat. No.	Thread Size	For Panels	1-499	500-999	1000-2499
26F389	PIN-100	8-32NC-2	.048-.072	.24	.21	.19
26F390	PIN-101	8-32NC-2	.074-.109			
26F391	PIN-102	8-32NC-2	.119-.156			

Thread Size: 10-32NC-2

26F395	PIN122	10-32NC-2	.119-.156	.27	.23	.22
26F397	PIN-124	10-32NC-2	.250			

NUT BRACKET

Stk. No.	Type	Thread Size	1-499	500-999	100-2499
26F369	NB-100	8-32NC-2	.11	.10	.09
26F371	NB-102	10-32NC-2	.13	.12	.11
26F372	NB-103	¼-10NC-2	.19	.17	.16

GASKETS

Stk. No.	Type	Screw Size	1-499 Per 50	500-Up Per 50
26F399	GS101	¼-20	1.10	.85
26F401	GS103	8-32		

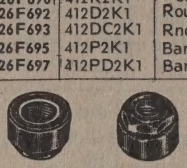
GASKET RETAINER

26F402	GSR-115	10-24 or 10-32	3.80	2.70
26F405	GSR-118	8-32		

412 SERIES—¼" SHAFTS—1.25 DIA.

Stk. No.	Type	Description	Fig.	1-99	100-199	200-499
26F690	412R2K1	Round	A	.46	.40	.37
26F692	412D2K1	Round dial skirted	C	.57	.49	.45
26F693	412DC2K1	Rnd. dial sktd. w/crank	D	.69	.59	.55
26F695	412P2K1	Bar pointer	G	.58	.50	.46
26F697	412PD2K1	Bar pointer dial skirted	I	.69	.58	.56

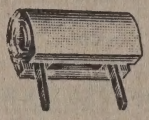
SHAFT LOCKS



Mounted on the control bushing in place of the nut and washer, the shaft lock fits snugly around the control shaft, providing a constant drag which resists rotation caused by accidental contact, vibrations, etc., but which permits smooth adjustment. Shpg. wt. 1 oz.

Stock No.	Type	Shaft	Thread NEF2	1-99	100-199	200-499	500-999
26F314	SL-100B	¼"	3-32	.36	.30	.28	.26
26F937	SL-101R	¼"	.....	.38	.32	.30	.28
26F315	SL-105B	⅛"	¼-32	.27	.24	.22	.19
26F938	SL-110B	¼"	.....	.24	.21	.19	.17

RIGHT ANGLE PRINTED CIRCUIT TEST JACKS



Model MC123. Single .080" contact for use with closely spaced painted circuit boards. .3" mtg. centers. Rated: 5 amps. Oper. volts: 2000 RMS @ sea level. All metal surfaces are heavy gold over silver plating. Size: .231 x .48 x .449" Shpg. wt., 3 oz.

Stock No.	Type	Color	1-249	250-499	500-999	1000-2499
26F948	TJ201Y	Yellow	.20	.17	.16	.14
26F949	TJ202BR	Brown				
26F992	TJ203R	Red				
26F993	TJ2040R	Orange				
26F994	TJ205BL	Black				
26F995	TJ206GN	Green				
26F996	TJ207MB	Marine Bl.				
26F997	TJ208W	White				
26F998	TJ209GY	Gray				
26F999	TJ210V	Violet				
26F292	TJ253R	Red				
26F294	TJ255BL	Black				
26F296	TJ257MB	Blue				
26F297	TJ258W	White				

PRINTED CIRCUIT TEST JACKS

Model MC121. For dip board application. Simple mounting on any circuit panel up to ¼" thick. Accepts any standard test prod. Temperature cycling from —65°C to +85°C. Beryllium-Copper spring pin contact. 95% Relative humidity @ 40°C for 250 hrs. Gold plated contact sleeve. Maximum L .546. Maximum insulator dia. .228.

Stock No.	Type	Color	1-249	250-499	500-999	1000-2499
26F928	TJ300N	Natural	.20	.17	.16	.14
26F929	TJ301Y	Yellow				
26F930	TJ302B	Brown				
26F931	TJ303R	Red				
26F933	TJ305BL	Black				
26F934	TJ306GN	Green				
26F935	TJ307MB	Marine Bl				
26F936	TJ308W	White				

You Can Depend on NEWARK For Everything in Industrial Electronics

SPC Technology-Voltrex Shrink Tubing

UL E52331

A complete line of heat shrinkable tubing products from SPC Technology. UL Recognized for all electronic/electrical use. Meets military specifications for MIL-I-23053B, MIL-I-7444, AMS-3632, MIL-I-631D.

QUICK-SCAN PROPERTY CHART

	PROPERTY	POLYOLEFIN FLEXIBLE	POLYOLEFIN SEMI-RIGID	PVC-105 NON-IRRADIATED	KYNAR POLYVINYLIDENE	TEFLON
ELECTRICAL	DIELECTRIC STRENGTH	1300 VOLTS/MIL	1000 VOLTS/MIL	1000 VOLTS/MIL	1500 VOLTS/MIL	600 VOLTS/MIL
	DIELECTRIC CONSTANT	2.5 @ 1 MHZ MAX	2.5 @ 1 MHZ MAX	1.76 @ 1 KHZ	5.5 @ 1 MHZ MAX	2.1 @ 1 MHZ
	VOLUME RESISTIVITY	$1x10^{15}$ Ω-CM MIN	$3.25x10^{15}$ Ω-CM MIN	10^{13} Ω-CM MIN	$8.7x10^{13}$ Ω-CM MIN	$>10^{18}$ Ω-CM
PHYSICAL	SHRINKAGE —DIAMETRICAL	50%	50%	50%*	50%	30-50%*
	SHRINKAGE —LONGITUDINAL	5%	5%	20%*	10%	NONE*
	TENSILE STRENGTH	2400 PSI MIN	3200 PSI MIN	2800 PSI MIN	7900 PSI MIN	2500-6000 PSI
	SPECIFIC GRAVITY	1.20 GM/CM² MAX	1.35 GM/CM² MAX	1.63 GM/CM²	1.6 GM/CM² MAX	2.1-2.2 GM/CM²
	OPERATING TEMPERATURE	−67°F TO +275°F	−67°F TO +275°F	−4°F TO +221°F	−67°F TO +347°F	−275°F TO +500°F
	SHRINK TEMPERATURE	250°F	275°F	200°F	347°F MIN 462°F to 662°F Recom.	621
	ABRASION RESISTANCE	GOOD	GOOD	EXCELLENT	EXCELLENT	EXCELLENT
CHEMICAL	WATER ABSORPTION	0.2%	0.12%	NIL	0.2%	<0.01%
	FLAMMABILITY	Colors Are Self-Extinguish Clear Is Flammable	Colors Are Self-Extinguish Clear Is Flammable	5 Sec. Flame Resistance (MIL-I-631D)	SELF-EXTINGUISHING	NON
	FUNGUS RESISTANCE	EXCELLENT	EXCELLENT	O (MIL-I-631D)	EXCELLENT	EXCELLENT
	OIL RESISTANCE	GOOD	GOOD	95% RET (ASTM D-922)	EXCELLENT	EXCELLENT
	ACID RESISTANCE	EXCELLENT	EXELLENT	GENERALLY RESISTANT TO MILD ACIDS & ALKALINES, SOLVENTS, ESTERS, WAXES, AND ALCOHOL. TRIAL OPERATION IS RECOMMENDED	EXCELLENT	EXCELLENT
	ALKALI RESISTANCE	EXCELLENT	EXCELLENT		EXCELLENT	EXCELLENT
	SOLVENT RESISTANCE	EXCELLENT	EXCELLENT		EXCELLENT	EXCELLENT
	WEATHERABILITY	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

*Not Applicable For Insulating Tubing.

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VOLTREX POLYOLEFIN SHRINK TUBING—FLEXIBLE

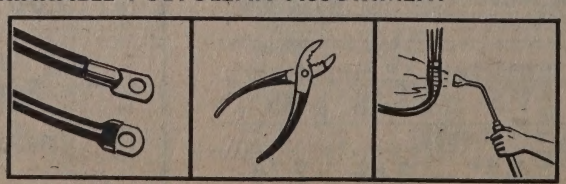
Conforms to MIL-I-23053 B/5. An excellent general purpose heat-shrinkable tubing. Used for jacketing, metal covering, identification, etc. Has excellent resistance to fungus, acid, alkali, solvents. Weatherability is excellent. Dielectric strength, 1300 volts/mil; tensile strength, 2400 psi min. Operating temperature, −67°F to +275°F; shrinkage temp, 250°F. Colors: 4-Ft. lengths—Black and Clear; 6-in. lengths—Black, White, Red, Yellow, Blue and Clear

Size	Usable ID Range	Recovered Nom.-Wall Thick.	4-Foot Lengths Stock No.	No. of Lengths	Total Footage	PER BOX 1-4	5-9	10-24	25-49	6-Inch Lengths Stock No.	No. of Lengths	Total Footage	PER BOX
3/64"	.023 to .042	.016	37N398	25	100 ft.	15.45	13.10	11.40	11.40	37N1165	40	20 ft.	4.12
1/16"	.031 to .056	.017	37N399	25	100 ft.	16.35	13.80	12.00	12.00	37N1166	36	18 ft.	4.12
3/32"	.046 to .083	.020	37N401	25	100 ft.	18.90	15.95	13.90	13.90	37N1168	32	16 ft.	4.12
1/8"	.062 to .112	.020	37N403	25	100 ft.	20.05	17.00	14.85	14.85	37N1170	28	14 ft.	4.12
3/16"	.093 to .168	.020	37N404	25	100 ft.	24.50	20.70	18.10	18.10	37N1171	24	12 ft.	4.12
1/4"	.125 to .225	.025	37N406	25	100 ft.	30.90	26.00	22.70	22.70	37N1173	20	10 ft.	4.12
3/8"	.187 to .338	.025	37N407	25	100 ft.	34.25	28.85	25.15	25.15	37N1174	16	8 ft.	4.12
1/2"	.250 to .450	.025	37N409	5	20 ft.	7.73	6.55	6.55	5.71	37N1176	14	7 ft.	4.12
3/4"	.375 to .675	.030	37N411	5	20 ft.	10.36	8.74	8.74	7.62	37N1178	12	6 ft.	4.12
1"	.500 to .900	.035	37N413	5	20 ft.	14.56	12.23	12.23	10.66	37N1180	8	4 ft.	4.12
1 1/2"	.750 to 1.35	.040	37N397	5	20 ft.	23.03	19.25	19.25	16.78	37N194	5	2.5 ft.	4.12
2"	1.00 to 1.80	.045	37N395	5	20 ft.	31.72	26.58	26.58	23.17	37N195	3	1.5 ft.	4.12

SHRINKABLE POLYOLEFIN ASSORTMENT

Packaged assortments of 6" lengths of flexible polyolefin tubing in various sizes and colors. Each length has diameter stamped on it for easy identification.

Stock No.	Tubing Size	Lengths Per Box	Net
37N1182	3/64x3/16	30	4.61
37N1183	1/4-3/4	16	9.21
37N1184	1"-4"	10	8.05



- **Ideal for Research and Development**
- **Diameter Stamped on Each Length**
- **For Terminal Connections, Splices, Tool Handles**

SPC Technology—Voltrex Shrink Tubing

UL E52331

VOLTREX POLYOLEFIN SHRINK TUBING—SEMI-RIGID

Conforms to MIL-I-23053B/6. A tough, heat shrinkable tubing with a high mechanical strength. This semi-rigid polyolefin shrink tubing can be used for splice covering, termination stress relief, or any area requiring additional strength. Has excellent resistance to fungus, acid, alkali and solvents. Weatherability is excellent. Color: coded according to size.

Size	Color	Usable ID Range	Recovered Nominal-Wall Thickness	4-Foot Lengths			Per Box			6-Inch Lengths			Per Box
				Stock No.	No. of Lengths	Total Footage	1-4	5-9	10-49	Stock No.	No. of Lengths	Total Footage	
3/64"	Yellow	.023 to .042	.016	37N280	25	100 ft.	16.60	13.75	12.00	37N260	40	20 ft.	4.68
1/16"	White	.031 to .056	.017	37N281	25	100 ft.	17.40	14.45	12.60	37N261	36	18 ft.	4.68
3/32"	Blue	.046 to .083	.020	37N282	25	100 ft.	20.15	16.75	14.60	37N262	32	16 ft.	4.68
1/8"	Red	.062 to .112	.020	37N283	25	100 ft.	21.55	17.85	15.55	37N263	28	14 ft.	4.68
3/16"	Clear	.093 to .168	.020	37N284	25	100 ft.	26.25	21.75	19.00	37N264	24	12 ft.	4.68
1/4"	Slate	.125 to .225	.025	37N285	25	100 ft.	32.85	27.25	23.80	37N265	20	10 ft.	4.68
3/8"	Brown	.187 to .338	.025	37N286	25	100 ft.	36.40	30.25	26.40	37N266	16	8 ft.	4.68

VOLTREX POLYOLEFIN MOLDED SHRINK CAPS

- Semi-rigid, Irradiated Polyolefin
- Abrasion Resistant and Flame Resistant
- Caps Shrink up to 50%
- Extremely Tough and Tight Fitting

Size	Stock No.	Color	Usable ID Range	Recovered Nom. Length	Recovered Nom.-Wall Thick.	Per Pkg. of 100 Pieces
1/16"	37N1423	White	.031 to .056	3/4	0.015	4.19
1/8"	37N1424	Red	.062 to .112	1	0.020	5.25
1/4"	37N1425	Slate	.125 to .225	1 1/8	0.025	7.09
3/8"	37N1427	Brown	.187 to .338	1 5/16	0.035	8.93
1/2"	37N1426	Black	.250 to .450	1 1/2	0.040	20.73

Excellent for quickly whipping the ends of all types of marine and industrial ropes. Fast, easy—permanently seal wire and cable terminations. Color coded caps shrink up to 50% and tightly seal the ends of one or more wires.

VOLTREX PVC-105 SHRINK TUBING—NON-IRRADIATED POLYVINYLCHLORIDE

Conforms to MIL-I-631D and MIL-I-7444B. Flexible and abrasion resistant heat shrinkable tubing. Ideally suited for insulation and jacketing of cables, bus bars, terminals, etc. Voltrex non-irradiated PVC has several distinct advantages over irradiated PVC: 125°F lower shrink temperature—less heat shock; 30% shorter shrink time—increased production; 25% greater dielectric strength—higher voltages; 10% higher tensile strength—greater tear strength; negligible water absorption for less current leakage. Weatherability is excellent. Dielectric strength, 1000 volts/mil; tensile strength, 2800 psi min. Operating temperature is −4°F to +221°F. For a more complete listing of PVC-105 non-irradiated heat shrinkable tube properties see quick-scan chart on preceding page. Air spooling is standard in all sizes up to 3/8". Tubing is stocked in spools as listed. Tubing cut to size and other spool sizes available on special order. Color: Black. Other colors available to order.

Size	Usable ID Range	Recovered Nom. Wall Thick.	Stock No.	Spool Size	Suf.	Per Spool							Spool Size	Suf.	Per Spool	Spool Size	Suf.	Per Spool	25' Sp. Suf—WC Per Sp.
						Ea.	2	3-4	5-9	10-19	20-24	25-49							
3/64"	.023 to .042	.020	37N249	1000'	WM		72.07		66.74				500'	WF	41.64	100'	WA	8.32	2.13
1/16"	.031 to .056	.020	37N250	1000'	WM		76.29		70.88				500'	WF	44.00	100'	WA	8.79	2.25
3/32"	.046 to .083	.020	37N251	1000'	WM	88.03	80.94						200'	WD	20.25	100'	WA	10.10	2.54
1/8"	.062 to .112	.020	37N252	1000'	WM	103.95	96.30						200'	WD	22.92	100'	WA	11.46	2.89
3/16"	.093 to .168	.020	37N253	1000'	WM	126.39	117.56						200'	WD	27.88	100'	WA	13.94	3.50
1/4"	.125 to .225	.025	37N254	1000'	WM	160.09	149.46						200'	WD	35.32	100'	WA	17.66	4.40
3/8"	.187 to .338	.025	37N255	200'	WD		38.87	35.20		32.84						100'	WA	19.43	4.85
1/2"	.250 to .450	.025	37N256	100'	WA		22.15		20.68		18.66								5.55
3/4"	.375 to .675	.030	37N257	100'	WA		29.66		26.81		24.99								7.45
1"	.500 to .900	.035	37N258	100'	WA		42.70		38.63		35.97								10.76

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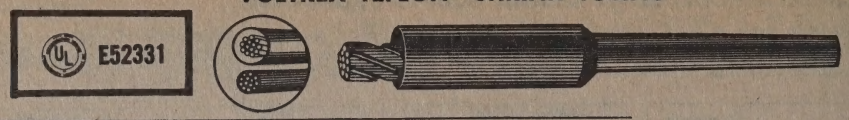
VOLTREX KYNAR* SHRINK TUBING—POLYVINYLIDENE FLUORIDE

Conforms to MIL-I-23053B/8 and AMS-3632B. A high strength, high temperature, solvent resistant heat shrinkable tubing. Can be used for transparent insulation, strain relief, and mechanical protection of wires, cables, splices, and connections. Can also be used as a covering for components, especially in high temperature environments. Kynar polyvinylidene heat shrinkable tubing is self-extinguishing. Has excellent resistance to fungus, oil, acid, alkali and solvents. Weatherability is excellent. Operating temperature from −67°F to +347°F. For a more complete listing of properties see chart on preceding page. Color: Clear. *Kynar is a registered trademark of Pennwalt Chemical Co.

Size	Usable ID Range	Recovered Nom.-Wall Thick.	4-Foot Lengths			Per Box			6-Inch Lengths			Per Box
			Stock No.	No. of Lengths	Total Footage	1-4	5-9	10-49	Stock No.	No. of Lengths	Total Footage	
3/64"	.023 to .042	.016	37N1555	25	100 ft.	17.45	15.10	14.00	37N165	32	16 ft.	4.80
1/16"	.031 to .056	.017	37N1556	25	100 ft.	19.10	16.55	15.25	37N166	28	14 ft.	4.80
3/32"	.046 to .083	.020	37N1557	25	100 ft.	22.80	19.75	18.25	37N167	24	12 ft.	4.80
1/8"	.062 to .112	.020	37N1558	25	100 ft.	25.00	21.65	20.05	37N168	20	10 ft.	4.80
3/16"	.093 to .168	.020	37N1559	25	100 ft.	38.90	33.70	31.10	37N169	16	8 ft.	4.80
1/4"	.125 to .225	.025	37N1560	25	100 ft.	48.80	42.30	39.00	37N170	12	6 ft.	4.80
3/8"	.187 to .338	.025	37N1561	25	100 ft.	64.30	55.75	51.50	37N171	8	4 ft.	4.80
1/2"	.250 to .450	.025	37N1562	5	20 ft.		29.35		37N172	4	2 ft.	4.80
3/4"	.375 to .675	.030	37N1563	5	20 ft.		53.95		37N173	2	1 ft.	4.80
1"	.500 to .900	.035	37N1564	5	20 ft.		99.20		37N174	1	0.5 ft.	4.80

SPC Technology—Voltrex Heat Gun and Teflon Tubing

VOLTREX TEFLON* SHRINK TUBING



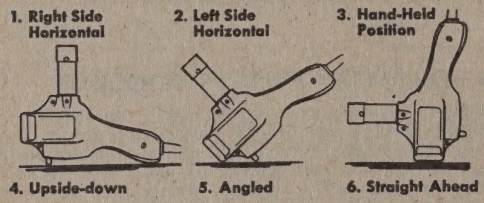
Size	Usable ID Range Inches	Recov'd Nom. Wall Thick. (In.)	2-Foot Lengths Stock No.	No. of Lengths	Total Footage	Per Box
30	0.015 to 0.031	0.009	37N1625	50	100	23.34
28	0.018 to 0.034	0.009	37N1626	50	100	24.36
26	0.022 to 0.041	0.010	37N1627	50	100	26.46
24	0.027 to 0.045	0.010	37N1628	50	100	32.88
22	0.032 to 0.049	0.010	37N1629	50	100	35.28
20	0.039 to 0.054	0.012	37N1630	50	100	32.18
18	0.049 to 0.069	0.012	37N1631	50	100	48.48
16	0.061 to 0.084	0.012	37N1632	50	100	55.92
14	0.072 to 0.108	0.012	37N1633	50	100	62.88
12	0.089 to 0.135	0.012	37N1634	25	50	45.94
10	0.112 to 0.172	0.012	37N1635	25	50	52.98
8	0.141 to 0.216	0.015	37N1636	25	50	79.18
6	0.178 to 0.272	0.015	37N1637	10	20	37.93
4	0.224 to 0.333	0.015	37N1638	10	20	45.89
2	0.278 to 0.387	0.015	37N1639	10	20	56.11
0	0.347 to 0.423	0.015	37N1640	10	20	68.29

- **Extreme Temperature Resistance**
- **Chemically Inert**
- **Non-flammable**

Conforms to MIL-I-23053B/12. A heat shrinkable tubing that's chemically inert and has extreme temperature resistance. Used for insulating and covering cables, splices, terminations, etc. in environments of extremely high temperature or chemical reaction. Teflon heat shrink tubing is non-flammable. Has excellent resistance to fungus, oil, acid, alkali and solvents. Weatherability is excellent. For a wide variety of industrial, commercial and military applications. Color: Natural.

VOLTREX WHISPER "6" HIGH-TEMPERATURE HEAT GUN

6-POSITION SET-UP



- **Flameless**
- **Whisper Quiet**
- **Hi-temp—1000°F at Nozzle**

$29.95 Each

Whisper—"6" Voltrex hi-temperature heat gun. Flameless. Specially designed for shrinking Voltrex tubing and for general heat shrink applications. Whisper quiet. Noise level: R.F.—none; audible—none. Reduces operator fatigue; increases production. Preferred over noisy, air-blast types for day-in, day-out use. Reaches 1000°F at nozzle (measured with thermocouple). Shrinks full range of tubing types, including. Teflon. Can be instantly set up in 6 positions without a stand. Safer and easier to use. Controlled heat path permits positioning hands close to side of nozzle end without burning fingers. Assures precision control of the shrinking process.

37N1447.....Each **29.95**

E52331 VOLTREX TEFLON* INSULATING TUBING

Conforms to MIL-I-22129C and AMS-3655A-3653C. Extremely high operating temperature range and chemical inertness make Voltrex Teflon insulating tubing unparalleled by any other material in electrical applications. Will not crack or become brittle. Remains flexible throughout entire operating temp. range. Available in thin wall, allowing miniaturization and compactness. Also available in standard wall (next page) where extra dielectric or mechanical strength are required. Stocked in 100' spools. Other spool sizes and tubing cut to length available on special order. Color: Natural. *DuPont Registered Trademark.

THIN-WALL TEFLON TUBING

Size	Stock No.	Inside Diameter Nominal	Max.	Min.	Wall Thickness Nominal	±	Per 100 Ft. Spool EA.	2-4	5-9	10-49	50-99
30	37N488	0.012″	0.015″	0.010″	0.009″	0.002″	9.00	6.62	5.95	5.34	4.89
28	37N489	0.015″	0.019″	0.013″	0.009″	0.002″	8.00	5.70	5.28	4.39	4.20
26	37N490	0.018″	0.022″	0.016″	0.009″	0.002″	7.70	5.60	5.03	3.99	3.80
24	37N491	0.022″	0.027″	0.020″	0.010″	0.002″	7.70	5.60	5.03	4.32	4.13
22	37N492	0.028″	0.032″	0.025″	0.010″	0.002″	9.50	7.12	6.08	4.84	4.65
20	37N493	0.034″	0.040″	0.032″	0.012″	0.003″	12.00	9.33	7.78	6.15	5.98
18	37N494	0.042″	0.049″	0.040″	0.012″	0.003″	12.98	10.73	9.04	7.24	6.97
16	37N495	0.053″	0.061″	0.051″	0.012″	0.003″	14.53	12.67	10.53	8.64	8.12
14	37N496	0.066″	0.074″	0.064″	0.012″	0.003″	16.04	13.76	11.55	9.35	8.97
12	37N481	0.085″	0.091″	0.081″	0.012″	0.003″	18.48	16.63	13.65	11.35	10.79
10	37N482	0.106″	0.112″	0.102″	0.012″	0.003″	22.04	19.36	15.48	13.54	13.00
8	37N483	0.133″	0.141″	0.129″	0.015″	0.004″	27.52	25.75	17.53	15.75	13.15
6	37N484	0.166″	0.178″	0.162″	0.015″	0.004″	31.82	30.28	27.50	25.05	24.28
4	37N485	0.208″	0.224″	0.204″	0.015″	0.004″	38.10	36.78	33.73	30.86	29.92
2	37N486	0.263″	0.278″	0.258″	0.015″	0.004″	48.13	45.56	41.85	38.23	37.07
0	37N487	0.330″	0.347″	0.325″	0.015″	0.004″	59.14	56.31	51.62	47.12	45.78

SPC Technology—Voltrex Insulating Tubing

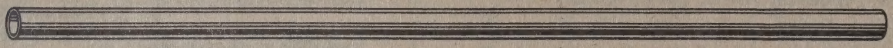
E52331

VOLTREX TEFLON INSULATING TUBING

STANDARD WALL TUBING

Size	Stock No.	Inside Diameter			Wall Thickness		Per 100 Ft. Spool				
		Nominal	Max.	Min.	Nominal	±	EA.	2-4	5-9	10-49	50-99
24	37N1580	0.022	0.027	0.020	0.012	0.002	10.01	8.01	6.89	5.52	5.24
22	37N1581	0.028	0.032	0.025	0.012	0.002	11.23	8.98	7.62	6.09	5.79
20	37N1582	0.034	0.040	0.032	0.016	0.003	15.19	12.15	10.31	8.37	7.96
19	37N1583	0.038	0.044	0.036	0.016	0.003	16.31	13.05	11.21	9.09	8.64
18	37N1584	0.042	0.049	0.040	0.016	0.003	18.70	14.68	12.50	9.84	9.36
17	37N1585	0.047	0.054	0.045	0.016	0.003	20.39	15.93	13.61	10.72	10.20
16	37N1586	0.053	0.061	0.051	0.016	0.003	21.78	17.64	14.90	11.46	10.94
15	37N1587	0.059	0.067	0.057	0.016	0.003	22.26	18.32	15.22	11.72	11.18
14	37N1588	0.066	0.074	0.064	0.016	0.003	24.03	18.96	15.81	12.66	12.07
13	37N1589	0.076	0.082	0.072	0.016	0.003	25.33	20.40	16.63	14.07	13.43
12	37N1590	0.085	0.091	0.081	0.016	0.003	27.41	22.02	18.25	15.20	14.53
11	37N1591	0.095	0.101	0.091	0.016	0.003	30.43	24.48	19.89	16.87	16.11
10	37N1592	0.106	0.112	0.102	0.016	0.003	33.02	25.57	21.06	18.32	17.55
9	37N1593	0.118	0.124	0.114	0.020	0.004	45.86	34.00	28.77	26.18	25.14
8	37N1594	0.133	0.141	0.129	0.020	0.004	47.43	35.96	31.60	28.73	27.57
7	37N1595	0.148	0.158	0.144	0.020	0.004	49.56	38.68	34.04	30.94	29.73
6	37N1596	0.166	0.178	0.162	0.020	0.004	53.55	41.82	36.81	33.45	32.13
5	37N1597	0.186	0.198	0.182	0.020	0.004	58.99	46.07	40.55	36.85	35.36
4	37N1598	0.082	0.224	0.204	0.020	0.004	64.09	50.07	44.07	40.00	38.38
3	37N1599	0.234	0.249	0.229	0.020	0.004	70.89	55.34	48.75	44.29	42.97
2	37N1600	0.263	0.278	0.258	0.020	0.004	73.14	60.95	53.64	48.75	47.30
1	37N1601	0.294	0.311	0.289	0.020	0.004	81.26	67.66	50.50	54.15	53.53
0	37N1602	0.330	0.347	0.325	0.020	0.004	91.38	76.16	67.02	60.95	58.57

VOLTREX PVC-105 INSULATING TUBING—NON-IRRADIATED POLYVINYLCHLORIDE



Conforms to MIL-I-631D and MIL-I-7444B. Flexibility and abrasion resistance make Voltrex PVC 105 an excellent general purpose insulating tubing. Non-flammable—UL FR-1 rating. See chart on first page of this section for a complete listing of properties. No. 24 to ⅝″ tubing is stocked in 100' spools. ¾″ to 2½″ tubing stocked in 50' spools. Longer runs and tubing cut to size are available on special order. Colors: Black, White and Clear in sizes No. 24 to 1"; Black and Clear in sizes 1 1/16″ to 2½″.

Size	Stock No.	Inside Diameter			Wall Thickness		Per 100 Ft. Spool			
		Nominal	Max.	Min.	Nominal	±	1-4	5-9	10-49	50-99
24	37N600	0.022	0.027	0.020	0.012	0.002	3.12	2.59	2.31	2.02
22	37N601	0.027	0.032	0.025	0.012	0.002	3.13	2.72	2.32	2.03
20	37N602	0.034	0.039	0.032	0.016	0.003	3.20	2.78	2.38	2.07
19	37N707	0.038	0.044	0.036	0.016	0.003	3.28	2.84	2.38	2.09
18	37N603	0.042	0.049	0.040	0.016	0.003	3.32	2.87	2.42	2.11
17	37N706	0.047	0.055	0.045	0.016	0.003	3.36	2.91	2.44	2.12
16	37N604	0.053	0.061	0.051	0.016	0.003	3.50	3.02	2.52	2.20
15	37N705	0.059	0.066	0.057	0.016	0.003	3.59	3.11	2.56	2.22
14	37N605	0.066	0.072	0.064	0.016	0.003	3.71	3.20	2.62	2.29
13	37N704	0.076	0.080	0.072	0.016	0.003	3.77	3.27	2.70	2.33
12	37N606	0.085	0.089	0.081	0.016	0.003	3.94	3.39	2.78	2.41
11	37N703	0.095	0.101	0.091	0.016	0.003	4.05	3.48	2.85	2.51
10	37N607	0.106	0.112	0.102	0.016	0.003	4.20	3.62	3.02	2.64
9	37N702	0.118	0.124	0.114	0.020	0.003	5.49	4.68	3.81	3.32
8	37N608	0.133	0.141	0.129	0.020	0.003	5.87	5.00	4.06	3.51
7	37N701	0.148	0.158	0.144	0.020	0.003	6.22	5.30	4.28	3.66
6	37N609	0.166	0.178	0.162	0.020	0.003	6.67	5.67	4.53	3.87
5	37N700	0.186	0.198	0.182	0.020	0.003	7.17	6.08	4.80	4.09
4	37N610	0.208	0.224	0.204	0.020	0.003	7.71	6.53	5.10	4.29
3	37N1438	0.234	0.249	0.229	0.020	0.003	8.20	6.94	5.39	4.55
2	37N611	0.263	0.278	0.258	0.020	0.003	8.88	7.51	5.79	4.92
1	37N1439	0.294	0.311	0.289	0.020	0.003	9.54	8.06	6.18	5.22
5/16″	37N612	0.313	0.334	0.313	0.025	0.003	12.11	10.21	7.77	6.61
0	37N613	0.330	0.347	0.325	0.020	0.003	10.26	8.65	6.61	5.64
3/8″	37N614	0.375	0.399	0.375	0.025	0.003	13.93	11.71	8.90	7.71
7/16″	37N1440	0.438	0.462	0.438	0.025	0.003	14.85	12.37	9.30	7.95
1/2″	37N615	0.500	0.524	0.500	0.025	0.003	16.45	13.71	10.40	8.85
9/16″	37N1441	0.563	0.585	0.563	0.025	0.003	21.88	18.24	13.86	11.69
5/8″	37N616	0.625	0.655	0.625	0.030	0.003	23.58	19.63	15.05	12.62

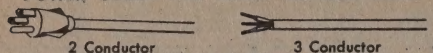
Per 50 Ft. Spool

3/4″	37N617	0.750	0.786	0.750	0.035	0.005	16.29	13.58	10.35	8.64
7/8″	37N618	0.875	0.911	0.875	0.035	0.005	18.35	15.25	11.85	9.85
1″	37N619	1.000	1.036	1.000	0.035	0.005	20.47	17.07	13.17	10.91
1 1/8″	37N1572	1.125	1.163	1.125	0.040	0.005	26.85	22.38	17.05	14.13
1 1/4″	37N1573	1.250	1.290	1.250	0.040	0.005	28.38	23.65	18.38	15.37
1 3/8″	37N1574	1.375	1.420	1.375	0.045	0.006	30.34	25.28	19.48	16.29
1 1/2″	37N1575	1.500	1.550	1.500	0.045	0.006	36.78	30.66	23.65	20.01
1 3/4″	37N1576	1.750	1.812	1.750	0.055	0.008	45.86	38.22	29.67	25.27
2″	37N1577	2.000	2.070	2.000	0.060	0.010	63.01	52.52	40.26	34.16
2 1/4″	37N1578	2.250	2.330	2.250	0.065	0.012	74.92	62.44	47.50	40.17
2 1/2″	37N1579	2.500	2.590	2.500	0.070	0.014	88.82	74.02	56.13	47.62

13

Replacement and Service Cord Sets

POWER CORDS FOR MANY APPLICATIONS

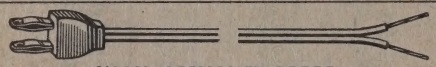


2 Conductor 3 Conductor

Has molded plastic male cap on one end. Other end ready for soldering with outer jacket removed, stripped and machine hanked. U.L. Listed. For portable tools, appliances, business machines, and many other applications.

2-CONDUCTOR POWER SUPPLY CORDS

Stock No.	Mfr's Type	Size, Cond., & Type	Lgth. (feet)	Color	Rating	NET EACH
37F2400	20250	18/2 SV	6	Black	10A-125V	.58
37F2401	20252	18/2 SV	9	Black	10A-125V	.90
37F2402	20254	18/2 SV	12	Black	10A-125V	1.10
37F2403	20327	18/2 SVT	6	Black	10A-125V	.50
37F2404	24516	18/2 SJ	6	Black	10A-125V	.68
37F2405	20258	18/2 SJ	10	Black	10A-125V	.80
37F2406	24546	18/2 SJT	6	Gray	10A-125V	.73
37F2407	24549	18/2 SJT	9	Gray	10A-125V	.91
37F2408	20260	16/2 SJ	8	Black	13A-125V	.82
37F2409	20262	16/2 SJ	10	Black	13A-125V	1.02



SMALL APPLIANCE CORDS

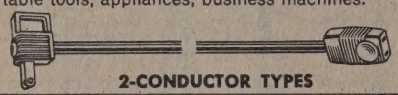
37F2410	24586	18/2 SPT-1	6	Brown	10A-125V	.30
37F2411	24596	18/2 SPT-1	6	White	10A-125V	.30
37F2412	24589	18/2 SPT-1	9	Brown	10A-125V	.36
37F2413	24599	18/2 SPT-1	9	White	10A-125V	.38

3-CONDUCTOR POWER SUPPLY CORDS

37F2414	20330	18/3 SVT	6	Gray	10A-125V	.67
37F2415	20331	18/3 SVT	8	Gray	10A-125V	.79
37F2416	20264	18/3 SJ	6	Black	10A-125V	.81
37F2417	20314	18/3 SJ	8	Black	10A-125V	.94
37F2418	20316	18/3 SJ	12	Black	10A-125V	1.38
37F2419	24936	18/3 SJT	6	Gray	10A-125V	.79
37F2420	24939	18/3 SJT	9	Gray	10A-125V	1.29
37F2421	24926	16/3 SJ	6	Black	13A-125V	.63
37F2422	20324	16/3 SJ	8	Black	13A-125V	1.40
37F2423	24929	16/3 SJ	9	Black	13A-125V	1.31
37F2424	24932	16/3 SJ	12	Black	13A-125V	1.65
37F2425	24946	16/3 SJT	6	Gray	13A-125V	1.25
37F2426	24949	16/3 SJT	9	Gray	13A-125V	1.73

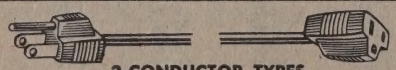
EXTENSION CORDS

Black rubber. Molded plastic male cap and connector. U.L. Listed. For portable tools, appliances, business machines.



2-CONDUCTOR TYPES

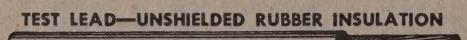
Stock No.	Mfr's Type	Size & Type	Lgth. (feet)	Rating	NET EACH
37F2427	20272	18/2 SV	6	10A-125V	.96
37F2428	26010	18/2 SJ	10	10A-125V	1.58
37F2429	26025	18/2 SJ	25	10A-125V	2.63
37F2430	23026	18/2 SJT	25	10A-125V	2.63
37F2431	26110	16/2 SJ	10	13A-125V	1.04
37F2432	26108	16/2 SJT	12	13A-125V	2.25



3-CONDUCTOR TYPES

37F2433	20288	18/3 SJ	10	10A-125V	1.50
37F2434	26525	18/3 SJ	25	10A-125V	3.53
37F2435	20294	16/3 SJ	15	13A-125V	2.93
37F2436	26625	16/3 SJ	25	13A-125V	3.68

TEST LEAD—UNSHIELDED RUBBER INSULATION

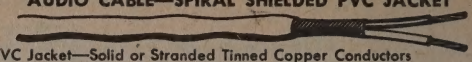


Rubber Insulation. Textile Separator. Stranded Tinned Copper Conductor.

Extra flexible. Insulation: Black or red. Spec.: −20° to +60°C. For multimeters, analyzers, oscillators. 1 conductor.

Mfr's Type	AWG Size	Ins'l. Thk. (In.)	Nom. O.D. (In.)	100′ Spool Stock No.	100′ Spool Each	500′ Spool Stock No.	500′ Spool Each
01326	20 (41/36)	.040	.125	36F2100WA	3.57	36F2100WF	13.34
01319	20 (41/36)	.047	.140	36F2101WA	3.75	36F2101WF	14.18
01321	18 (65/36)	.045	.140	36F2102WA	4.73	36F2102WF	17.40

AUDIO CABLE—SPIRAL SHIELDED PVC JACKET



PVC Jacket—Solid or Stranded Tinned Copper Conductors
Spiral Wrapped Tinned Copper Shield—Color-Coded PVC Insulation

For recording studios, radio transmitters, sound systems. Easy pigtail soldering. Nom. jacket thck. —.020". Spec.: −20° to +60°C.

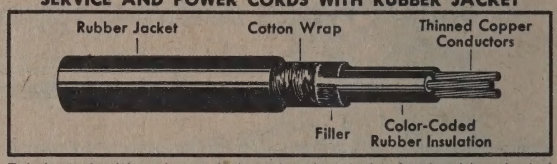
SOLID CONDUCTORS

Stock No.	Mfr's Type	No. Cond.	AWG Size	Nom. Ins'l. Thk.	Nom. O.D. (In.)	100′ Spool Each
36F2103WA	02884	2	22 (solid)	.015"	.710"	4.88

STRANDED CONDUCTORS

36F2105WA	02882	2	22 (7/30)	.015"	.175"	5.25
36F2106WA	01335	3	22 (7/30)	.015"	.190"	9.00
36F2107WA	01337	4	22 (7/30)	.015"	.200"	10.20
36F2108WA	01341	6	22 (7/30)	.015"	.235"	14.09
36F2109WA	02888	2	20 (10/20)	.015"	.195"	6.53
36F2110WA	02893	3	20 (10/30)	.015"	.210"	11.55
36F2111WA	02769	4	20 (10/30)	.015"	.225"	13.20
36F2112WA	02770	6	20 (10/30)	.015"	.265"	15.30
36F2113WA	02892	2	18 (16/30)	.018"	.230"	8.25
36F2114WA	02768	3	18 (16/30)	.018"	.235"	10.13
36F2115WA	02894	4	18 (16/30)	.018"	.245"	14.77
36F2116WA	02895	2	16 (26/30)	.018"	.240"	10.43
36F2117WA	02896	3	16 (26/30)	.018"	.245"	14.32
36F2118WA	02897	2	14 (41/30)	.020"	.285"	14.32
36F2119WA	02898	3	14 (41/30)	.020"	.290"	18.75
36F2120WA	02899	2	12 (65/30)	.020"	.325"	19.05
36F2121WA	02900	3	12 (65/30)	.020"	.330"	25.79

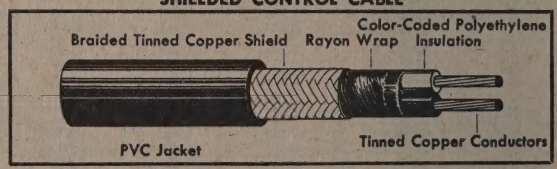
SERVICE AND POWER CORDS WITH RUBBER JACKET



Fabricated with color-coded rubber insulation and rubber jacket over stranded bare copper wire. No. 18 and 16 gauge rated at 300 V; No. 14, 12 and 10 gauge rated at 600 V.

Mfr's Type	Size, Cond., & Type	Amps. Cap.	O.D.	100′ Spool Stock No.	100′ Spool EACH
01420	18/2 SV	7	.250	37F2300WA	6.75
01425	18/2 SJ	7	.305	37F2302WA	6.75
01435	18/3 SJ	7	.345	37F2304WA	9.30
01438	18/4 SJ	6	.365	37F2306WA	14.62
01445	16/2 SJ	10	.325	37F2308WA	9.00
01450	16/3 SJ	10	.375	37F2310WA	12.15
01446	16/4 SJ	8	.395	37F2312WA	17.54
01500	14/2 S	15	.540	37F2314WA	18.37
01505	14/3 S	15	.565	37F2316WA	23.54
01509	14/4 S	12	.605	37F2318WA	31.27
01510	12/2 S	20	.580	37F2320WA	24.52
01515	12/3 S	20	.635	37F2322WA	44.88
01517	10/2 S	25	.650	37F2324WA	32.54
01519	10/3 S	25	.760	37F2326WA	42.82

PLASTIC JACKET BROADCAST QUALITY SHIELDED CONTROL CABLE



Manufactured of tinned copper conductors with .015" color-coded polyethylene insulation. Has rayon wrap, tinned copper-braid shield and .035" gray PVC jacket. Temp. rating: −20°C to +60°C. Suggested WV: 350 V. Prevents cross talk and hum.

Mfr's Type	No. Cond.	Nom. O.D.	100′ Spool Stock No.	100′ Spool EACH
01643	3	.250	37F2364WA	13.64
01644	4	.260	37F2366WA	14.70
01645	5	.275	37F2368WA	16.57
01646	6	.300	37F2370WA	23.54
01648	8	.330	37F2372WA	27.75
01650	10	.375	37F2374WA	37.50
01652	12	.380	37F2376WA	57.74
01655	15	.410	37F2378WA	87.73
01660	20	.455	37F2380WA	112.48

Cable Index and Communications

BELDEN

HANDY INDEX

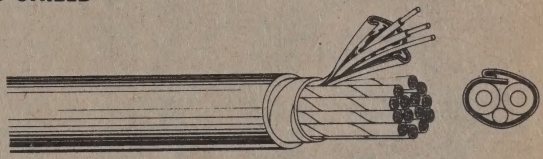
Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page	Mfr. No.	Page
8014	370	8242	366	8424	362	8469	362	8602	363	8722	363	8770	362	8917	367	9476	363	9774	364	83027	368
8018	370	8254	366	8425	362	8470	365	8603	363	8723	363	8771	362	8918	367	9477	363	9775	364	83028	368
8021	369	8255	366	8426	362	8471	365	8604	363	8724	363	8772	362	8919	367	9478	363	9776	364	83029	368
8022	369	8259	366	8427	362	8472	366	8618	362	8728	363	8773	364	8920	367	9479	363	9777	364	83041	368
8023	369	8261	366	8428	362	8473	365	8619	362	8732	363	8774	364	8933	367	9480	363	9794	363	83043	368
8024	369	8262	366	8429	366	8475	366	8620	362	8733	364	8775	364	8934	367	9481	363	9818	367	83045	368
8025	369	8263	366	8430	366	8476	369	8621	362	8737	361	8776	364	8935	367	9482	363	9820	367	83046	368
8047	365	8267	366	8431	366	8477	365	8622	362	8739	361	8777	364	8936	367	9483	363	9822	367	83047	368
8048	365	8268	366	8434	363	8478	366	8627	362	8740	365	8778	364	8937	367	9485	363	9873	364	83049	368
8049	365	8275	365	8437	361	8479	366	8640	369	8741	364	8780	361	9251	366	9530	369	9874	364	83241	368
8050	365	8279	370	8441	361	4880	371	8641	361	8742	364	8781	366	9252	366	9531	369	9875	364	83242	368
8051	365	8280	370	8442	365	8481	365	8643	362	8743	364	8782	366	9259	366	9600	368	9876	364	83264	368
8052	365	8281	370	8443	362	8482	365	8649	366	8744	364	8783	364	9273	366	9601	368	9877	364	83265	368
8053	365	8285	366	8444	362	8488	365	8655	369	8745	364	8786	364	9302	364	9602	368	9878	364	83266	368
8073	365	8290	365	8445	362	8490	363	8656	369	8746	364	8790	361	9306	364	9603	368	9879	364	83267	368
8074	365	8299	370	8446	362	8491	363	8657	369	8747	365	8791	362	9309	364	9604	367	9908	367	83284	368
8075	365	8401	363	8447	362	8495	363	8658	369	8748	365	8794	363	9315	364	9605	367	9910	367	83315	368
8076	365	8402	362	8448	362	8497	363	8659	369	8749	365	8795	363	9319	364	9606	367	9912	367	83316	368
8077	365	8403	363	8449	362	8499	363	8660	369	8750	365	8816	369	9327	364	9607	367	9918	367	83317	368
8078	365	8404	363	8450	361	8500	367	8661	369	8751	365	8822	369	9415	363	9620	362	9920	367	83318	368
8079	365	8406	362	8451	361	8501	367	8662	369	8752	365	8823	369	9416	363	9621	362	9922	367	83319	368
8205	365	8407	362	8452	366	8502	367	8663	369	8753	364	8824	369	9417	363	9622	362	30614	367	83320	368
8208	361	8408	362	8453	366	8503	367	8668	369	8754	364	8825	369	9430	362	9623	362	30616	367	83321	368
8212	366	8409	362	8454	366	8504	367	8669	369	8755	364	8866	370	9431	362	9626	362	30618	367	83322	368
8213	366	8410	362	8456	362	8505	367	8670	369	8756	364	8868	370	9432	362	9720	367	30620	367	83330	368
8214	366	8411	363	8457	362	8509	367	8671	369	8757	364	8869	370	9435	366	9722	367	30622	367	83331	368
8216	366	8412	362	8458	362	8520	367	8672	369	8759	361	8870	370	9436	366	9744	365	83000	368	83332	368
8218	366	8413	362	8459	362	8521	367	8673	369	8760	361	8878	369	9440	363	9745	365	83001	368	83333	368
8219	366	8415	363	8460	365	8522	367	8674	369	8761	361	8879	369	9441	363	9746	365	83002	368	83334	368
8221	366	8416	366	8461	365	8523	367	8675	369	6762	361	8888	366	9442	363	9747	365	83003	368	83335	368
8222	365	8417	366	8462	366	8524	367	8676	369	6763	364	8890	369	9443	363	9748	365	83004	368	93336	368
8225	365	8418	362	8463	365	8525	367	8677	369	8764	364	8895	370	9444	362	9749	365	83005	368	83337	368
8230	365	8419	366	8464	365	8527	367	8700	364	8765	364	8897	370	9445	362	9768	364	83023	368	83393	368
8237	366	8420	363	8465	362	8528	367	8701	362	8766	364	8898	369	9455	362	9769	364	83025	368	83394	368
8238	366	8421	366	8466	362	8529	367	8718	361	8767	364	8899	369	9457	362	9770	362	83026	368	83395	368
8240	366	8422	363	8467	362	8530	367	8719	361	8768	364	8916	367	9458	362	9773	364			83396	368
8241	366	8423	362	8468	362	8601	363	8720	361	8769	364										

See pages 370-373 for cords and portable cordage.

BELDFOIL ISO-SHIELD™

Lightweight, flexible and small in diameter. Provides 100% coverage. Adds greater effectiveness to all major shielding functions: excluding external signals, confining the transmitted signal and minimizing cross talk.

Uses a thin layer of aluminum bonded to a polyester film. Aluminum provides the necessary electrostatic shielding while the polyester film adds bonus insulation and increased mechanical strength. 100% shielding is accomplished by an exclusive method of folding back both edges-of the tape in such a way as to provide metal-to-metal contact between adjacent wraps, thus providing the same shielding effect as a continuous aluminum tube, while



at the same time providing the effect of a continuous layer of insulation on the other side of the shield.

13

2-CONDUCTOR CABLES—VINYL PLASTIC

Broadcast cable; tinned copper; conductors cabled; black vinyl jacket. *Miniature type broadcast audio cable occupies ½ to ⅔ less space than required by Standard Broadcast Audio Cables. BELDFOIL shield combines high cable reliability with ease of termination. Polypropylene insulated. Stranded tinned copper ground drain wire and paper wrap. Type-8437 has solid tinned copper drain wire; 8441 has stranded tinned copper drain wire. Both are vinyl insulated and have tinned copper braid shield. USES: Communication, sound, broadcast audio, instrumentation, etc. where shield is required.

Type No.	AWG	Nom. O.D.	Work Volt	Stk. No.	NET per 100′	Stk. No.	250′	Stk. No.	500′	Stk. No.	1000′
8450*	22 Solid	.118″	200	36F028WA	4.95	36F028WE	8.95	36F028WF	17.85	36F028WM	35.70
8451*	22 Strd.	.135″	200	36F029WA	5.25	36F029WE	10.45	36F029WF	20.85	36F029WM	41.70
8437	22 Solid	.200″	200	.....	.....	.....	.....	36F093WF	30.00	36F093WM	60.00
8441	22 Strd.	.210″	200	36F036WA	7.45	.....	.....	36F036WF	32.85	36F036WM	65.70

Tinned copper; chrome vinyl jacket. Have BELDFOIL aluminum-polyester shield, stranded tinned copper, ground drain wire, except *which has tinned copper spiral wrapped shield and vinyl insulation, † has braided tinned-copper shield and rubber insulation. Vinyl jacket.

8641	24 Strd.	.160″	350	36F157WA	4.55	.....	.....	36F157WF	18.35	36F157WM	36.70
8761	22 Strd.	.167″	350	.....	.....	.....	.....	36F165WF	18.75	36F165WM	37.50
8762	20 Strd.	.196″	350	36F166WA	5.80	36F166WE	11.85	36F166WF	23.65	36F166WM	47.25
8760	18 Strd.	.222″	450	.....	.....	36F164WE	14.25	36F164WF	28.45	36F164WM	56.85
8719	16 Strd.	.274″	600	.....	.....	.....	.....	36F1092WF	42.00	36F1092WM	84.00
8720	14 Strd.	.340″	750	.....	.....	.....	.....	36F1093WF	63.95	36F1093WM	127.90
8718	12 Strd.	.400″	1000	.....	.....	.....	.....	36F1091WF	96.15	36F1091WM	192.30
8739*	22 Solid	.160″	350	36F081WA	4.88	.....	.....	36F081WF	20.80	36F081WM	41.55
8737*	22 Strd.	.170″	350	36F084WA	5.20	36F084WE	11.40	36F084WF	22.75	36F084WM	45.45
8759*	20 Strd.	.195″	350	36F085WA	6.55	.....	.....	36F085WF	26.80	36F085WM	53.55
8780*	16 Strd.	.266″	450	36F106WA	10.45	.....	.....	36F106WF	45.75	36F106WM	91.50
8790*	18 Strd.	.231″	450	36F107WA	8.25	36F107WE	17.70	36F107WF	35.35	36F107WM	70.65
8208†	18 Strd.	.255″	200	36F195WA	10.60	.....	.....	36F195WF	46.95	36F195WM	93.90

BELDEN Microphone and Conductor Cable

3 CONDUCTOR CABLES—VINYL PLASTIC

Chrome vinyl jacket; polyethylene insulation with BELDFOIL shield, except (*) braided shield, vinyl insulated (**) spiral shield.

USES: Shielded instrumentation, sound, strain gage, communication, etc.

8770

Type	A.W.G.	Nom. O.D.	Work Volt.	Stock No.	100 Ft.	Stock No.	250 Ft.	Stock No.	500 Ft.	Stock No.	1000 Ft.
8618	16 Strd.	.300"	600	.....	.....	.....	.....	36F1360WF	57.85	36F1360WM	115.70
8735*	22 Strd.	.199"	350	35F083WA	7.30	.....	.....	36F083WF	30.85	36F083WM	61.65
8771	22 Strd.	.175"	350	.....	.....	36F168WE	11.85	36F168WF	23.65	36F168WM	47.25
9770	22 Strd.	.145"	200	.....	.....	36F1083WE	13.30	36F1083WF	26.55	36F1083WM	53.10
8772	20 Strd.	.200"	350	.....	.....	.....	.....	36F169WF	29.85	36F169WM	59.70
8770	18 Strd.	.236"	450	.....	.....	.....	.....	36F167WF	38.05	36F167WM	76.05
8791**	18 Strd.	.236"	450	36F135WA	10.15	.....	.....	.....	44.70	36F135WM	89.40
8643*	30 Strd.	.086"	200	36F136WA	8.55	36F1361WE	20.05	.....	.....	.....	.....

THREE CONDUCTOR UNSHIELDED

Type 8701 is solid tinned copper; .016" vinyl insulation thickness; parallel. Type 8475 has bonded parallel conductor construction, stranded bare copper with .023 inch thick vinyl insulation. Type 8443 is tinned copper; .010" thick vinyl insulation; cabled; has chrome vinyl jackets. USES: Communication and control cables.

8701

Type	AWG & Cond.	Nom. O.D.	Work Volt.	Stock No.	25'	Stock No.	100'	Stock No.	250'	Stock No.	500'	Stock No.	1000'
8701	22-3	.190"	100	.....	.....	36F134WA	3.11	.....	.....	36F134WF	11.40	36F134WM	22.80
8475	16-3	.295"	300	.....	.....	36F124WA	9.75	.....	.....	36F124WF	44.25	.....	.....
8443	22-3	.150"	200	36F040WC	1.47	36F040WA	3.90	36F040WE	7.85	36F040WF	15.70	36F040WM	31.35

MULTIPLE CONDUCTOR CABLES—NOT PAIRED

Fig. E. Stranded tinned copper conductors, color-coded, vinyl plastic insulated, with jacket overall. Voltage ratings: #22 AWG types, 200V; #18 types, 400V; #16 types, 600V. Available only in spool sizes listed. USES: Audio, control cables, communication.

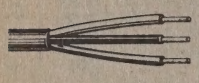
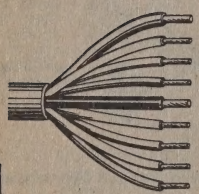


Fig. E



8446 8448
8447 8449

Type	AWG & Cond.	Nom. O. D.	Lbs. 100'	Stock No.	25'	Stock No.	100'	Stock No.	250'	Stock No.	500'	Stock No.	1000'
8444	22-4	.168"	2¼	36F041WC	1.68	36F041WA	5.10	36F041WE	10.65	36F041WF	21.30	36F041WM	42.60
8445	22-5	.180"	2½	36F042WC	2.03	36F042WA	6.00	36F042WE	12.75	36F042WF	25.50	36F042WM	51.00
8446	22-4, 18-2	.222"	4	.....	.....	36F043WA	8.85	36F043WE	19.60	36F043WF	39.10	36F043WM	78.15
8447	22-5, 18-2	.246"	4¾	.....	.....	36F044WA	10.60	36F044WE	22.80	36F044WF	45.60	36F044WM	91.20
8448	22-6, 18-2	.250"	5	.....	.....	36F045WA	11.20	36F045WE	24.85	36F045WF	49.65	36F045WM	99.30
8449	22-7, 18-2	.261"	5¼	.....	.....	36F046WA	11.85	36F046WE	26.85	36F046WF	53.65	36F046WM	107.25
9430	22-7	.200"	3¼	.....	.....	.....	.....	.....	.....	36F1819WF	32.25	36F1819WM	64.50
8456	22-10	.260"	5	.....	.....	36F200WA	11.65	.....	.....	36F200WF	52.80	36F200WM	105.60
8457	22-12	.260"	5½	.....	.....	36F201WA	13.05	.....	.....	36F201WF	60.05	36F201WM	120.05
8458	22-15	.320"	8	.....	.....	36F198WA	21.70	.....	.....	36F198WF	97.50	36F198WM	195.00
9431	22-20	.345"	7½	.....	.....	.....	.....	.....	.....	36F1084WF	119.70	36F1085WM	239.40
8459	22-25	.370"	11½	.....	.....	36F199WA	34.05	.....	.....	39F199WF	156.30	36F199WM	312.60
9432	22-30	.400"	13½	.....	.....	.....	.....	.....	.....	36F1085WF	171.75	36F1085WM	343.50
9444	20-4	.208"	6½	.....	.....	36F1086WA	6.45	.....	.....	36F1086WF	28.35	36F1086WM	56.70
9445	20-5	.230"	8	.....	.....	36F1087WA	7.80	.....	.....	36F1087WF	34.35	36F1087WM	68.70
9455	20-9	.310"	6¾	.....	.....	36F1088WA	13.95	.....	.....	36F1088WF	62.55	36F1088WM	125.10
9457	20-12	.330"	8	.....	.....	36F1089WA	17.10	.....	.....	36F1089WF	78.75	36F1089WM	157.50
9458	20-15	.380"	10	.....	.....	36F1090WA	22.50	.....	.....	36F1090WF	104.85	36F1090WM	209.70
8465	18-5	.286"	6	.....	.....	36F1017WA	11.65	36F1017WE	26.70	36F1017WF	53.35	36F1017WM	106.65
8467	18-7	.324"	8½	.....	.....	36F1018WA	15.40	36F1018WE	35.20	36F1018WF	70.30	36F1018WM	140.55
8469	18-9	.379"	10¼	.....	.....	36F1019WA	20.95	36F1019WE	48.90	36F1019WF	97.75	36F1019WM	195.45
8466	18-12	.412"	13½	.....	.....	36F144WA	28.20	36F144WE	68.40	36F144WF	136.80	36F144WM	273.60
8468	18-15	.490"	18	.....	.....	36F145WA	39.00	.....	.....	36F145WF	184.05	36F145WM	368.10
8619	18-25	.600"	28	.....	.....	.....	.....	.....	.....	36F1099WF	280.50	36F1099WM	561.00
9626	18-19	.505"	20	.....	.....	.....	.....	.....	.....	36F1351WF	209.85	36F1351WM	419.70
8620	16-4	.375"	8	.....	.....	36F146WA	14.65	.....	.....	36F146WF	69.00	36F146WM	138.00
9620	16-5	.405"	11¼	.....	.....	36F1095WA	19.50	.....	.....	36F1095WF	81.45	36F1095WM	162.90
8621	16-7	.455"	13	.....	.....	36F147WA	27.15	.....	.....	36F147WF	121.65	36F147WM	243.30
9621	16-9	.510"	18½	.....	.....	.....	.....	.....	.....	36F1096WF	151.20	36F1096WM	302.40
8622	16-12	.600"	21¼	.....	.....	36F148WA	44.35	.....	.....	36F148WF	205.05	36F148WM	410.10
9622	16-25	.820"	47¼	.....	.....	.....	.....	.....	.....	36F1097WF	411.00	36F1097WM	822.00
8627	14-4	.495"	13¾	.....	.....	36F1094WA	26.40	.....	.....	36F1094WF	120.85	36F1094WM	241.70
9623	14-5	.560"	19½	.....	.....	36F1098WA	32.75	.....	.....	36F1098WF	144.00	36F1098WM	288.00

MICROPHONE AND INSTRUMENTATION CABLES—(SHIELDED)

General purpose shielded cables, for all stage, studio and instrumentation applications. Rubber types have rubber insulated tinned copper conductors, tinned copper braid shield, black rubber jacket overall, (†) except black Neoprene jacket. (**) 8402 & 8408 have brown hypalon jacket. Vinyl types are similar, but have polyethylene insulated conductors, chrome vinyl jacket. (*) Miniature cables having tinned cadmium bronze conductors. USES: Mike, power supply, instrumentation, entertainment, etc.

SINGLE CONDUCTOR—RUBBER

Type	A.W.G. and Cond.	O.D.	Work Volt.	Stock No.	50 Ft.	Stock No.	100 Ft.	Stock No.	250 Ft.	Stock No.	500 Ft.	Stock No.	1000 Ft.
8410	25-1	.245"	3000	36F010WB	7.00	36F010WA	12.90	36F010WE	29.95	36F010WF	59.85	.....	.....

MULTIPLE CONDUCTOR—RUBBER

8413*	24-2	.190"	300	36F026WB	7.50	36F026WA	13.90	36F026WE	33.25	36F026WF	66.45	.....	.....
8406*	24-3	.223"	300	.....	.....	36F202WA	17.70	.....	.....	36F202WF	84.75	.....	.....
8412	20-2	.268"	600	36F011WB	7.60	36F011WA	14.55	36F011WE	33.30	36F011WF	66.45	36F011WM	132.90
8402**	20-2	.268"	600	.....	.....	36F1355WA	15.60	36F1355WE	37.50	36F1355WF	75.00	.....	.....
8423	20-3	.277"	600	36F012WB	8.95	36F012WA	16.35	36F012WE	38.50	36F012WF	76.95	36F012WM	153.90
8424	20-4	.295"	600	36F013WB	9.75	36F013WA	18.15	36F013WE	43.00	36F013WF	85.90	36F013WM	171.75
8425	20-5	.323"	600	.....	.....	36F014WA	22.60	36F014WE	55.35	.....	.....	.....	.....
8426	20-6	.349"	600	.....	.....	36F015WA	27.90	36F015WE	68.35	.....	.....	.....	.....
8427	20-7	.360"	600	.....	.....	36F016WA	30.40	36F016WE	74.25	.....	.....	.....	.....
8418	20-8	.386"	600	.....	.....	36F018WA	34.35	36F018WE	83.40	.....	.....	.....	.....
8428†	18-2	.295"	600	.....	.....	36F017WA	19.00	.....	.....	36F017WF	88.15	36F017WM	176.25
8408**	16-2	.385"	600	.....	.....	36F1356WA	27.10	.....	.....	36F1356WF	131.00	.....	.....
8407†	16-4	.422"	600	.....	.....	36F132WA	32.65	36F132WE	80.40	.....	.....	.....	.....

MICROPHONE AND INSTRUMENTATION CABLES CONT.

SINGLE CONDUCTOR—VINYL PLASTIC

Type	A.W.G. and Cond.	O.D.	Work Volt.	Stock No.	50 Ft.	Stock No.	100 Ft.	Stock No.	250 Ft.	Stock No.	500 Ft.	Stock No.	1000 Ft.
8401	25-1	.200″	5000	36F020WB	3.68	36F020WA	6.75	36F020WE	14.20	36F020WF	28.30	36F020WM	56.55
8411	25-1	.144″	3500	36F021WB	2.85	36F021WA	5.40	36F021WE	11.10	36F021WF	22.20	36F021WM	44.40

MULTIPLE CONDUCTOR—VINYL PLASTIC

8420*	24-2	.185″	500	36F027WB	5.05	36F027WA	9.45	36F027WE	21.90	36F027WF	43.80	.....	.....
8422	22-2	.231″	1000	36F022WB	5.65	36F022WA	9.70	36F022WE	21.15	36F022WF	42.25	36F022WM	84.45
8403	20-3	.244″	600	36F023WB	7.20	36F023WA	13.65	36F023WE	30.30	36F023WF	60.60	36F023WM	121.20
8404	20-4	.255″	600	.....	.....	36F024WA	14.70	36F024WE	33.40	36F024WF	66.70	36F024WM	133.35
8405	20-5	.275″	600	.....	.....	.....	.....	36F1358WE	39.10	36F1358WF	78.10	36F1358WM	156.15

RETRACTILE (COILED) MICROPHONE CABLES—SHIELDED AND UNSHIELDED

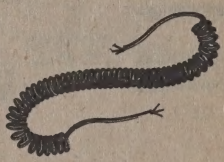
Cadmium bronze wire microphone cables with neoprene or vinyl jacket. Retracts when not in use. Neoprene cables are resistant to effects of sun, oil and ozone and are recommended for outside use USES: Microphones, language labs, music equipt., etc.

Type	Stock No.	AWG (stranding)	Retracted Length (in.)	Extended Length (ft.)	Nom. OD (in.)	Jacket Material	Conductors	NET
8409	36F1329	28 (7x36)	12″	6′	.165	Neoprene	4 unshielded	1.52
8415	36F038	23 (21x36)	11½″	6′	.250	Neoprene	4 unshielded	1.77
9415	36F1238	23 (21x36)	30″	15′	.250	Neoprene	4 unshielded	3.75
8497	36F207	23 (21x36)	11½″	6′	.250	Neoprene	3 cond-1 shield	1.94
9417	36F1239	23 (21x36)	30″	15′	.250	Neoprene	3 cond-1 shield	4.00
8499	36F208	24 (45x40)	7½″	4′	.170	Neoprene	1 shielded	1.29
8491	36F1330	23 (21x36)	12″	6′	.275	Neoprene	4 cond-2 shield	2.24
9416	36F1240	23 (21x36)	30″	15′	.275	Neoprene	4 cond-2 shield	5.25
8490	36F1331	23 (21x36)	11½″	6′	.265	Neoprene	5 unshielded	1.94

RETRACTILE NEOPRENE POWER CONTROL CABLES—UNSHIELDED—UL/CSA LISTED

12″ straight portion on each end (8601, 8602, and 8603 have 6″ straight portion). Jacket removed 1½″ each end.

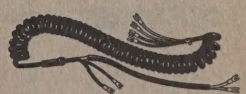
8601	36F1342	18 (41x34)	12″	6′	.270	Neoprene	2 "SVO"	1.47
9476	36F1241	18 (41x34)	24″	12′	.270	Neoprene	2 "SVO"	2.70
9477	36F1242	18 (41x34)	48″	25′	.270	Neoprene	2 "SVO"	4.28
9478	36F1243	18 (41x34)	24″	12′	.275	Neoprene	3 "SVO"	3.38
9479	36F1244	18 (41x34)	48″	25′	.275	Neoprene	3 "SVO"	5.85
8602	36F1343	18 (41x34)	12″	6′	.360	Neoprene	3 "SJO"	2.24
9480	36F1245	18 (41x34)	24″	12′	.360	Neoprene	3 "SJO"	3.90
9481	36F1246	18 (41x34)	48″	25′	.360	Neoprene	3 "SJO"	6.45
8603	36F1344	16 (65x34)	12″	6′	.370	Neoprene	3 "SJO"	2.28
9484	36F1345	16 (65x34)	24″	12′	.370	Neoprene	3 "SJO"	4.45
9485	36F1247	16 (65x34)	48″	25′	.370	Neoprene	3 "SJO"	7.60
9482	36F1248	18 (41x34)	24″	12′	.385	Neoprene	4 "SJO"	4.50
9483	36F1249	18 (41x34)	48″	25′	.385	Neoprene	4 "SJO"	7.60



TELEPHONE CORDS WITH STRAIN RELIEF

Tinsel conductors, vinyl insulated, vinyl jacket. One end stripped 7″, spade terminals attached and hook strain relief clamped over jacket. Other end has red and black conductors pulled out of jacket and cut to 3″ length, spade terminals attached, molded plastic strain relief, 6¾″ jacket remains on 2 white conductor spade terminals attached. 8495-Cadmium bronze, black vinyl jacket. One end stripped 2¾″ spade terminals attached and hook strain relief clamped over jacket. Other end stripped 3/16″ and spade terminals attached. Only Black jacket color stocked.

Type	Stock No.	AWG (stranding)	No. of Cond.	Insulation thickness (in.)	Jacket thickness (in.)	Nom. O.D. (in.)	Nom. CoilO.D. (in.)	Retracted Length (in.)	Extended Length (in.)	NET
9443	36F1076	31 (Tinsel)	4	.010	.031	.195	¾	10½	5	2.70
9440	36F1077	31 (Tinsel)	4	.010	.031	.195	¾	22	10	3.38
9441	36F1078	31 (Tinsel)	4	.010	.031	.195	¾	33	15	4.35
9442	36F1079	31 (Tinsel)	4	.010	.031	.195	¾	48	25	5.25
8495	36F204	23 (23x36)	3	.020	.041	.220	⅞	10	4½	1.79



TELEPHONE CABLES

Type	Stock No.	AWG & (Stranding)	No. of Cond.	Insulation thickness (in.)	Jacket thickness (in.)	Nom. O.D. (in.)	Cond. Color Coding	Standard Spool Lengths (ft.)	NET
8795	36F1080WM	22 (Solid)	2	.016	.022	.160	Red, Grn	1000′ Spools	24.75
8794	36F1081WM	22 (Solid)	3	.016	.022	.168	Red, Grn Yel.	1000′ Spools	30.75
9794	36F1082WM	22 (Solid)	4	.016	.025	.190	Grn. Red, Yel, Blk	1000′ Spools	38.25

STRAIN GAUGE CABLE

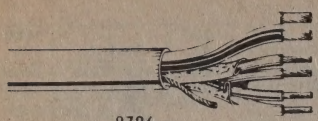
All have polyethylene insulation except (*) has polypropylene, (**) vinyl). Jacket: chrome/vinyl, BELDFOIL shield, stranded tinned copper drain wire. Working voltage, 400 volts except types 8724 200 Volts, 8722 and 8732 are 350 volts. USES: Strain gauge, etc.

Type	AWG & Shield	Cond. Un-Shield	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8434	25-4	.....	.165″	36F1032WA	7.35	36F1032WF	32.70	36F1032WM	65.40
8723*	22-4	.....	.165″	36F1033WA	7.45	36F1033WF	32.60	36F1033WM	65.20
8728*	22-4	.....	.198″	.....	.....	36F1353WF	49.00	36F1353WM	97.95
8724*	22-2	22-2	.165″	.....	.....	36F1346WF	31.90	36F1346WM	63.95
8722**	20-2	20-2	.230″	.....	.....	36F185WF	40.05	36F185WM	80.10
8732	22-2	22-2	.296″	36F173WA	8.40	36F173WF	39.90	37F173WM	79.75

BELDEN Audio and Instrumentation Cables

SPECIAL AUDIO AND CONTROL CABLE

Tinned copper, vinyl insulation (* have polyethylene) and BELDFOIL shield, and chrome vinyl jackets. Rated 350 volt. Type 8734 has copper braid shield over one conductor. Type 8733 is individually shielded (except † 450 volts, no shield).

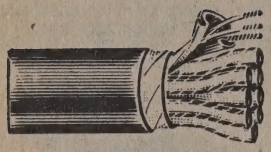


8786

AWG & Type	Cond. Shld.	Un-Shld.	Nom. O.D.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8734	22-1	22-2	.194″	36F186WA	6.70	36F186WF	27.45	36F186WM	54.90
8763*	20-2	20-1	.210″	.....	.....	36F187WF	30.85	36F187WM	61.65
8733*	22-3	.....	.205″	36F188WA	7.95	36F188WF	31.65	36F188WM	62.30
8783†	.....	20-1 16-2	.250″	36F108WA	8.55	36F108WF	37.75	.....	.....
8786	24-4	22-2	.256″	36F138WA	9.30	36F138WF	42.60	.....	.....

MULTIPLE PAIR INDIVIDUALLY SHIELDED AUDIO CABLE

22 AWG solid tinned copper; .013″ vinyl insulation; each pair and drain wire under BEDFOIL aluminum-mylar shield. Chrome vinyl jacket.

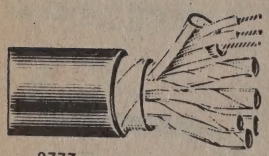


8764

Type	No. Pairs	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8767	3	.279″	36F190WA	12.25	36F190WF	55.75	36F190WM	111.45
8768	6	.394″	36F191WA	25.00	36F191WF	116.40	36F191WM	232.80
8764	9	.440″	36F192WA	34.05	36F192WF	165.45	36F192WM	330.90
8765	11	.485″	36F193WA	40.95	36F193WF	196.50	36F193WM	393.00
8766	15	.540″	36F194WA	56.40	36F194WF	268.95	36F194WM	537.90

MULTIPLE PAIR INDIVIDUALLY SHIELDED CABLES

Same as above, except .010 Polpropylene insulated. For audio, pulse, & radio freq. applications—operating temp. 105°C # 22 AWG (7x30 stranded) conductors. 8773 spools are one piece -0+20%



8777

8777	3	.265″	36F1332WA	13.80	36F1332WF	64.80	36F1332WM	129.60
8778	6	.394″	36F1333WA	28.15	36F1333WF	136.55	36F1333WM	272.10
8774	9	.440″	36F1334WA	45.40	36F1334WF	199.50	36F1334WM	399.00
8775	11	.485″	36F1335WA	49.50	36F1335WF	236.55	36F1335WM	473.10
9768	12	.485″	36F1385WA	54.00	36F1385WF	253.50	36F1385WM	507.00
8776	15	.540″	36F1336WA	64.95	36F1336WF	313.65	36F1336WM	627.30
9769	17	.610″	36F1386WA	79.50	36F1386WF	365.25	36F1386WM	730.50
8769	19	.620″	36F1337WA	88.20	36F1337WF	418.15	36F1337WM	836.25
8773	27	.760″	36F1338WA	121.45	36F1338WF	605.25	36F1338WM	1210.50

AS ABOVE EXCEPT # 20 AWG AND .013 POLYPROPYLENE INSULATED

9873	3	.330	36F1387WA	17.10	36F1387WF	78.00	36F1387WM	156.00
9874	6	.470	36F1388WA	34.50	36F1388WF	158.25	36F1388WM	316.50
9875	9	.530	36F1389WA	51.00	36F1389WF	231.00	36F1389WM	462.00
9876	11	.555	36F1390WA	60.00	36F1390WF	277.50	36F1390WM	555.00
9877	12	.575	36F1391WA	64.50	36F1391WF	298.50	36F1391WM	597.00
9878	13	.610	36F1392WA	69.00	36F1392WF	319.50	36F1392WM	639.00
9879	15	.650	36F1393WA	78.00	36F1393WF	361.50	36F1393WM	723.00

AS ABOVE EXCEPT #18 AWG AND .016″. POLYPROPYLENE INSULATED

9773	3	.372	...	...	36F1394WF	100.15	36F1394WM	200.25
9774	6	.555	...	...	36F1395WF	204.75	36F1395WM	409.50
9775	9	.620	...	...	36F1396WF	309.00	36F1396WM	618.00
9776	12	.765	...	...	36F1397WF	411.00	36F1397WM	822.00
9777	15	.830	...	...	36F1398WF	513.00	36F1398WM	1026.00

Standard put-ups are 100′ -500′ -1000′ One piece -0 +20% on spool.

13

MINIATURE INSTRUMENTATION CABLES

Solid tinned copper cond., polypropylene insul., copper braid shield in coaxial construction; black vinyl jacket. May be steam sterilized for medical instrumentation.

8700

Type	AWG & Cond.	Nom. O.D.	Work. Volt.	Stk. No.	25′	Stk. No.	50′	Stk. No.	100′	Stk. No.	250′
8700	28-1	.054″	100	36F082WC	2.31	36F082WB	3.87	36F082WA	6.55	36F082WE	15.30

MULTIPLE CONDUCTOR CABLES-PAIRED

Solid. All types below have # 22 AWG solid tinned copper conductors, vinyl insulated and cabled in pairs. Chrome vinyl jacket overall. 8746 spools are one piece -0+20%.

8741

Mfr. No.	No. of Pairs	Nom. O.D.	Work. Volt.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000
8741	2	.201″	300	36F061WA	4.95	36F061WF	20.10	36F061WM	40.20
8742	3	.240″	300	36F062WA	6.55	36F062WF	28.05	36F062WM	56.10
8757	4	.255″	300	....	.....	36F069WF	37.20	36F069WM	74.40
8743	6	.305″	200	36F063WA	10.80	36F063WF	49.45	36F063WM	98.85
8744	9	.354″	200	36F064WA	15.90	36F064WF	74.05	36F064WM	148.05
8753	11	.384″	200	36F067WA	20.20	36F067WF	95.50	36F067WM	190.95
8754	13	.409″	200	36F1465WA	22.50	36F1465WF	107.80	36F1465WM	215.55
8745	15	.420″	200	36F065WA	27.40	36F065WA	127.75	36F065WF	255.45
8755	19	.480″	200	.....	...	36F1466WM	159.75	36F1466WF	319.50
8756	23	.510″	200	.....	...	36F1467WM	193.60	36F1467WF	387.15
8746	27	.550″	200	.....	...	36F1468WM	220.50	36F1468WF	441.00

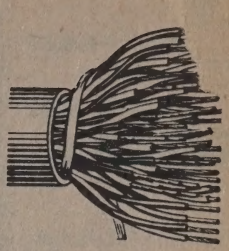
SAME AS ABOVE EXCEPT OVERALL BELDFOIL SHIELD

9302	2	.211	90	36F1469WA	6.00	36F1469WF	25.35	36F1469WM	50.70
9306	6	.315	90	36F1470WA	12.15	36F1470WF	55.75	36F1470WM	111.45
9309	9	.364	90	36F1471WA	17.55	36F1471WF	80.25	36F1471WM	160.50
9315	15	.430	90	36F1472WA	30.90	36F1472WF	142.90	36F1472WM	285.75
9319	19	.455	90	36F1473WA	38.25	36F1473WF	175.50	36F1473WM	351.00
9327	27	.560	90	36F1474WA	51.75	36F1474WF	238.50	36F1474WM	477.00

NEWARK—
For All Your
Electronic
Needs

MULTIPLE CONDUCTOR CABLES-PAIRED (CONT.)

Stranded. As preceding types but Type 22 AWG stranded (7x30) conductors provide greater flexibility, can be run in intricate bands.



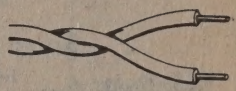
Type No.	No. of Pairs	Nom. O.D.	Work Volt.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
9744	2	.230″	300	...	...	36F1475WF	23.65	36F1475WM	47.25
9745	3	.280″	300	...	...	36F1476WF	35.10	36F1476WM	70.20
9746	4	.295″	300	...	...	36F1477WF	45.95	36F1477WM	89.85
8747	6	.320	200	36F075WA	13.05	36F075WF	59.70	36F075WM	119.40
8748	9	.389″	200	36F076WA	19.60	36F076WF	92.65	36F076WM	185.25
9747	12	.440″	200	...	...	36F1478WF	127.50	36F1478WM	255.00
8749	15	.455″	200	36F077WA	32.85	36F077WF	155.80	36F077WM	311.55
9748	19	.520″	200	...	...	36F1479WF	196.15	36F1479WM	392.25
9749	23	.570″	200	...	...	36F1480WF	252.00	36F1480WM	504.00
8750	27	.595″	200	...	...	36F078WF	300.75	36F078WM	601.50

38- and 51-Pair Cables. Have 22 AWG solid copper conductors, 8751 vinyl insulated, 8752 polypropylene insulated. BEDFOIL shield overall, chrome vinyl jacket. -0 + 20% on spools.

Type	No. Cond.	Nom. O.D	Stk. No.	500′	Stock No.	1000′
8751	51 pr.	.700″	36F079WF	579.00	36F079WM	1158.00
8752	38 pr.	.600″	36F074WF	514.50	36F074WM	1029.00

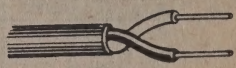
TWO CONDUCTOR CABLES

Unjacketed. Twisted pair cable, vinyl insulated.



Mfr. No.	AWG	Nom. O.D.	Work. Volt.	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8481	22 (solid)	.112″	350	36F068WA	2.50	36F068WF	7.95	36F068WM	15.90
8482	19 (solid)	.130″	350	36F1009WA	3.23	36F1009WF	11.85	36F1009WM	23.70
8460	18 (strd.)	.175″	450	36F1010WA	4.65	36F1010WF	18.25	36F1010WM	36.45
8470	16 (strd.)	.195″	600	.....	.....	36F1011WF	23.10	36F1011WM	46.20

Jacketed. As above, but with chrome vinyl overall jacket.



8740	22 (solid)	.150″	200	36F060WA	3.02	36F060WF	10.80	36F060WM	21.60
8442	22 (strd.)	.165″	350	....	.....	36F039WF	12.75	36F039WM	25.50
8205	20 (strd.)	.190″	350	36F197WA	4.05	36F197WF	15.00	36F197WM	30.00
8461	18 (strd.)	.226″	450	36F1014WA	5.50	36F1014WF	22.35	36F1014WM	44.70
8471	16 (strd.)	.256″	600	.....	.....	36F1015WF	30.30	36F1015WM	60.60
8473	14 (strd.)	.332″	600	.....	.....	36F1021WF	48.15	36F1021WM	96.30
8477	12 (strd.)	.384″	600	.....	.....	36F1354WF	67.65	36F1354WM	135.45

SINGLE BELDSOL-130°C MAGNET WIRE

Dual film insulated magnet wire that combines excellent dielectric characteristics of polyurethane and the known toughness and solvent resistance of nylon. May be soldered without insulation removal at 750°F. ½ lb.-spool sizes 14 thru 36. ¼ lb.-spool sizes 38 and 40.

Type No.	AWG	Approx. Feet	Stk. No.	NET	Type No.	AWG	Approx. Feet	Stk. No.	NET
8047	14	40	36F1310	1.79	8054	28	1020	36F1317	2.00
8048	16	63	36F1311	1.79	8055	30	1615	36F1318	2.22
8049	18	100	36F1312	1.82	8056	32	2515	36F1319	2.48
8050	20	160	36F1313	1.82	8057	34	4060	36F1320	2.64
8051	22	254	36F1314	1.82	8058	36	6400	36F1321	3.02
8052	24	404	36F1315	1.85	8045	38	5070	36F1322	2.21
8053	26	645	36F1316	1.92	8046	40	8050	36F1323	2.97

HEAVY ARMORED POLYTHERMALEZE HIGH TEMPERATURE MAGNET WIRE

Dual polyester film insulated magnet wire, rated for use to 180°C. Has exceptional ability to resist chemical solvents and abuse in intricate windings. One pound spools.

8073	14	80	36F767	3.05	8080	28	1990	36F774	3.90
8074	16	126	36F768	3.15	8081	30	3140	36F775	4.43
8075	18	199	36F769	3.30	8082	32	4880	36F776	4.80
8076	20	315	36F770	3.30	8083	34	7860	36F777	5.65
8077	22	501	36F771	3.30	8084	36	12400	36F778	6.75
8078	24	793	36F772	3.38	8085	38	19400	36F779	8.10
8079	26	1260	36F773	3.60	8086	40	32100	36F780	10.65

TWIN LEAD ANTENNA ROTOR CABLE

Type 8290. SHIELDED & JACKETED ENCAPSULATED TWIN LEAD. #22 AWG, 2 cond., 300 ohm cable. TV lead-in for best color and 82 channel reception. Low losses per 100 ft., eliminates interference caused by line pick up. No matching transformers. Terminals on both ends. Nominal OD: .515″.
36F2000WB. 50′. NET ..... 6.45 36F2000H. 75′. NET 8.65
36F2000WA. 100′. NET 10.95

Type 8285. PERMOHM All-Weather #22 AWG, 300-ohm twinlead. 2 parallel Copperweld conductors, orange polyethylene insulation and web between conductors, encapsulated in cellular polythylene oval jacket. Delivers 3 to 136 times more power than flat lead-in for strong, clear signals on all channels. An excellent color, UHF, VHF cable. Nominal OD: .468″.
36F211WB. 50′ NET ..... 3.30 36F211H. 75′. NET 4.35
36F211WA. 100′ NET 5.55

TYPE 8275. CELLULINE. #20 AWG, 300 ohm cable. 2 parallel Copperweld conductors with inert-gas-filled unicellular polyethylene core. Lower losses because of lower dielectric constant. Polyethylene outer jacket and wind-resistant. Efficient line for UHF VHF and color no end sealing required. Nominal OD: .400″
36F212WB. 50′. NET ..... 3.03 36F212H. 75′ NET 4.13
36F212WA. 100′. NET 5.20

Type 8222. 72-OHM TRANSMISSION LINE. #20 AWG, 2 parallel copper cond., brown polyethylene insulation. Nominal OD .128″.
36F213WA. 100′. NET 2.66

Type 8230. WELDOHM. #20 AWG, 2 cond., 300 ohm cable. Copperweld cond. have greater strength for long-lasting installation. Nominal OD: .400″.
36F209WB. 50′ NET ..... 1.52 36F209H. 75′. NET 2.04
36F209WA. 100′. NET 2.54

Type 8225. #20 AWG, 2 cond., 300 OHM FLAT TWINLEAD bare copper cond. polyethylene insulation for best weathering. Nominal OD: .400″
36F210WB. 50′ NET ..... 1.44 36F210H. 75′. NET 1.89
36F210WA. 100′. NET 2.33

Type 8464. #20 AWG, 4-CONDUCTOR FLAT ROTOR CABLE. Bare copper conductors, one tinned for polarity. Chrome vinyl insulation Nominal OD: .390″.
36F231WB. 50′. NET ..... 2.79 36F231H. 75′. NET 3.74
36F231WA. 100′ NET. 4.90

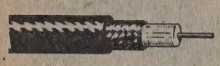
Type 8463. Same as above except has 5 cond. and brown polyethylene insulation. Nominal OD: .375″
36F232WB. 50′. NET ..... 3.12 36F232H. 75′. NET 4.50
36F232WA. 100′. NET 5.95

Type 8488. #22 AWG, 8 CONDUCTOR ROUND ROTOR CABLE. Bare copper conductors, color-coded insulation, chrome vinyl jacket. Nominal OD: .205″.
36F056WA. 100′ NET 7.30

TV and Audio Cable Hi-Fi and Stereo

RG/U TRANSMISSION LINE CABLE

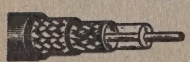
Low loss flexible polyethylene inner jacket covered by copper shield with either vinyl or polyethylene outer jacket overall. Single conductor type. (*) Mil. spec. (†) TV Distribution Cable-Black RG59/U type.



8241

Type No.	RG No.	Jan Spec.	Nom. Imp.	AWG and Stranding	Nom. O.D.	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8212	RG-59/U	.....	75	20 Copperweld	.242″	.....	.....	36F1800WF	29.50	36F1800WM	58.95
8213	RG-11/U	.....	75	14 Solid	.405″	.....	.....	36F1801WF	75.90	36F1801WM	151.80
8214	RG-8/Y	.....	50	11 (7x19)	.405″	37F2450WA	17.70	37F2450WF	83.35	37F2450WM	166.65
8216	RG-174/U	C-17D	50	25 (7x34)	.100″	36F058WA	4.80	36F058WF	17.85	36F058WM	35.70
8218	.....	.....	75	27 (7x35)	.150″	36F1803WA	6.45	36F1803WF	24.30	36F1803WM	48.60
8219	RG-58A/U	.....	50	20 (19x32)	.195″	37F2451WA	7.65	37F2451WF	29.35	37F2451WM	58.65
8221†	.....	.....	75	22 Copperweld	.242″	36F1357WA	8.35	36F1357WF	27.90	36F1357WM	55.80
8237	RG-8/U	C-17A	52	13 (7x21)	.405″	36F113WA	17.35	36F113WF	69.10	36F113WM	138.15
8238	RG-11/U	C-17A	75	18 (7x26)	.405″	36F114WA	14.95	36F114WF	59.25	36F114WM	118.50
8240	RG-58/U	C-17A	53.5	20 Solid	.195″	36F111WA	6.10	36F111WF	22.30	36F111WM	44.55
8241	RG-59/U	C-17A	73	22 Copperweld	.242″	36F110WA	7.50	36F110WF	25.45	36F110WM	50.85
8242	RG-9/U	C-17A	51	13 (7x21)	.420″	36F1806WA	46.20	.....	.....	36F1806WM	420.90
8254	RG-62/U	C-17A	93	22 Copperweld	.242″	36F1347WA	7.95	36F1347WF	30.15	36F1347WM	60.30
8255	RG-62B/U	C-17D	93	24 Solid	.242″	.....	.....	36F1808WF	36.85	36F1808WM	73.65
8259	RG-58A/U	C-17A	50	20 (19x.0071)	.195″	36F118WA	7.20	36F118WF	25.60	36F118WM	51.15
8261	RG-11A/U	C-17D	75	18 (7x26)	.405″	.....	.....	37F2452WF	70.05	37F2452WM	140.10
8262	RG-58C/U	C-17D*	50	20 (19x.0071)	.195″	.....	.....	36F057WF	28.50	36F057WM	57.00
8263	RG-59B/U	C-17D	75	.023 Solid	.242″	.....	.....	36F1809WF	31.00	36F1809WM	61.95
8267	RG-213/U	C-17D	50	13 (7x21)	.405″	.....	.....	37F2453WF	75.90	37F2453WM	151.80
8268	RG-214/U	C-17D	50	13 (7x.0296)	.425″	.....	.....	37F2454WF	252.10	37F2454WM	504.15
9251	RG-8A/U	.....	50	11 (7x19)	.405″	37F2455WA	19.50	37F2455WF	75.75	37F2455WM	151.50
9252	RG-122/U	C-17D	50	22 (27x36)	.160″	37F2456WA	7.35	37F2456WF	28.50	37F2456WM	57.00
9259	RG-59/U	UL1354	50	22 Stranded	.242″	37F2457WA	7.90	37F2457WF	27.90	37F2457WM	55.80
9273	RG-223/U	C-17D	50	19 Solid	.206″	37F2458WA	20.10	37F2458WF	87.75	37F2458WM	175.50

RG-59 TYPE COAX CABLE WITH STRANDED CENTER CONDUCTOR



Recommended for camera to recorder to monitor connections. Stranded center conductor adds the flexibility to resist severe twisting, bending and other stresses which occur in many CCTV applications. UL listed. Style 1354.

Type No.	RG No.	Jan Spec.	Nom. Imp.	AWG and Stranding	Nom. OD	Stock No.	50′	Stock No.	100′	Stock No.	500′	Stock No.	1000′
9259	RG-59/U	UL1354	50	22 stranded	.242″	37F2457WB	4.65	37F2457WA	7.90	37F2457WF	27.90	37F2457WM	55.80

HI-FI AND STEREO CABLES

Phono Pick-Up Cable. Type 8421, Hi-Fi connecting cable, spiral wrapped shield, chrome vinyl jacket with cellular polyethylene insulated conductor, 8431 is rubber insulated, shield and brown cotton braid. 8419, and 8429, are vinyl insulated. * No shield, no jacket. color-coded polyethylene insulation and individual spiral wrapped shields; chrome vinyl jacket.

Dual-Channel Audio Cable, Type 8416. Designed for stereo and language lab hookup applications. Tinned copper—copperweld conductors, with color-coded polyethylene and individual spiral wrapped shields; chrome vinyl jacket. † per channel, +50 ft. below.

Miniature Audio Connecting Cable, Type 8417. Double BELFOIL aluminum-mylar shields provide total shielding for cirtical audio and instrumentation applications. Copper-copperweld conductor cellular polyethylene insulation, chrome vinyl jacket.

Type	No. of Cond.	AWG and (stranding)	Nom. O.D.	Nom. mmf/ft.	Stock No.	25 Ft.	Stock No.	100 Ft.	Stock No.	250 Ft.
8430*	2	32 (7x40)	.050″	21	36F158WC	1.14	.....	.....	36F158WE	6.60
9435	3	32 (7x40)	.058″	22	37F2459WC	1.71	37F2459WA	4.05	.....	.....
9436	4	32 (7x40)	.065″	22	37F2460WC	2.10	37F2460WA	4.90	.....	.....
8429	2	32 (7x40)	.057″	22	36F150WC	1.89	.....	.....	36F150WE	12.75
8419	3	32 (7x40)	.067″	30	36F159WC	2.22	.....	.....	36F159WE	15.75
8431	1	24 (16x36)	.095″	96	36F152WC	1.79	36F152WA	5.70	.....	.....
8421	1	25 (7x33)	.180″	18	36F226WC	2.15	36F226WA	6.40	36F226WE	14.10
8416	2	25 (7x33)	.213″	35†	36F126WC	2.31	36F126WA	7.60	36F126WE	17.25
8417	1	25 (7x33)	.140″	25	36F127WC	1.77	36F127WA	5.10	36F127WE	11.10

RUBBER-VINYL MULTICONDUCTOR PORTABLE CORDAGE—300V —60°C

Types 8462 and 8888 are standard household "lamp cord;" other types have color-coded rubber insulation, black rubber jacket overall. All conductors are of stranded copper. *Rubber insulated, in brown, white or black—specify color. †Vinyl insulation, in brown, white or grey—specify color.

Mfr. No.	U/L Type	AWG & Cond.	Nom. O.D.	Stk. No.	25′	Stk. No.	50′	Stk. No.	100′	Stk. No.	250′	Stk. No.	500′	Stk. No.	1000′
8462*	SP-1	18-2	.223″	36F047WC	1.71	.....	.....	36F047WA	5.20	36F047WE	12.30	.....	.....	.....	.....
8888†	SPT-1	18-2	.207″	36F048WC	1.67	.....	.....	36F048WA	4.65	36F048WE	9.90	.....	.....	.....	.....
8452	SV	18-2	.245″	.....	.....	36F030WB	4.50	36F030WA	7.95	36F030WE	17.80	36F030WF	35.55	36F030WM	71.10
8453	SV	18-3	.265″	.....	.....	36F031WB	5.65	36F031WA	10.90	.....	.....	36F031WF	51.55	.....	.....
8454	.....	18-4	.265″	.....	.....	36F032WB	6.45	36F032WA	12.25	.....	.....	36F032WF	56.40	.....	.....
8478	SJ	18-2	.298″	.....	.....	.....	.....	36F1811WA	8.80	36F1811WE	20.85	.....	.....	36F1811WM	83.25
8472	SJ	16-2	.325″	.....	.....	.....	.....	36F049WA	12.10	36F049WE	28.45	.....	.....	.....	.....
8474	.....	14-2	.360″	.....	.....	.....	.....	36F050WA	15.25	36F050WE	36.85	.....	.....	.....	.....
8479	.....	14-3	.380″	.....	.....	.....	.....	36F1352WA	17.85	36F1352WE	43.65	.....	.....	.....	.....

TWO CONDUCTOR SPEAKER CABLES

Parallel conductor cables for speaker lines. Also ideal for a variety of other audio and instrumentation applications. Chrome vinyl insulation, stranded. *solid.

Type No.	AWG and Cond.	Cable Width	Work Volt	Stock No.	100′	Stock No.	500′	Stock No.	1000′
8649	20-2	.146″	300	36F1816WA	3.14	36F1816WF	11.25	36F1816WM	22.50
8781*	22-2	.120″	100	36F133WA	2.25	36F133WF	6.70	36F133WM	13.35
8782	24-2	.115″	300	36F105WA	2.03	36F105WF	6.75	36F105WM	13.50

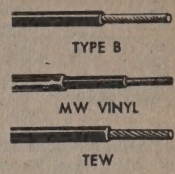
Mil Spec, and U/L Hookup Wire

BELDEN

MIL-W-16878D TYPE B VINYL 600V-105C TIGHT NO- FRAY STRANDING

Tinned copper wire stranded for greater flexibility. Wall thickness .010 Vinyl insulation for high resistance to moisture, flame, ozone, solvents and most chemicals. SPECIFY COLOR AND COLOR NO. WHEN ORDERING. **Colors available only in sizes listed. See stock color columns. *For tracer colors add 12c per 100 ft.** Shipping weight 100′ 1 lb.; 1000′ 6 lbs.

Mfr. Types	Mil. Types	AWG and Stranding	O.D.	100′ and 1000′ Stock Colors	Stock No.	100 Ft.	Stock No.	1000 Ft.
8505	B-26	26 (7x34)	.039″	1-10, 14-22*	36F595WA	1.56	36F595WM	11.05
8509	B-24	24 (19x36)	.045″	1-10, 14-22	36F602WA	2.01	36F602WM	12.55
8504	B-24	24 (7x32)	.044″	1-10, 14-22*	36F594WA	1.56	36F594WM	11.05
8503	B-22	22 (7x30)	.050″	1-10, 14-22*	36F593WA	1.77	36F593WM	11.35
8502	B-20	20 (7x28)	.058″	1-10, 14-22*	36F592WA	2.18	36F592WM	13.65
8501	B-18	18 (7x26)	.068″	1-10, 14-22*	36F591WA	2.31	36F591WM	17.50
8500	B-16	16 (19x29)	.077″	1-10, 14-22*	36F590WA	2.96	36F590WM	23.25



MIL-W-76B TYPE MW—VINYL AND VINYL-NYLON—1000V

Tinned copper conductor with vinyl insulation rated at 80°C. Flame and ozone resistant; inert to most chemicals, oil and solvents. Specify color and color No. when ordering—SEE CHART AT RIGHT. ***For tracer colors add 12c per 100 ft.**

Type	Mil. No.	AWG and Stranding	Nom. O.D.″	100′ Spools Stk. No.	Net	1000′ Spools Stk. No.	Net	Stock Colors
8525	MW-C-24-7U	24 (7x32)	.058	36F641WA	1.53	36F641WM	9.90	1-22
8530	MW-C-22-1U	22 (solid)	.059	36F640WA	1.46	36F640WM	9.15	1-22
8524	MW-C-22-7U	22 (7x30)	.064	36F660WA	1.73	36F660WM	11.70	1-22
8529	MW-C-20-1U	20 (solid)	.066	36F650WA	1.76	36F650WM	11.55	1-22
8523	MW-C-20-10U	20 (10x30)	.070	36F670WA	2.00	36F670WM	13.35	1-22
8528	MW-C-18-1U	18 (solid)	.074	36F642WA	2.24	36F642WM	15.75	1-13
8522	MW-C-18-16U	18 (16x30)	.080	36F690WA	2.40	36F690WM	17.95	1-22
8521	MW-C-16-26U	16 (26x30)	.098	36F632WA	3.35	36F632WM	25.80	1-22
8520	MW-C-14-41U	14 (41x30)	.111	36F643WA	4.70	36F643WM	40.35	1-22
8527	MW-C-12-65U	12 (65x30)	.130	36F644WA	7.15	36F644WM	58.35	1-10

COLOR CODING

First color in stripe combination is body color and second color is tracer. **Specify color when ordering. All colors are not available in all types. See stock color columns.**

1. Brown
2. Red
3. Orange
4. Yellow
5. Green
6. Light Blue
7. Violet
8. Gray
9. White
10. Black
11. Tan
12. Pink
13. Dark Blue

Tracer colors Add 12c/100 ft.

14. White/Black
15. White/Red
16. White/Green
17. White/Yellow
18. White/Blue
19. White/Brown
20. White/Orange
21. White/Gray
22. White/Violet

U/L TYPE HOOKUP AND LEAD WIRE—600V

CSA Type TEW vinyl insulated; rated 600V to 105°. **Specify color & color No.—see chart at right and stock order column.**

Type	AWG	O.D.	Stk. Colors	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
8920	22 (7x30)	.095″	1-5, 9, 10, 13	36F580WA	1.92	.....	.....	36F580WM	12.75
8919	20 (10x30)	.102″	1-5, 9, 10, 13	36F581WA	2.40	.....	.....	36F581WM	16.15
8918	18 (16x30)	.112″	1-5, 9, 10, 13	36F582WA	2.87	.....	.....	36F582WM	20.50
8917	16 (26x30)	.126″	1-5, 9, 10, 13	36F583WA	3.68	36F583WF	14.85	.....	.....
8916	14 (41x30)	.141″	1-5, 9, 10, 13	36F584WA	5.20	36F584WF	20.35	.....	.....

CSA type TRB, vinyl insulation lacquered cotton braid jacket; rated 600V to 90°C.

8937	22 (7x30)	.091″	1-5, 9, 10, 13	36F585WA	2.63	.....	.....	36F585WM	18.60
8936	20 (10x30)	.098″	1-5, 9, 10, 13	36F586WA	2.72	.....	.....	36F586WM	20.95
8935	18 (16x30)	.113″	1-5, 9, 10, 13	36F587WA	3.59	.....	.....	36F587WM	26.55
8934	16 (26x30)	.126″	1-5, 9, 10, 13	36F588WA	4.50	36F588WF	18.75	.....	.....
8933	14 (41x30)	.177″	1-5, 9, 10, 13	36F589WA	6.75	36F589WF	28.90	.....	.....

U/L CSA Listed—105° C-600V VINYL

Vinyl plastic insulation is fast stripping. Resists oil, solvents, and ozone. Colors are bright and remain distinct after processing. USES: motors, transformers, flourescent ballasts and fixtures, switchboards, panels, controls, rectifiers, and electronic circuits. Recommended maximum baking cycles: 105°C wires, 275°F (48 hrs.), 300°F (24 hrs.); 80°C wires, 275°F, 24 hrs. UL rated 2500V peak, for electronic use only in sizes 24 thru 10 AWG.

Type No.	AWG and Stranding	Insl. Thick.	Nom. OD	Stock Colors	Stk. No.	250′	Stk. No.	1000′	Stk. No.	4000′	Stk. No.	5000′
9720	24 Solid	1/32	.085	2, 4, 10	.....	.....	.....	.....	.....	.....	37F2600WX	29.00
9722	22 Solid	1/32	.090	2, 4, 5, 9, 10, 13	.....	.....	.....	.....	.....	.....	37F2601WX	32.00
30622	22 (7x30)	1/32	.094	2, 4, 5, 9, 10, 13	.....	.....	37F2602WM	9.70	.....	.....	37F2602WX	36.00
9822*	22 (7x30)	1/32	.094	2, 4, 5, 9, 10, 13	.....	.....	.....	.....	.....	.....	37F2603WX	41.25
30620	20 (10x30)	1/32	.100	2, 4, 5, 9, 10, 13	.....	.....	37F2604WM	12.25	37F2604WT	39.60	.....	.....
9820*	20 (7x28)	1/32	.100	2, 4, 5, 9, 10, 13	.....	.....	.....	.....	37F2605WT	44.80	.....	.....
30618	18 (16x30)	1/32	.110	2, 4, 5, 9, 10, 13	.....	.....	37F2606WM	14.05	37F2606WT	52.80	.....	.....
9818*	18 (16x30)	1/32	.110	2, 4, 5, 9, 10, 13	.....	.....	.....	.....	37F2607WT	58.40	.....	.....
30616	16 (26x30)	1/32	.123	2, 4, 5, 9, 10, 13	.....	.....	37F2608WM	21.55	37F2608WT	71.20	.....	.....
30614	14 (41x30)	1/32	.141	10	.....	.....	.....	.....	.....	.....	37F2609WX	124.00
9912	12 (65x30)	1/32	.162	10	37F2610WE	12.86	.....	.....	.....	.....	.....	.....
9910	10 (65x28)	1/32	.185	10	37F2611WE	18.06	.....	.....	.....	.....	.....	.....
9908	8 (84x27)	3/64	.253	10	37F2612WE	31.85	.....	.....	.....	.....	.....	.....

UL, CSA Type TEW approved. Tinned copper stranded. Unistrand* (*stranded bare copper overall tin no-fray) Vinyl insulated.

SAME AS ABOVE EXCEPT 80°C—300V UL APPROVED

9922*	22 (7x30)	1/64	.064	2, 4, 5, 9, 10, 13	.....	.....	.....	.....	.....	.....	37F2613WX	36.25
9920*	20 (7x28)	1/64	.070	9, 10	.....	.....	.....	.....	.....	.....	37F2614WX	44.00
9918	18 (16x30)	1/64	.080	10	.....	.....	.....	.....	.....	.....	37F2615WX	62.75

UL LISTED 90° C-600V NEOPRENE

Neoprene has good heat aging qualities and is an excellent, low cost motor lead wire. It may be considered for use in hazardous locations and has been UL recognized for use in explosion proof motors. Recommended maximum baking cycles: 300°F, 24 hrs.; 325°F, 8 hrs.; 450°F, 15 min.

Type No.	AWG and Stranding	Insl. Thick.	Nom. OD	Stock Colors	Stock No.	2000′	Stock No.	3000′	Stock No.	4000′	Stock No.	5000′
9604	18 (16x30)	3/64	.143	2, 9, 10	37F2616WP	44.10	.....	.....	.....	.....	37F2616WX	93.25
9605	16 (26x30)	3/64	.156	10	37F2617WP	49.60	.....	.....	.....	.....	37F2617WX	109.75
9606	14 (41x30)	3/64	.179	9, 10	.....	.....	.....	.....	37F2618WT	143.40	.....	.....
9607	12 (65x30)	3/64	.198	10	.....	.....	37F2619WS	155.10	.....	.....	.....	.....

BELDEN U/L Hook-Up Wire

U/L LISTED 105°C-300V HYPALON

Chlorosulfonated polyethylene. Heat resistant, color stable. Excellent electrical properties. Recommended under IEEE Standards for Class 130C as motor leads. An alternate to silicone rubber to withstand Class 155C varnish baking temperatures. Not suitable for operating temperatures above Class 130C.

Type No.	AWG and Stranding	Insl. Thick.	Nom. O.D.	Stock Colors*	Stock No.	5000′
9601	20 (10x30)	1/32	.104″	8, 9, 10	36F2150WX	75.75
9602	18 (16x30)	1/32	.112″	8, 9, 10	36F2151WX	84.00
9603	16 (26x30)	1/32	.125″	2, 4, 5, 8, 9, 10	36F2152WX	106.00

*Specify color desired.

TEFLON HOOK-UP WIRE

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated. Recommended for miniature cable applications, because of thermal and electrical properties. Suitable for internal wiring soldering applications where insulation melt is a problem. Outstanding in their resistance to oil, oxidation, heat, sunlight, flame. Remain flexible at low temperatures. Resistant to ozone, water, alcohol, gasoline, acids, alkalis, aromatic carbon and solvents. Specify color: 1-10 (see color chart).

COLOR CHART

1. Brown	6. Light Blue
2. Red	7. Violet
3. Orange	8. Gray
4. Yellow	9. White
5. Green	10. Black

TYPE E MIL-W-16878 TEFLON 600V-200°C

Type No.	AWG and Stranding	Nom O.D. (Inches)	Insul. Thickness	Specify Color	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83000	30 (7x38)	.033	.010″	1-10	36F610 WA	4.80	36F610 WF	14.03	36F610 WM	26.55
83001	28 (7x36)	.036	.010″	1-10	36F611 WA	4.95	36F611 WF	14.75	36F611 WM	28.00
83002	26 (7x34)	.041	.010″	1-10	36F612 WA	5.40	36F612 WF	16.65	36F612 WM	31.80
83003	24 (19x36)	.046	.010″	1-10	36F613 WA	6.60	36F613 WF	21.38	.....	.....
83004	24 (7x32)	.045	.010″	1-10	36F614 WA	5.70	36F614 WF	17.55	36F614 WM	33.60
83005	22 (7x30)	.051	.010″	1-10	36F615 WA	6.60	36F615 WF	21.38	36F615 WM	41.25

TYPE EE-MIL-16878 TEFLON 1000V-200°C

83023	24 (19x36)	.053	.014″	1-10	36F1719WA	8.55	36F1719WF	29.40	.....	.....
83025	22 (7x30)	.058	.014″	1-10	36F1720WA	8.85	36F1720WF	30.68	.....	.....
83026	22 (19x34)	.060	.014″	1-10	36F1721WA	9.55	36F1721WF	33.95	36F1721WM	66.40
83027	20 (19x32)	.068	.014″	1-10	36F1722WA	11.10	36F1722WF	40.35	36F1722WM	79.20
83028	20 (7x28)	.066	.014″	1-10	36F1723WA	10.50	36F1723WF	37.73	.....	.....
83029	18 (19x30)	.079	.014″	1-10	36F1724WA	14.70	36F1724WF	55.58	36F1724WM	109.65

TYPE ET-MIL-W-16878* TEFLON 250V-200°C MINIATURE HOOK-UP WIRE

83041	32 (7x40)	.021	.006″	1-10	36F1725WA	4.75	.....	.....	36F1725WM	26.10
83043	30 (7x38)	.024	.006″	1-10	36F1726WA	4.80	.....	.....	36F1726WM	26.35
83045	28 (7x36)	.027	.006″	1-10	36F1727WA	4.95	.....	.....	36F1727WM	27.75
83046	26 (7x34)	.031	.006″	1-10	36F1728WA	5.35	.....	.....	36F1728WM	30.15
83047	24 (7x32)	.036	.006″	1-10	36F1729WA	5.50	.....	.....	36F1729WM	31.80
83049	22 (7x30)	.042	.006″	1-10	36F1730WA	6.00	.....	.....	36F1730WM	36.25

SPECIAL FEP TEFLON INSULATED INSTRUMENTATION CABLES

Tinned copper, insulated with FEP TEFLON, conductors cabled, noise reducing tape, 22 AWG (7x30) nickel coated copper drain wire, special BELDFOIL shield, red silicone rubber jacket except *yellow jacket. +150°C maximum operating temperature. Jacket working voltage: 1000V DC, shield to ground. Conductor colors: 9, 10, 2, 5.

Type No.	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Insul. Thickness	Jacket Thickness	Stk. No.	100′	Stk. No.	500′
83393*	2	20 (7x28)	.245″	.020	.030	36F1359WA	45.45	36F1359WF	219.75
83394	2	22 (7x30)	.204″	.015	.030	36F209WA	31.50	36F209WF	157.50
83395	3	22 (7x30)	.213″	.015	.030	36F210WA	39.30	36F210WF	191.25
83396	4	22 (7x30)	.222″	.015	.030	36F211WA	45.75	36F211WF	221.25

RG/U TRANSMISSION LINE CABLES

Cables meet Mil. Spec. MIL-C-17D; silver coated copperweld; TFE Teflon insulation; silver coated copper shields.

Type No.	RG No.	AWG and Stranding	Jacket	Nom. O.D. (Inches)	Nom. Imp. (Ohms)	Max. Attenuation Per 100′	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83241	141A/U	18 (solid)	Fiberglass	.190	50	9.0 db	36F1687WA	51.00	36F1687WF	238.13	36F1687WM	470.25
83242	142B/U	18 (solid)	Brown FEP	.195	50	9.0 db	36F1688WA	63.00	36F1688WF	297.75	36F1688WM	589.50
83265	178B/U	30 (7x28)	Brown FEP	.070	50	29.0 db	36F1689WA	14.55	36F1689WF	62.85	.....	.....
83264	179B/U	30 (7x28)	Brown FEP	.100	75	21.0 db	36F1690WA	25.20	36F1690WF	108.90	36F1690WM	213.30
83266	180B/U	30 (7x28)	Brown FEP	.140	95	17.0 db	36F1691WA	33.00	36F1691WF	152.25	.....	.....
83284	316/U	26 (7x.0067)	Brown FEP	.098	50	20.0 db	36F1684WA	24.00	36F1684WF	106.88	36F1684WM	209.25

TEFLON E SHIELDED TEFLON CABLES

Stranded silver coated copper conductors, type E extruded TFE teflon insulation, color coded, cabled, braided silver plated copper shield, white TFE Teflon tape wrapped jacket. Mil. Spec: MIL-W-16878 Type E. Temperature rating: −65C to 200C. 90% shield coverage. Suggested working voltage: 600 volts (RMS). Passes the FR-1 vertical flame test.

TWO CONDUCTOR

Type No.	AWG and Stranding	Nom. O.D. (Inches)	Insul. Thickness	Jacket Thickness	Conductor Color Coding	Stk. No.	100′	Stk. No.	500′	Stk. No.	1000′
83315	30 (7x38)	.106	.010	.010	9, 10	36F1685WA	40.35	36F1685WF	167.25	36F1685WM	334.50
83316	28 (7x36)	.112	.010	.010	9, 10	36F1686WA	42.30	36F1686WF	171.00	36F1686WM	342.00
83317	26 (7x34)	.120	.010	.010	9, 10	36F1731WA	43.80	36F1731WF	174.00	36F1731WM	348.00
83318	24 (19x36)	.132	.010	.010	8, 10	36F1732WA	46.50	36F1732WF	184.20	36F1732WM	368.40
83319	22 (19x34)	.144	.010	.010	9, 10	36F1733WA	53.40	36F1733WF	204.00	36F1733WM	408.00
83320	20 (19x32)	.162	.010	.012	9, 10	36F1734WA	56.10	36F1734WF	228.75	36F1734WM	457.50
83321	18 (19x30)	.188	.010	.012	9, 10	36F1735WA	70.80	36F1735WF	292.50	36F1735WM	585.00
83322	16 (19x29)	.200	.011	.012	9, 10	36F1736WA	91.50	36F1736WF	380.25	36F1736WM	760.50

THREE CONDUCTOR

83330	30 (7x38)	.111	.010	.010	2, 9, 10	36F1737WA	54.00	36F1737WF	214.50	36F1737WM	429.00
83331	28 (7x36)	.117	.010	.010	2, 9, 10	36F1738WA	54.75	36F1738WF	219.75	36F1738WM	439.50
83332	26 (7x34)	.126	.010	.010	2, 9, 10	36F1739WA	57.30	36F1739WF	234.75	36F1739WM	469.50
83333	24 (19x36)	.136	.010	.010	2, 9, 10	36F1740WA	63.00	36F1740WF	258.00	36F1740WM	516.00
83334	22 (19x34)	.156	.010	.012	2, 9, 10	36F1741WA	70.20	36F1741WF	288.00	36F1741WM	576.00
83335	20 (19x32)	.175	.010	.012	2, 9, 10	36F1742WA	81.75	36F1742WF	335.25	36F1742WM	670.50
83336	18 (19x30)	.196	.010	.012	2, 9, 10	36F1773WA	97.50	36F1773WF	396.00	36F1773WM	792.00
83337	16 (19x29)	.218	.011	.012	2, 9, 10	36F1774WA	138.00	36F1774WF	573.75	36F1774WM	1147.50

Shielding Cable and Wire

BELDEN

SHIELDING & BONDING CABLE

Type	Oval I.D.	Flat Width	Cir. Mil area	Stk. No.	10′	Stk. No.	50′	Stk. No.	250′
8676	1/32″	3/64″	400	36F215WG	.86	36F215WB	1.53	36F215WE	7.05
8674	3/64″	1/16″	600	36F216WG	.93	36F216WB	2.16	36F216WE	9.75
8660	3/64″	3/16″	3800	36F220WG	1.05	36F220WB	3.15	36F220WE	13.95
8668	3/32″	7/32″	4700	36F223WG	1.47	36F223WB	4.32	36F223WE	18.45
8663	7/32″	1/4″	6700	36F225WG	1.55	36F225WB	5.35	36F225WE	24.90
8661	9/32″	5/16″	7600	36F221WG	1.41	36F221WB	4.94	36F221WE	23.05
8669	13/32″	7/16″	13,300	36F224WG	2.48	36F224WB	10.60	36F224WE	50.05
8672	.....	9/16″	13,200	36F217WG	2.87	36F217WB	12.10	36F217WE	54.60
8662	.....	19/32″	22,900	36F222WG	3.44	36F222WB	14.95	36F222WE	72.45
8670	.....	3/4″	48,000	36F218WG	5.35	36F218WB	23.85	36F218WE	114.00
8671	.....	13/16″	21,600	36F219WG	3.75	36F219WB	17.25	36F219WE	83.65
8655	.....	5/8″	36,000	36F2153WG	3.95	36F2153WB	18.10	36F2153WE	90.00
8656	.....	7/8″	57,600	36F2154WG	6.55	36F2154WB	29.40	36F2154WE	143.05
8657	.....	1 1/16″	76,800	36F2155WG	8.95	36F2155WB	40.50	.....	.....
8658	.....	1 3/8″	105,600	36F2156WG	11.85	36F2156WB	54.75	.....	.....
8659	.....	1 1/2″	168,000	36F2157WG	17.80	36F2157WB	83.35	.....	.....

Tinned copper braid provides approx. 90% shield coverage when applied over recommended diameter.

BUS BAR WIRE

Type	AWG	Stk. No.	100′	Stk. No.	1000′	Type	AWG	Stk. No.	100′	Stk. No.	1000′
8025	30	36F1022WA	.98	36F1022WM	4.05	8020	20	36F1027WA	1.26	36F1027WM	8.85
8024	28	36F1023WA	.98	36F1023WM	4.35	8019	18	36F1028WA	1.70	36F1028WM	12.75
8023	26	36F1024WA	1.01	36F1024WM	4.73	8013	16	36F1029WA	2.40	36F1029WM	20.50
8022	24	36F1025WA	1.04	36F1025WM	5.35	8012	14	36F0130WA	3.68	36F1030WM	30.75
8021	22	36F1026WA	1.07	36F1026WM	6.45	8011	12	36F1031WA	5.40	.....	.....

Made in accordance with Federal spec. QQ-W-343. Solid tinned copper; available in standard spools of 100′ and 1000′ only.

TEST. PROD WIRE—STRAIGHT AND COILED

Stranded tinned copper conductors, separator wrapping, red or black rubber insulated. Working voltages listed are AC RMS values

Straight types. 8897 is manufactured per MIL-W-13169 specs; 8890 is miniature type. See following page for retractible types.

Type	Color	A.W.G.	Nom. O.D.	WV	10′	NET	25′	NET	100′	NET	500′	NET	1000′	NET
8898	Black	18-65x36	.230″	10000	36F001WG	1.35	36F001WC	2.43	36F001WA	6.30	36F001WF	26.65	.....	.....
8898	Red	18-65x36	.230″	10000	36F000WG	1.35	36F000WC	2.43	36F000WA	6.30	36F000WF	26.65	.....	.....
8899	Red	18-65x36	.144″	5000	36F005WG	.93	36F005WC	1.47	36F005WA	4.73	36F005WF	17.40	36F005WM	34.80
8899	Black	18-65x36	.144″	5000	36F006WG	.93	36F006WC	1.47	36F006WA	4.73	36F006WF	17.40	36F006WM	34.80
8897	Red	18-65x36	.144″	5000	.....	.....	.....	.....	.....	.....	36F128WF	19.90	.....	.....
8897	Black	18-65x36	.144″	5000	.....	.....	.....	.....	.....	.....	36F129WF	19.90	.....	.....
8890	Black	24-45x40	.066″	1000	.....	.....	36F007WC	1.23	36F007WA	3.03	36F007WF	12.85	.....	.....
8890	Red	24-45x40	.066″	1000	.....	.....	36F008WC	1.23	36F008WA	3.03	36F008WF	12.85	.....	.....

36F004J. Type 8899. 14 Ft. Spool, consists of 7 Ft. Red and 7 Ft. Black. Ready for use. **NET** 1.02

COILED (RETRACTILE) TEST PROD WIRE

Type	AWG (Stranding)	O.D.	WV	Stk. No.	PR.
8878	20 (42x36)	.173″	5000	36F130	3.90
8879	20 (42x36)	.173″	5000	36F131	1.68

Retracted length 8″. Stretches to 5'. 8878 with prods. 8879 without prods. One black, one red lead.

2, 3, AND 4-CONDUCTOR PRIMARY WIRE

Cables especially designed for primary circuits and other applications requiring heavily insulated high amperage cable. All types are color coded. Sold only in lengths listed.

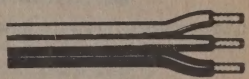
Duplex. Two parallel conductors; stranded and tinned, with vinyl insulation and chrome vinyl jacket.

Mfr. No.	AWG & Cond.	Nom. Width	Insul. Thickness	Stk. No.	100 Ft.	Stk. No.	500 Ft.
8677	16-2	.164 x .276	.032″	36F170WA	7.45	36F170WF	35.35
8675	14-2	.189 x .326	.037″	36F171WA	9.40	36F171WF	45.45
8673	12-2	.213 x .384	.040″	36F172WA	13.00	36F172WF	65.35

13

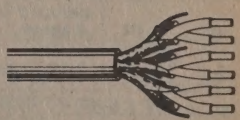
Three-and four-conductor. Bonded-parallel-conductor construction, jacketless. Stranded bare copper with vinyl insulation.

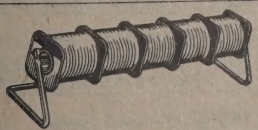
8475	16-3	.102 x .295	.023″	36F124WA	9.75	36F124WF	44.25
8476	16-4	.102 x .400	.023″	36F125WA	13.00	36F125WF	57.45



Miniature Instrumentation Cables. Solid copper. BELDSOL enamel film (solderable—no stripping required) insulated paired conductors; each pair BELDFOIL shielded; white vinyl jacket.

Type	AWG & Cond.	Nom. O.D.	Work. Volt.	Stk. No.	100′	Stk. No.	250′	Stk. No.	500′
8640	28-2	.089″	100	.....	.....	36F087WE	7.65	36F087WF	15.30





BELDEN WORKBENCH HOOKUP WIRE KITS

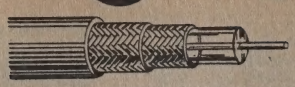
For R&D labs, engineers, servicemen, hobbyists. Belden hookup wire in an assortment of colors. Each kit contains a portable metal dispenser rack for work bench or wall mounting. The dispenser rack provides a complete, compact, and convenient wire department for every working area. See the chart at the left of this page for colors in each kit.

Type	Stk. No.	No. of Spools	Spool Length	Type of Wire	Colors in kit	NET
8822	36F179	10	25′	20 solid Type MW vinyl (8529-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	8.10
8823	36F180	5	100′	20 solid Type MW vinyl (8529-100)	2, 5, 6, 9, 10	8.78
8824	36F181	8	25′	20 strd. Type MW vinyl (8523-25)	1, 2, 3, 4, 5, 6, 9, 10	7.44
8825	36F182	5	100′	20 strd. Mil-W-16878D vinyl (8502-100)	9, 14, 15 16, 17	10.90

Type	Stock No.	No. of Spools	Spool Length	Type of Wire	Colors in Kit	NET
8816	36F1350	8	25′	18 stranded vinyl (8522-25)	1, 2, 3, 4, 5, 6, 9, 10	8.04
9530	36F2158	10	25′	22 Solid vinyl (8530-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	7.35
9531	36F2159	5	100′	22 stranded vinyl (8524-100)	2, 5, 6, 9, 10	8.65

BELDEN TV Cables, Portable Cordage

TV STUDIO CABLE



8281

PL-259

8299

Type 8281. 75 ohm precision video cable. Single #20AWG solid copper conductor; polyethylene insulated, double copper braid shield; black polyethylene jacket. Nom. O.D. .304". Nom. capacitance, 21 pF/ft. 100% sweep tested. Wt. 37 lbs. per 500'.
Type 8279. Similar to 8281 except with #23 AWG stranded conductor. Single tinned copper braid shield. O.D. .220".
Type 8280. 28 conductor TV (monochrome) camera cable. Arranged as follows: 4-#18 and 3 groups of 7-#22 AWG stranded tinned copper conductors, all color-coded, vinyl insulated; 3 color-coded coaxial cables of 51 ohm nom. imp.; tinned copper braid shield, chrome vinyl jacket. Nom. O.D. .750".
Type 8286. Miniature 75 ohm cable similar to 8280 except BELDFOIL shield over 4-#18 AWG conductors; BELDFOIL shield over 3 group of 7 conductors; 3-75 ohm coaxial cables; black hypalon jacket. Nom. O.D. .730".

ADAPTER

Type 8299. Adapter for use with 8281 cable only. Increases O.D. to fit PL-259 connector.
36F143. Box of 25. **NET** **3.75**

Type	Stk. No.	Feet	Each
8281	.....	100	.....
	.....	250	.....
	36F141WF	500	**112.15**
	36F141WM	1000	**224.25**

Type	Stk. No.	Feet	Each
8279	**36F1340WA**	100	**12.00**
	36F1340WE	250	**26.25**
	36F1340WF	500	**52.50**
	.....	1000	**104.55**

Type	Stk. No.	Feet	Each
8280	**36F140WA**	100	**104.55**
	36F140WE	250	**261.00**
	36F140WF	500	**522.00**
	36F140WM	1000	**1044.00**

Type	Stk. No.	Feet	Each
8286	**36F1339WA**	100	**104.55**
	36F1339WE	250	**261.40**
	36F1339WF	500	**522.80**
	36F1339WM	1000	**1045.50**

HIGH VOLTAGE AND CATHODE RAY TUBE CABLE

Type 8866. Small dia. 40 KVDC tinned copper cable. Repairs cathode ray tube leads in color TV and oscilloscopes. Breakdown voltage 110,000 KVDC.
36F1362WC. 25'. **NET** **2.46**
36F1362WA. 100' **NET** **6.90**
36F1362WF. 500'. **NET** **29.65**
Type 8870. 80 KVDC cable. #22 AWG solid copperweld conductor, polyethylene dielectric and jacket. Breakdown: 160 KVDC. Nom. O.D. .440".
36F059WA. 100'. **NET** **41.35**
Type 8868. CRT cable. #22 (7x30) conductor. Polyethylene insulation, red vinyl jacket. 50 KV breakdown Voltage. O.D. .150".
36F070WC. 25'. **NET** **1.53**
36F070WA. 100'. **NET** **3.90**
36F070WF. 500'. **NET** **14.70**
Type 8869. #22 AWG. Polyethylene insulation. Black vinyl jacket. 35 KV breakdown Voltage. O.D. .120".
36F1325WC. 25'. **NET** **1.31**
36F1325WA. 100'. **NET** **3.30**
36F1325WF. 500'. **NET** **12.00**

SPECIAL PURPOSE RF WIRE AND GROUNDWIRE

Type 8014. Indoor Aerial wire. #25 (13x36) tinned copper conductor. Chrome vinyl insulation. O.D. .044". Wt. 4 oz.
36F153WC. 25'. **NET** ..... **.87**
Type 8018. Ground wire. Soft drawn #8 AWG solid aluminum.
36F763WB. 50'. **NET** **1.40**
Type 8817. Litz wire. 5x44 Celenamel insulated strands. Nylon wrap. O.D. .008". Wt. 1¼ oz/100'.
36F154WA. 100'. **NET** ..... **.87**

ELECTRICAL POWER CORDS, CORD SETS AND EXTENSION CORDS MEET O.S.H.A. REQUIREMENTS

13

PORTABLE CORDAGE

SJ-3

SJO-3

Quality cordage designed for extra flexible service in many higher amperage applications. Cables available in various types of insulation and meet the higher standards of quality control. Thoroughly tested. In spools of 250 feet. Covered with black rubber. Listed by Underwriters Laboratories.

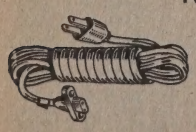
S-3 CONDUCTOR-RUBBER JACKET 600V-60°C

Type	Stk. No.	Size AWG & Strand	Nom. O.D. (Inches)	Lbs.	250' Coil 1-3	4-19	20-Up
19109	**36F1363**	18 (41x34)	.401	22	**34.85**	**32.43**	**30.01**
19108	**36F1364**	16 (65x34)	.426	27	**43.50**	**40.49**	**37.46**
19107	**36F1365**	14 (41x30)	.558	45	**70.45**	**65.55**	**60.68**

SO-2 CONDUCTOR-NEOPRENE JACKET 600V-60°C

Type	Stk. No.	Size AWG & Strand	Nom. O.D. (Inches)	Lbs.	1-3	4-19	20-Up
19204	**36F1366**	18 (41x34)	.386	24	**38.75**	**36.05**	**33.38**
19203	**36F1367**	16 (65x34)	.401	26	**45.03**	**41.90**	**38.78**
19202	**36F1368**	14 (41x30)	.528	39	**70.76**	**65.85**	**60.94**

TV INTERLOCK CORD



Molded plastic 8895. TV power supply line cord. 6 ft. long. Mold-on all-rubber female connector. U. L. approved. Shpg. wt. 8 oz.
36F880. **NET** ..... **.57**

Male Connector. Flush mounting type for use with cord above. Wt. 2 oz.

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499
36F881	2RP-1	**.15**	**.12**	**.11**	**.09**	**.08**

SO-3 CONDUCTOR-NEOPRENE JACKET 600V-60°C

Type	Stk. No.	Size AWG & Strand	Nom. O.D. (Inches)	Lbs.	250' Spool 1-3	4-19	20-Up
19209	**36F1369**	18 (41x34)	.401	23	**44.29**	**41.21**	**38.14**
19208	**36F1370**	16 (65x34)	.426	28	**54.55**	**50.76**	**46.98**
19207	**36F1371**	14 (41x30)	.558	48	**90.90**	**84.60**	**78.29**

SJ-2 CONDUCTOR-RUBBER JACKET 300V-60°C (*) Flex

19127	**36F982**	18 (16x30)*	.298	26	**19.45**	**18.10**	**16.75**
19128	**36F983**	16 (26x30)*	.323	32	**24.89**	**23.15**	**21.43**

SJ-3 CONDUCTOR-RUBBER JACKET 300V-60°C (*) Flex

19129	**36F1372**	18 (16x30)*	.328	35	**25.54**	**23.78**	**22.00**
19130	**36F1373**	16 (26x30)*	.353	42	**32.90**	**30.63**	**28.34**

SJO-2 CONDUCTOR-NEOPRENE JACKET 300V-60°C (*) Flex

19227	**36F984**	18 (16x30)*	.298	27	**24.00**	**22.34**	**20.68**
19228	**36F985**	16 (26x30)*	.323	35	**29.13**	**27.10**	**25.08**

SJO-3 CONDUCTOR-NEOPRENE JACKET 300V-60°C (*) Flex

19229	**36F1374**	18 (16x30)*	.328	36	**29.76**	**27.70**	**25.64**
19230	**36F1375**	16 (26x30)*	.353	42	**38.26**	**35.61**	**32.95**

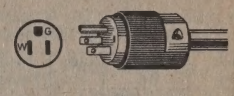
ELECTRICAL POWER CORDS, CORD SETS AND EXTENSION CORDS MEET O.S.H.A. REQUIREMENTS

Designed to meet the special electrical needs and environmental requirements of a broad range of specific light and heavy duty applications in home and industry. Built to withstand rugged everyday wear under predictable conditions of use.

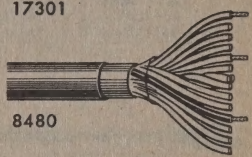
NEW SJT TYPE LOW LEAKAGE POWER CORDS AND CORDAGE

8480 Cord: Low leakage 60 cycle power cord reduces hazards of shock resulting from current leakage. Especially suited for use in hospitals and other critical medical applications. Minimizes current leakage between the two conductors and from the conductors through the jacket. Maximum leakage at 120 VAC; 6 microamps to green, 16 microamps to jacket. Low dielectric fillers symmetrically arranged with conductors using multi-lead slip planes. Provides crush resistance, improved flexlife and minimizes ground wire breakage. Flame retardant. **17300 Cord:** Heavy duty, safety-grip wall plug of tough, chemical resistant Lexan. Developed especially for medical instrumentation. Transparent cover for visual inspection of the grounding wire connections. Cord exits at 90° to wall. **17301 Cords:** Tough, impact resistant Nylon plug. Opaque. Cord exits at 180° to wall.

17300



17301



8480

Type No.	Length	UL Type	No. of Cond.	Nom. O.D.	AWG and Stranding	Color	Stock No.	NET
17300	8′	SJT	3	.580″	16(65x34)	Gray	**37F1827**	**9.28**
17301	8′	SJT	3	.580″	16(65x34)	Gray	**37F1828**	**8.88**

NEW SJT TYPE LOW LEAKAGE BULK CORDAGE

Type No.	UL Type	Cond. Insul.	No. of Cond.	AWG and Stranding	Insul. Thick.	Jacket	Jack. Thick.	Nom. O.D.	Stock No.*	100′	Stock No.*	250′	Stoc. No.*	500′	Stock No.*	1000′
8480	SJT	Polyethylene	3	16(65x34)	.031″	Vinyl	.045″	.580″	**36F1826WA**	**50.40**	**36F1826WE**	**105.00**	**36F1826WF**	**210.00**	**36F1826WM**	**420.00**

(*) Specify color when ordering. Gray, white, brown or bisque.

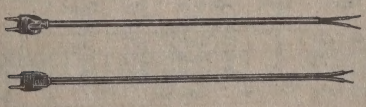
U/L APPROVED 2 CONDUCTOR SPECIAL PURPOSE AND APPLIANCE CORDS

17866: Miniature appliance plug for all standard coffeemakers. Slotted to fit frypans. 10 Amps. 125V.
17826: Replacement appliance cord. 10 Amps. 125V. Terminal end has eyelets for #8 screw.
17806: Replacement appliance cord. 10 Amps. 125V. Terminal end stripped 5/8″.
17116: Replacement cord for small appliances, mixers, can openers, etc. 125V.
17139: Same as above except length.

Type No.	Stock No.	Lgth.	AWG and Stranding	U/L Type	Spec. Color	1-24	25-Up
17866	**36F873**	6′	18(14x34)	HPN	Black	**.74**	**.66**
17826	**36F970**	6′	16(65x34)	HPN	Black	**.66**	**.59**
17806	**36F1036**	6′	18(41x34)	HPN	Black	**.51**	**.46**
17116	**36F971**	6′	18(41x34)	SPT-2	White	**.53**	**.47**
17139	**36F972**	9′	18(41x34)	SPT-2	White, Brown	**.64**	**.57**

13

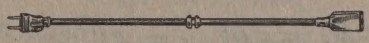
U/L APPROVED TWO CONDUCTOR POWER SUPPLY



10 amps—125V 1250 watts (*)13A-125V 1625 watts

Mfr. No.	Stk. No.	Lgth. ft.	AWG & Stranding	U/L Type	Specify Color	1-24	25-Up
17106	**36F950**	6	18(41x34)	SPT-1	Brown, Gray, Ivory	**.45**	**.40**
17109	**36F953**	9	18(41x34)	SPT-1	Brown White	**.56**	**.50**
17112	**36F955**	12	18(41x34)	SPT-1	Brown, White	**.69**	**.61**
17126	**36F854**	6	18(41x34)	SP-1	Brown	**.54**	**.49**
17129	**36F839**	9	18(41x34)	SP-1	Brown	**.70**	**.63**
17205	**36F840**	6	18(41x34)	SVT	Black, Gray	**.67**	**.60**
	36F851	6				**.82**	**.73**
17206	**36F851**	6	18(41x34)	SV	Gray	**.93**	**.83**
17308	**36F973**	8	18(16x30)	SJ	Black	**1.02**	**.92**
17310	**36F974**	10	18(16x30)	SJ	Black	**1.07**	**.96**
17328*	**36F975**	8	16(26x30)	SJ	Black	**1.25**	**1.12**
17330*	**36F976**	10	16(26x30)	SJ	Black	**1.54**	**1.37**
17249	**36F841**	1-6	18(41x34)	SVO	Black		

U/L APPROVED TWO CONDUCTOR CORD SETS



Vacuum and extension cords
10 amps—125V—1250 watts
Connector for blade prong

Mfr. No.	Stk. No.	Lgth. ft.	AWT & Stranding	U/L Type	Color	1-24	25-Up
17270	**36F855**	20	18(41x34)	SV	Gray	**1.86**	**1.66**
17272	**36F977**	20	18(41x34)	SVT	Gray	**1.46**	**1.30**
17274	**36F978**	32	18(41x34)	SVT	Gray	**2.14**	**1.92**

Business machine cords
7 amps—125V—875 watts

17359	**36F979**	10	18(16x30)	SJT	Gray	**1.14**	**1.02**
17260	**36F980**	8	18(41x34)	SVT	Gray	**.99**	**.89**

Extension cords
10 amps—125 V, 1250 W (*)13 amps—125 V, 1625 W, (†)15 amps—125 V, 1875 W

17870†	**36F981**	8	16(65x34)	HPN	Black	**.96**	**.86**
17259	**36F846**	9	18(41x34)	SV	Gray	**1.15**	**1.03**
17361*	**36F868**	10	16(26x30)	SJ	Black	**1.38**	**1.23**

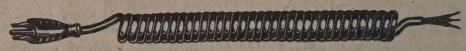
ELECTRICAL POWER CORDS, CORD SETS AND EXTENSION CORDS MEET O.S.H.A. REQUIREMENTS

U/L APPROVED 3-CONDUCTOR POWER SUPPLY CORDS

MOLDED PLUG—OTHER END STRIPPED

17410 17420

17430



17447

10 AMPS-125V-1250 WATTS (†)13A-125V-1625 WATTS TOOL CORDS WITH STRAIN RELIEF

For most portable tools requiring a strain relief. Fits Black & Decker, PET, Ram, Sioux, Thor and others.

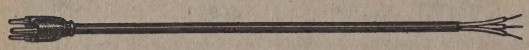
Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Color	1-24	25-Up
17410	**36F1380**	6	18 (16x30)	SJT	Black	**.88**	**.79**
17420†	**36F1381**	10	16 (26x30)	SJT	Black	**1.30**	**1.16**
17430†	**36F1382**	10	16 (26x30)	SJO	Black	**1.79**	**1.60**

13 AMPS-125 V-1625 WATTS (†)10 AMPS-125V-1250 WATTS RETRACTILE CORDS

Stay neat, allow free movement of the appliance or tool and prevent accidents.

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Spec. Color	1-24	25-Up
17447†	**36F844**	1-6	18 (41x34)	SJO	Black	**2.05**	**1.83**
17448	**36F845**	1-6	16 (65x34)	SJO	Black	**2.18**	**1.94**
17449	**36F1250**	2-12	16 (65x34)	SJO	Black	**3.04**	**2.72**

TOOL CORDS WITHOUT STRAIN RELIEF



SV & SVT for small tools, business machines and instruments. SJ, SJT & SJO for tools such as sanders, saws, grinders and polishers. S for heavy duty power tools and equipment.

10 AMPS-125V-1250W (†)13 A-125V-1625W (*)15A-125V-1875W

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Color	1-24	25-Up
17236	**36F1037**	6	18 (41x34)	SV	Black	**.99**	**.89**
17238	**36F1038**	8	18 (41x34)	SV	Black	**1.10**	**.99**
17237	**36F1821**	6	18 (41x34)	SVT	Gray	**.88**	**.79**
17239	**36F1822**	8	18 (41x34)	SVT	Gray	**.85**	**.76**
17406	**36F842**	6	18 (16x30)	SJ	Black	**1.02**	**.92**
17405	**36F957**	6	18 (16x30)	SJT	Gray	**.91**	**.82**
17408	**36F857**	8	18 (16x30)	SJ	Black	**1.17**	**1.04**
17407	**36F958**	8	18 (16x30)	SJT	Gray	**1.04**	**.93**

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Color	1-24	25-Up
17409	**36F957**	8	18 (16x30)	SJO	Black	**.96**	**1.07**
17412	**36F960**	12	18 (41x34)	SJ	Black	**1.63**	**1.46**
17419†	**36F843**	9	16 (65x34)	SJ	Black	**1.57**	**1.40**
17422†	**36F961**	12	16 (65x34)	SJ	Black	**1.95**	**1.74**
17425†	**36F849**	15	16 (65x34)	SJ	Black	**2.42**	**2.16**
17276†	**36F1251**	20	16 (26x30)	SJT	Gray	**2.45**	**2.19**
17403†	**36F1252**	32	16 (26x30)	SJT	Gray	**3.66**	**3.27**
17629*	**36F1823**	9	14 (41x30)	S	Black	**2.85**	**2.55**
17635*	**36F1253**	15	14 (41x30)	S	Black	**4.46**	**3.99**

13

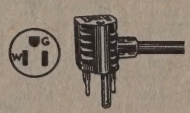
U/L APPROVED 3-CONDUCTOR CORD SETS WITH PLUG AND CONNECTOR

7 AMPS-125V-875W (†)10 A-125V-1250W BUSINESS MACHINE AND PROJECTOR CORDS

17258: Revere and Eastman Kodak projectors, Friden, Victor, Hewlett-Packard, Marchant business machines, and DuKane audio equipment. **17257:** Wollensak tape recorder and other equipment with .109" pins. **17250 & 17252:** U.S. and Canadian electronic instruments, business machines, test equipment, desk top computers and appliances.

Mfr. No.	Stock No.	Lgth. ft.	AWG & Stranding	U/L Type	Spec. Color	1-24	25 Up
17258	**36F1324**	8	18 (41x34)	SVT	Gray	**1.33**	**1.19**
17257	**36F1254**	8	18 (41x34)	SVT	Gray	**1.33**	**1.19**
17250†	**36F1255**	7½	18 (41x34)	SVT	Black	**1.46**	**1.30**
17252	**36F1256**	Recessed 3 blade con. for 17250.				**.66**	**.59**

10 AMP-250V-1250 WATTS 3 COND. ADD-A-LINE EXTENSION CORDS



Added convenience of an outlet in the adapter plug so you can Add-A-Line.

17462	**36F965**	8	18 (16x30)	SJT	Black	**2.30**	**2.06**
17463	**36F1257**	15	18 (16x30)	SJT	Black	**3.12**	**2.79**

15 AMP-125V-1875 WATTS (†)10 AMP 125V-1250 WATTS 3 CONDUCTOR EXTENSION CORDS

For use with heavy-duty floor maintenance equipment and other appliances requiring grounding.

17460†	**36F1039**	10	18 (16x30)	SJ	Black	**1.65**	**1.47**
17461†	**36F964**	10	16 (26x30)	SJ	Black	**1.92**	**1.72**
17664	**36F1258**	25	14 (41x30)	SO	Gray	**9.71**	**8.68**
17665	**36F1259**	50	14 (41x30)	SO	Gray	**17.63**	**15.76**
17656	**36F1260**	6	14 (41x30)	ST	Gray	**2.73**	**2.45**
17659	**36F1035**	9	14 (41x30)	ST	Gray	**3.54**	**3.16**
17662	**36F1261**	12	14 (41x30)	ST	Gray	**4.29**	**3.83**

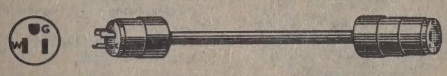
ELECTRICAL POWER CORDS, CORD SETS AND EXTENSION CORDS MEET O.S.H.A. REQUIREMENTS

U/L APPROVED 3 COND. CORD SETS WITH PLUG & CONNECTOR (Cont.)

10 AMP-125V-1250W *13 AMP 125V 1625W †15 AMP 125V 1875W HEAVY DUTY OUTDOOR LAWN MOWERS AND EXTENSION CORDS

For lawnmowers and hedge clippers using three conductor power supply cordage.

Type No.	Stock No.	Lgth. ft.	AWG & Strand.	U/L Type	Color	1-24	25-Up
17491	36F848	25	18 (16x30)	SJT	Yellow	2.82	2.52
17492	36F1262	50	18 (16x30)	SJT	Yellow	5.28	4.72
17494*	36F1263	25	16 (26x30)	SJT	Yellow	3.52	3.15
17495*	36F1264	50	16 (26x30)	SJT	Yellow	6.83	6.11
17497*	36F1265	100	16 (26x30)	SJT	Yellow	12.14	10.85
17694†	36F1266	25	14 (41x30)	ST	Yellow	7.20	6.44
17695†	36F1267	50	14 (41x30)	ST	Yellow	13.26	11.85
17697†	36F1268	100	14 (41x30)	ST	Yellow	23.18	20.72



20 AMP 125V 2500 WATTS †15 AMP-125V-1875W INDUSTRIAL HEAVY DUTY CORDS WITH TWIST LOCK PLUG AND CONNECTOR

Bryant Twist-Look grounding plug and connector especially for industrial and commercial equipment.

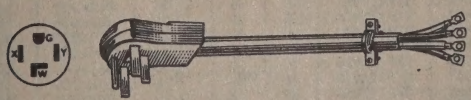
17688	36F1277	25	12 (65x30)	STO	Yellow	24.64	22.02
17689	36F1278	50	12 (65x30)	STO	Yellow	31.52	28.17
17690†	36F1279	100	12 (65x30)	STO	Yellow	46.24	41.33

CORDLIGHTS

Oil and ozone resistant. Tool taps 3-contact 125V grounding type. Lamp guard incl.

13 AMP 125V 1625 WATTS

17998	36F1280	25	16 (26x30)	SJO	Black	10.86	9.71
17999	36F1281	50	16 (26x30)	SJO	Black	16.93	15.13



4-COND. MOBILE HOME CORD

50 AMPS 250V 12500W

For use on mobile homes and recreational vehicles.

1760	36F1294	25	3-#6 (133x27) 1-#8 (65x26)	ST	Gray	35.60	31.82

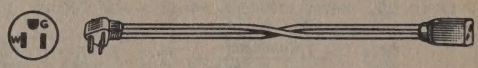
TWO PRONG 3-WAY ADAPTER

Adapts three-prong plugs to a two-prong outlet. Attached lead provides for ground continuity. 15A-125V ground plug 10 to a package.

15 AMP 125V 1875W †13 AMP 125V 1625W *10 AMP 125V 1250W LIGHT DUTY FLAT PARALLEL EXTENSION CORDS

FLAT YELLOW 3 conductor extension cords for most light duty purposes.

Type No.	Stock No.	Lgth. ft.	AWG & Strand.	U/L Type	Color	1-24	25-Up
17194†	36F847	25	16 (65x34)	SPT-2	Yellow	3.38	3.02
17195†	36F1269	50	16 (65x34)	SPT-2	Yellow	5.63	5.03
17191*	36F1270	100	16 (26x30)	SPT-3	Yellow	11.65	10.41
17196	36F1271	25	14 (41x30)	SPT-3	Yellow	4.93	4.40
17198	36F1272	50	14 (41x30)	SPT-3	Yellow	8.13	7.26
17192†	36F1273	100	14 (41x30)	SPT-3	Yellow	15.33	13.70
17197	36F1274	25	12 (65x30)	SPT-3	Yellow	8.32	7.44
17199	36F1275	50	12 (65x30)	SPT-3	Yellow	13.44	12.01
17193	36F1276	100	12 (65x30)	SPT-3	Yellow	24.64	22.02



FLAT AIR CONDITIONER EXTENSION CORDS

Right-angle grounding plug so the cord will lay flat against the wall. For all makes of air conditioners.

15 AMPS 125V 1875 WATTS

17764	36F1282	3	14 (41x30)	SPT-3	Gray	1.86	1.66
17765	36F1283	6	14 (41x30)	SPT-3	Gray	2.06	1.84
17766	36F1284	9	14 (41x30)	SPT-3	Gray	2.38	2.13
17767	36F1285	12	14 (41x30)	SPT-3	Gray	2.85	2.55

15 AMPS 250V 3750 WATTS

17768	36F1286	3	14 (41x30)	SPT-3	Gray	2.06	1.84
17769	36F1287	6	14 (41x30)	SPT-3	Gray	2.38	2.13
17770	36F1288	9	14 (41x30)	SPT-3	Gray	2.78	2.49
17771	36F1289	12	14 (41x30)	SPT-3	Gray	3.28	2.93

20 AMP 250V 5000 WATTS

17760	36F1290	3	12 (65x30)	SPT-3	Gray	2.54	2.27
17761	36F1291	6	12 (65x30)	SPT-3	Gray	2.98	2.66
17762	36F1292	9	12 (65x30)	SPT-3	Gray	3.49	3.12
17763	36F1293	12	12 (65x30)	SPT-3	Gray	4.13	3.69

AIR CONDITIONER CORDS WITH PLUG OTHER END STRIPED

15 AMP 125V 1875W

15 AMP 250V 3750W

For room air conditioners and domestic automatic washers.

17140	36F1295	6	14 (41x30)	SPT-3	Gray	1.66	1.49
17141	36F1296	6	14 (41x30)	SPT-3	Gray	1.66	1.49

Type No.	Stock No.	Each
17922	36F1297	.40

13

Mil-Spec & UL Hook-Up Wire and Cable

TYPE 3050 UL/CSA LISTED HOOKUP WIRE

Stranded tinned copper conductor with color-coded PVC .016" wall insulation. Specifications: −10°C to +80°C 300 volts. Std. spool put-up: 100 or 1000 ft. Stock Colors: 1-19. Specify color.

Alp. No.	Stk. No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
3050	37F1300	24	7/32	.057"	2.81	11.22
3051	37F1301	22	7/30	.065"	3.30	14.00
3053	37F1302	20	10/30	.071"	3.36	14.75
3055	37F1303	18	16/30	.080"	3.90	20.15
3057	37F1304	16	26/30	.095"	4.77	31.56

TYPE 3071 UL/CSA LISTED HOOKUP WIRE

Combines stranded tinned copper conductor with color-coded Polyvinylchloride .016" wall insulation. Specifications: −10° to +105°C, 600 volts. Stock Colors: 1-10. Specify color.

Alp. No.	Stk. No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
3071	37F1305	22	7/30	.095"	1.83	12.75
3073	37F1306	20	10/30	.102"	2.15	16.13
3075	37F1307	18	16/30	.112"	2.67	20.48
3077	37F1308	16	26/30	.125"	3.27	27.45
3079	37F1309	14	41/30	.142"	4.79	40.65

SEMI-RIGID PVC HOOKUP WIRE

Stranded tinned copper color-coded semi-rigid PVC insulation. Temperature rating −10°C to +80°C, 300 volts in business machine or electronic computers only. Stock Colors: 1-10. Specify color.

Alp. No.	Stock No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
3250	37F100	24	7/32	.042"	.92	8.09
3251	37F101	22	7/30	.048"	1.16	10.23
3252	37F102	20	7/28	.056"	1.50	13.70

TEFLON 200°C HOOKUP WIRE

Single-conductor stranded silver plated copper with extruded TFE Teflon insulation. Temperature rated from −65°C to +200°C. Nominal wall thickness .010". Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus. Stock Colors: 1-10. Specify color.

Alp. No.	Stock No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
6850	37F103	32	7/40	.029"	10.41	99.33
6851	37F104	30	7/38	.032"	10.13	96.66
6852	37F105	28	7/36	.036"	10.79	103.16
6853	37F106	26	7/34	.040"	11.28	107.73
6853/19	37F107	26	19/38	.041"	13.83	125.61
6854	37F108	24	19/36	.045"	12.81	123.23
6854/7	37F109	24	7/32	.044"	11.18	107.18
6855	37F110	22	19/34	.051"	14.22	137.75
6855/7	37F111	22	7/30	.050"	13.08	126.08
6856	37F112	20	19/32	.059"	18.20	176.70
6856/7	37F113	20	7/28	.058"	16.14	156.63

200°C UL Style 1164, 1180 Wire

Offers single conductor silver plated copper wire with TFE extruded Teflon insulation. Temperature rated −65°C to +200°C. Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus. Stock Colors: 1-10 except 6878 which is stocked in white only. Specify color.

Alp. No.	Stock No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
6874	37F114	24	19/36	.055"	13.67	131.63
6875	37F115	22	19/34	.062"	15.87	153.78
6876	37F116	20	19/32	.070"	20.52	195.62
6877	37F117	18	19/30	.080"	23.90	229.22
6878	37F118	16	19/29	.089"	31.91	306.14

Tefzel® Computer Wire

Solid silver plated OFHC copper conductor. Tefzel insulation provides high-temperature, thin wall suitable for wire wrap insulation. Low dielectric constant of 2.6. Temperature range: −100°C to +150°C continuous. Tefzel is chemically inert and rated non-burning. .005" wall. Stock colors: 1-10. Specify color.

Alp. No.	Stock No.	Conductor Size	Nominal O.D.	Colors	Net 100	Net 1000
1805	37F119	30	.019"	1-10	6.17	53.22
1806	37F120	28	.023"	1-10	6.57	57.35
1807	37F121	26	.026"	1-10	6.99	61.68
1808	37F122	24	.029"	1-10	7.77	69.51

GENERAL STOCK COLORS

1—White	8—Orange	15—White/Blue
2—Black	9—Gray (slate)	16—White/Brown
3—Red	10—Violet (purple)	17—White/Orange
4—Green	11—White/Black	18—White/Gray
5—Yellow	12—White/Red	19—White/Violet
6—Light Blue	13—White/Green	
7—Brown	14—White/Yellow	

Irradiated-Heat Resistant Hookup Wire

Irradiated PVC insulation will not shrink back, melt, blow or deform even in direct contact with soldering iron. Reduces wire deformation in forming bundles and harnesses. Eliminates production damage and results in less scrap; ideal for tight, high density systems. UL Style 1430 (105°C)—300 Volts. Stock Colors: 1-10.

Alp. No.	Stock No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
7130	37F123	24	7/32	.056"	4.11	17.69
7131	37F124	22	7/30	.062"	4.35	19.92
7132	37F125	20	7/29	.070"	4.47	21.05
7133	37F126	18	7/26	.080"	5.06	26.37
7134	37F127	16	19/.0117	.091"	5.91	34.16
UL Style 1429 Solid & Stranded (+80°C)						
7149	37F128	26	7/34	.028"	4.01	16.82
7150	37F129	24	7/32	.043"	3.90	15.87
7151	37F130	22	7/30	.050"	4.04	17.16
7153	37F131	20	7/28	.068"	4.23	18.89
7155	37F132	18	7/26	.068"	5.04	26.13
7157	37F133	16	19/.0117	.077"	6.06	35.45
7161	37F134	22	solid	.045"	3.83	15.60
7161/24	37F135	24	solid	.040"	3.63	13.65
7163	37F136	20	solid	.054"	4.29	19.52
UL Style 1472-Stranded (—80°C)—300 Volts						
7070	37F137	30	7/38	.028"	5.64	31.74
7071	37F138	28	7/36	.032"	5.03	26.06
7072	37F139	26	7/34	.034"	4.73	23.30
7073	37F140	24	7/32	.040"	4.61	22.26
7074	37F141	22	7/30	.045"	4.82	24.15
7075	37F142	20	7/28	.054"	5.18	27.44

RIBBON CABLE

- Ratings to 1000 V.
- Temperatures —55° to +105°C
- Saves Space
- Simplifies Identification
- Color-Coded PVC

Meets MIL-W-16878D. Round conductor flat bonded ribbon cable has all the advantages of a flat, compact profile plus ease of termination and stripping. Saves space, simplifies cable identification. Simple to separate and terminate individual conductors. Each conductor is stranded tinned copper with color-coded PVC insulation with conductors specially bonded into flat configuration. Specifications: Type B, 600 volts, −55°C to +105°C; Type C, 1000 volts, −55°C to +105°C. Conductors coded as follows: (1) brown, (2) red, (3) orange, (4) yellow, (5) green, (6) blue, (7) violet, (8) grey, (9) white, (10) black.

MIL-W-16878D Type B

Nominal Wall Thickness .010"

Alp. No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Width x Thick.	Net 100
3530	37F143WA	10	22	19/34	.510x.051	40.89
3531	37F144WA	15	22	19/34	.765x.051	61.34
3532	37F145WA	20	22	19/34	1.05x.051	81.78
3533	37F146WA	30	22	19/34	1.57x.051	122.66
3540	37F147WA	10	24	19/36	.440x.044	34.31
3541	37F148WA	15	24	19/36	.662x.044	51.47
3542	37F149WA	20	24	19/36	.883x.044	68.61
3543	37F150WA	30	24	19/36	1.35x.044	102.92
3550	37F151WA	10	26	7/34	.392x.039	26.52
3551	37F152WA	15	26	7/34	.587x.039	39.77
3552	37F153WA	20	26	7/34	.783x.039	53.01
3553	37F154WA	30	26	7/34	1.19x.039	79.53
3560	37F155WA	10	28	7/36	.351x.035	30.50
3561	37F156WA	15	28	7/36	.523x.035	45.74
3562	37F157WA	20	28	7/36	.701x.035	60.99
3563	37F158WA	30	28	7/36	1.06x.035	91.47
3570	37F200WA	10	30	7/38	.311x.032	35.87
3571	37F201WA	15	30	7/38	.482x.032	53.81
3572	37F202WA	20	30	7/38	1.05x.032	71.73
3573	37F203WA	30	30	7/38	.965x.032	105.87

MIL-W-16878-D-Type C-UL 2444

Nominal Wall Thickness .016" —300 V—80°C

Alp. No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Width x Thick.	Net 100	Net 1000
3505	37F204	5	22	7/30	.065x.320	23.43	219.45
3510	37F205	10	22	7/30	.065x.640	45.54	438.90
3515	37F206	15	22	7/30	.065x.960	69.30	660.00
3520	37F207	20	22	7/30	.065x1.92	90.53	890.76

Mil-Spec Hook-Up Wire

VINYL HOOK-UP WIRE

Solid or extra-flexible stranded tinned copper, color-coded medium wall PVC insulation (Nom. wall thickness is .016"). Temperature rating −40°C to +80°C, voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus. Colors from chart on facing page.

Stocked in Colors 1-10. Specify color

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1550	37F500	24	7/32	.059"	1.53	9.90
1551	37F501	22	7/30	.064"	1.71	11.70
1553	37F502	20	10/30	.073"	1.98	13.35
1555	37F503	18	16/30	.084"	2.42	17.93
1557	37F504	16	26/30	.095"	3.32	25.80
1559	37F505	14	41/30	.110"	4.68	40.35
1560	37F506	12	65/30	.125"	7.26	59.40
1561	37F507	22	.....	.060"	1.44	9.15
1563	37F508	20	.....	.066"	1.74	11.55
1565	37F509	18	.....	.074"	2.22	15.75

NYLON JACKETED SHIELDED WIRE

Conforms to MIL-W-76B, Type MW-SJ. Has stranded tinned copper conductor, color-coded PVC insulation, .016" thick. Braided tinned copper shield, 80% coverage. Clear nylon jacket (white only). −40°C to +90°C, 1000 volts.

Alp. No.	Stk. No.	MIL Type	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1371	37F685	C22(7)SJ	22	7/30	.092"	6.92	58.62
1372	37F686	C20(7)SJ	20	7/28	.100"	7.71	67.25
1373	37F687	C18(19)SJ	18	19/30	.119"	8.61	76.25
1374	37F688	C16(19)SJ	16	19/29	.120"	10.92	99.42

TEFLON HOOK-UP WIRE

Conforms to MIL-W-16878D. Solid or stranded silver-plated copper conductor. Extruded Teflon insulation; Type ET, .006" wall; Type E, .010" wall; Type EE. .014" wall. Specify color 1-10. Specifications: −65°C to +200°C.

E-STRANDED

Alpha No.	Stock No.	Cond. Size	Cond. Strand	Nom. O.D.	100 Ft.	1000 Ft.
5851	37F650	30	7/38	.028"	4.50	25.28
5852	37F651	28	7/36	.031"	4.71	26.66
5853	37F652	26	7/34	.035"	5.09	30.32
5854	37F653	24	19/36	.040"	6.23	40.77
5854/7	37F561	24	7/32	.039"	5.39	32.00
5855	37F654	22	19/34	.046"	6.83	44.31
5855/7	37F562	22	7/30	.045"	6.23	39.03
5856	37F655	20	19/32	.054"	7.86	52.98
5856/7	37F563	20	7/28	.053"	7.28	50.12
5857	37F656	18	19/30	.064"	10.37	74.61
5858	37F657	16	19/29	.073"	12.65	93.65

EE-STRANDED

5874	37F564	24	19/36	.055"	6.81	55.13
5875	37F565	22	19/34	.062"	7.50	62.18
5877	37F567	18	19/30	.080"	11.60	102.75

E SOLID

5853/1	37F1964	26	1	.036"	3.35	25.19
5854/1	37F1965	24	1	.040"	3.71	28.80
5855/1	37F1966	22	1	.045"	4.35	35.19
5856/1	37F1967	20	1	.052"	5.28	44.52
5857/1	37F1968	18	1	.060"	6.75	59.34

ET STRANDED

2840/7	37F1954	32	7/40	.021"	4.25	34.28
2841/7	37F1955	30	7/38	.024"	4.04	32.27
2842/7	37F1956	28	7/36	.027"	3.99	31.73
2842/19	37F1957	28	19/40	.027"	6.57	57.65
2843/7	37F1958	26	7/34	.031"	4.13	33.21
2843/19	37F1959	26	19/38	.032"	5.76	49.55
2844/7	37F1960	24	7/32	.036"	5.04	42.26
2844/19	37F1961	24	19/36	.037"	6.21	53.87
2845/7	37F1962	22	7/30	.042"	5.96	51.57
2845/19	37F1963	22	19/34	.044"	7.13	63.18

ET SOLID

2841/1	37F1950	30	1	.022"	3.78	29.57
2842/1	37F1951	28	1	.025"	3.69	28.76
2843/1	37F1952	26	1	.028"	3.78	30.38
2844/1	37F1953	24	1	.032"	4.07	33.33

PVC HOOK-UP WIRE

Meets MIL-W-16878D. Stranded tinned copper conductor, Type B color-coded PVC, .010" wall; Type C, .016" wall. Clear nylon jacket, .002" to .004" wall where indicated. Specifications: −55°C to +105°C (+115°C with nylon jacket). Type B: 600 volts; Type C: 1000 volts. Specify color 1-10.

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1850	37F593	32	7/40	.028"	1.92	14.10
1851	37F544	30	7/38	.032"	1.61	11.10
1852	37F545	28	7/36	.034"	1.58	10.13
1853	37F546	26	7/34	.038"	1.58	11.03
1854	37F547	24	7/32	.043"	1.58	10.35
1854/19	37F1326	24	19/36	.043"	2.00	12.53
1855	37F548	22	7/30	.050"	1.73	11.33
1855/19	37F1327	22	19/34	.050"	2.13	13.58
1856	37F549	20	7/28	.058"	2.09	13.65
1856/19	37F1328	20	19/32	.058"	2.27	16.28
1857	37F570	18	7/26	.068"	2.30	17.48
1857/19	37F1329	18	19/30	.068"	2.66	19.02
1858/19	37F571	16	19/29	.077"	2.97	23.25
1859/19	37F1331	14	19/27	.091"	5.51	40.80

TYPE B WITH PRE-BONDED CONDUCTOR

Same specifications as standard Type B with addition of pre-bonded conductor. Double-tinned, then heated for easy stripping. Provides non-fraying ends for quick, neat terminations.

Stocked in colors 1 thru 3 only

TYPE B PRE-BONDED UNCOVERED PLASTIC WIRE

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
3154	37F1332	24	7/32	.044"	3.14	14.46
3155	37F1333	22	7/30	.051"	3.57	18.20
3156	37F1334	20	7/28	.059"	4.07	23.63
3157	37F1335	18	7/26	.070"	5.06	33.30

TYPE B NYLON JACKET

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1864/19	37F1321	24	19/36	.049"	2.30	17.18
1865/19	37F1322	22	19/34	.056"	2.60	19.73
1866/19	37F1323	20	19/32	.064"	2.76	21.23
1867/19	37F1324	18	19/30	.074"	3.44	27.00
1868/19	37F580	16	19/29	.085"	3.26	29.85
1869/19	37F1325	14	19/27	.099"	6.93	57.44

TYPE C—NYLON JACKET

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1841	37F555	22	7/30	.072"	2.84	20.55
1842	37F556	20	7/28	.079"	3.11	24.92
1843	37F557	18	7/26	.090"	3.50	28.88

Same as above—Available in white only .004" jkt.

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1844	37F558	16	19/29	.099"	4.16	37.95
1845	37F559	14	19/27	.114"	5.78	51.98

TYPE C—SHIELDED—NYLON JACKET

Type C uncovered plastic plus braided tinned copper shield and overall clear nylon jacket.

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	Nom. O.D.	Net 100	Net 1000
1471	37F1030	22	7/30	.098"	9.02	74.48
1472	37F1031	20	7/28	.105"	9.74	81.18
1473	37F1032	18	19/30	.115"	10.28	88.44

AIRCRAFT HOOK-UP WIRE

MIL-W-5086A. Stranded tinned copper conductor. Type I has white PVC clear nylon jacket, Type II has white PVC, white glass braid, flame retardant nylon lacquered nylon braid. Specifications: −55°C to −105°C, 600 volts. Resists effects of water, oil, aircraft fuels, skydral, alcohol.

TYPE I

Alp. No.	Stock No.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 1000
1381	37F532	22	19/34	.068"	4.11	31.35
1382	37F533	20	19/32	.078"	4.59	36.53
1383	37F534	18	19/30	.088"	5.49	45.14
1384	37F535	16	19/29	.098"	5.99	49.52
1385	37F536	14	19/27	.117"	7.91	68.90
1386	37F537	12	19/25	.137"	11.09	100.83

TYPE II

1387	37F683	10	49/27	.189"	19.97	189.68
1388	37F684	8	133/29	.240"	37.94	359.37

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Audio & Instrumentation Cable

UNSHIELDED INTERCOM CABLE

Has 22 gauge solid tinned copper conductor, color-coded PVC insulation with conductors paired. Wall is .010″ thick. Jacket of gray PVC. Specifications: −20°C to +80°C, 200 volts. Applications include balanced intercoms, telephones, call systems, control circuits, computers, speakers, alarm & signal systems. Suitable for outdoor installations.

22 GAUGE—SOLID CONDUCTORS—200 V.

Alpha No.	Stock No.	No. of Pairs	No. of Cond.	Nom. Jacket	Nom. O.D.	100 Ft.	500 Ft.
1300	37F1383	1	2	.025″	.140″	3.03	11.69
1302	37F1384	2	4	.025″	.208″	5.00	21.23
1307	37F1386	6	12	.025″	.275″	10.77	50.63
1307/9	37F1388	9	18	.025″	.320″	15.93	75.63
1309	37F1390	13	26	.030″	.370″	22.85	123.86
1309/15	37F1391	15	30	.030″	.393″	27.63	129.33
1310	37F1392	16	32	.030″	.411″	32.97	157.89
1313	37F1393	27	54	.040″	.521″	45.54	222.11

22 GAUGE—STRANDED CONDUCTORS—200 VOLTS

1316	37F2235	1	2	.025″	.150″	4.68	18.90
1317	37F2236	2	4	.025″	.225″	5.76	24.83
1318	37F2237	3	6	.025″	.238″	8.34	36.06
1319	37F2238	4	8	.025″	.260″	10.43	46.13
1320	37F2239	5	10	.025″	.290″	12.83	59.42
1322	37F2240	6	12	.035″	.320″	12.98	60.90
1323	37F2241	9	18	.035″	.370″	19.80	93.83
1324	37F2242	11	22	.035″	.400″	28.55	138.66
1327	37F2243	15	30	.040″	.450″	32.93	157.38
1327/19	37F2244	19	38	.040″	.480″	40.19	197.73
1328	37F2244	23	46	.040″	.530″	51.36	252.00
1329	37F2246	27	54	.040″	.708″	61.59	303.15

UNSHIELDED AUDIO CABLE

22 gauge 7/30 stranded tinned copper conductor with color-coded PVC insulation. .010″ wall. Conductors twisted in gray PVC jacket. Specifications: −20°C to +80°C, 200 volts. Applications include unbalanced intercoms, control cables, P.A. systems, computers, alarm & signal systems. For outside installation.

Alpha No.	Stock No.	No. of Cond.	Nom. O.D.	Cond. Size	Cond. Strand	100 Ft.	500 Ft.
1172	37F1336	2	.140″	22	7/30	3.66	13.55
1173	37F1337	3	.145″	22	7/30	4.43	16.88
1174	37F1338	4	.170″	22	7/30	5.16	22.43
1175	37F1339	5	.175″	22	7/30	6.33	27.03
1176	37F1340	6	.185″	22	7/30	10.83	47.90
1177	37F1341	7	.190″	22	7/30	7.68	33.54
1178	37F1342	8	.200″	22	7/30	12.83	58.05
1179	37F1343	9	.225″	22	7/30	14.21	63.50
1180	37F1344	10	.235″	22	7/30	11.52	52.80
1181	37F1345	12	.255″	22	7/30	12.98	61.28
1181/15	37F1346	15	.280″	22	7/30	21.72	99.09
1181/20	37F1347	20	.310″	22	7/30	24.89	119.70
1181/25	37F1348	25	.340″	22	7/30	33.84	156.30
1181/30	37F1349	30	.365″	22	7/30	71.69	351.75
1181/40	37F1512	40	.425″	22	7/30	108.48	536.70
1181/50	37F1513	50	.500″	22	7/30	134.78	666.80
1181/60	37F1514	60	.542″	22	7/30	170.30	842.79

UNSHIELDED AUDIO CABLE

14 to 22 gauge solid or stranded conductor with PVC wall—(*) .010″, (**) .016″, (***) .018″, (†) .023″, (††) .030″. Gray PVC jacket. Specifications: −20°C to +60°C, 350 volts except suffix 93, 94, 94/4, 200 volts. Applications include intercoms, interconnecting cables, remote control circuits, telephones, telemetering connecting cable. Suitable for outdoor use.

SOLID

Alpha No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
1793 *	37F1642	2	22	1	.130″	4.10	14.75
1794 *	37F1643	3	22	1	.140″	7.19	29.70
1795**	37F1645	2	20	1	.170″	8.58	36.77
1797**	37F1648	2	18	1	.190″	9.68	41.04

STRANDED

Alpha No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
1893 *	37F1654	2	22	7/30	.135″	4.43	15.27
1894 *	37F1655	3	22	7/30	.145″	4.91	19.61
1894/4 *	37F1656	4	22	7/30	.170″	6.53	25.91
1895 **	37F1657	2	20	7/28	.180″	4.07	16.04
1896 **	37F1658	3	20	7/28	.190″	10.92	48.60
1896/4***	36F1659	4	20	7/28	.215″	12.66	57.95
1897 ***	37F1660	2	18	16/30	.200″	5.43	23.48
1898 ***	37F1661	3	18	16/30	.210″	13.59	62.10
1898/4***	37F1662	4	18	16/30	.240″	9.39	42.98
1899 †	37F1663	2	16	19/29	.225″	7.20	31.67
1891 ††	37F1666	2	14	19/27	.260″	10.83	49.35
1891/3 ††	37F1667	3	14	19/27	.280″	26.52	127.01

BRAIDED SHIELDED PLASTIC CABLE

14 to 22 gauge stranded tinned copper conductor with color-coded PVC .016″ wall—.020″, (**) .025″ (†) .030″. Gray PVC jacket. Copper shield, 75% coverage for high flexibility and cable strength. Specifications: −20°C to +80°C, 350 volts except 1750, 1751, 450 volts. Applications include Public Address systems, sound systems, audio circuits, shielded power lines, or RF circuits. Suitable for outdoor installations in such applications as amateur radio transmitters or wherever economical shielded cable is required.

Alpha No.	Stock No.	No. Cond.	Cond. Size	Cond. Strand	Nom. O.D.	100 Feet	500 Feet
1736	37F1075	2	22	7/30	.185″	8.06	34.92
1737	37F1076	3	22	7/30	.200″	7.44	32.43
1738	37F1299	4	22	7/30	.210″	15.68	73.64
1741	37F1077	2	20	10/30	.200″	11.43	51.98
1742	37F1078	3	20	10/30	.220″	13.35	61.86
1746 *	37F1079	2	18	16/30	.235″	13.95	64.80
1747 *	37F1080	3	18	16/30	.245″	19.83	94.25
1748**	37F1081	2	16	26/30	.250″	19.67	93.21
1750 *	37F1082	2	14	41/30	.290″	24.78	118.77
1751 *	37F1409	3	14	41/30	.295″	37.34	186.50

SPIRAL WRAP SHIELDED PLASTIC CABLE

16 to 22 gauge stranded tinned copper conductor with color coded PVC wall .020″ thick. Gray PVC jacket. Shield is spiral wrapped tinned copper, for easy pigtailing, 85% shield coverage. Specifications: −20°C to +80°C, 350 volts. Easily strippable shield makes this wire ideal for production line work in such areas as audio interconnecting, PA and sound system use, radio receiving and transmitting equipment and shielded power applications.

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 500
2254/1	37F2247	1	22	7/30	.115″	5.97	25.38
2254	37F1086	2	22	7/30	.175″	5.15	24.09
2254/3	37F1087	3	22	7/30	.190″	11.40	50.81
2254/4	37F2248	4	22	7/30	.200″	18.15	84.68
2254/6	37F2249	6	22	7/30	.235″	24.65	117.15
2256/1	37F1089	1	20	10/30	.130″	7.94	33.45
2256	37F1090	2	20	10/30	.195″	6.44	28.14
2256/3	37F1091	3	20	10/30	.210″	12.89	58.22
2258	37F1092	2	18	16/30	.230″	8.19	36.53
2258/3	37F1093	3	18	16/30	.235″	10.02	45.83
2258/4	37F2250	4	18	16/30	.245″	25.76	122.72
2260	37F2251	2	16	10/30	.240″	10.28	46.95

ALUMINUM FOIL SHIELDED PLASTIC CABLE

16 to 22 gauge stranded tinned copper conductor with color-coded polyethylene insulation with .016″ wall except (*) .008″. Shield is mylar supported aluminum foil. Drain wire is parallel, with foil facing outward for maximum ground. 100% shield. Gray PVC jacket. Specifications: −20°C to +60°C, 400 volts. May be used where light weight and 100% shielding are required. Audio, RF, sound circuits.

Alpha No.	Stock No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. O.D.	Net 100	Net 500
2402	37F1286	2	22	7/30	.170″	5.06	20.27
2403	37F1287	3	22	7/30	.185″	5.61	24.83
2404	37F1288	4	22	7/30	.210″	12.24	56.94
2411	37F2252	2	20	10/30	.186″	6.08	25.56
2412	37F1289	2	20	10/30	.186″	5.61	24.83
2413	37F1290	3	20	10/30	.205″	6.90	31.05
2414	37F1291	4	20	10/30	.225″	12.71	58.59
2421	37F2253	2	18	16/30	.210″	7.02	30.75
2422	37F1292	2	18	16/30	.210″	6.57	29.63
2423	37F1293	3	18	16/30	.230″	8.36	39.32
2424	37F1294	4	18	16/30	.255″	14.99	69.84
2432	37F1531	2	16	26/30	.245″	8.58	43.28
2433	37F1532	3	16	26/30	.270″	12.87	59.40
2460	37F2254	2	22	Solid	.118″*	4.80	19.22
2461	37F2255	2	22	7/30	.135″*	5.07	22.05

COLOR CODE

UL and CSA Approved for Color Coordinating Exposed Jackets

1. Gray
2. Black
3. Brown
4. Metallic Blue
5. Bronze
6. White
7. Tan
8. Orange
9. Red
10. Yellow
11. Blue
12. Green

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Shielded Wire and Cable

alpha
Alpha Wire a division of Loral Corporation

BRAIDED SHIELDED CONTROL CABLE

20 gauge stranded tinned copper conductor with color-coded polyethylene insulation, cabled with nylon wrap. Nominal wall thickness, .015". Shield is braided tinned copper. Jacket is .014" polyvinyl chloride except 1712, .030". Specifications: −20°C to +80°C, 600 volts. Each has between 2 and 20 conductors, cabled with fillers where necessary. 1712 is UL style 2373, 1713 is UL 2093, 1715 is UL 2094.

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
1712	37F1515	2	20	26/34	.245"	16.16	79.10
1713	37F1410	3	20	26/34	.250"	13.50	61.89
1715	37F1411	4	20	26/34	.260"	14.63	67.88
1716	37F473	5	20	26/34	.275"	16.91	79.28
1717	37F474	6	20	26/34	.300"	33.99	164.81
1719	37F475	8	20	26/34	.330"	45.05	223.47
1721	37F476	10	20	26/34	.375"	55.89	274.37
1723	37F1516	12	20	26/34	.380"	87.60	475.32
1726	37F1517	15	20	26/34	.410"	135.06	671.54
1728	37F1518	20	20	26/34	.455"	176.03	874.34

RUBBER AND NEOPRENE SHIELDED CABLES

Stranded tinned copper conductor with color-coded rubber wall, nominal thickness, .020". Cabled with fillers where necessary, cotton wrap. Shield is braided tinned copper with cotton wrap. Jacket is black rubber or heavy duty neoprene. Specifications: −20°C to +60°C, 300 volts. For use in video and audio interconnecting systems, broadcast applications, and heavy duty studio use.

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
1250/18	37F1619	2	18	41/34	.295"	28.52	139.40
1250	37F1520	2	20	26/34	.270"	14.66	67.67
1251	37F1521	3	20	26/34	.285"	16.79	78.18
1252	37F1522	4	20	26/34	.305"	19.64	87.51
1253	37F1523	5	20	26/34	.330"	23.34	110.70
1254	37F1524	6	20	26/34	.345"	28.61	136.65
1255/8	37F1526	8	20	26/34	.385"	35.16	166.80
1255/10	37F1527	10	20	26/34	.440"	93.89	448.25
1255/12	37F1528	12	20	26/34	.525"	136.71	661.19
1255/15	37F1529	15	20	26/34	.595"	177.06	862.80
1255/20	37F1530	20	20	26/34	.660"	219.65	1075.77

RUBBER JACKETED UNSHIELDED CABLE

20 gauge, 26/34 tinned copper conductor with color-coded rubber wall, nominal thickness .020", cabled with cotton wrap. Jacket is black rubber with .035" nominal thickness wall. Specifications: −20°C to +60°C, 300 volts. Suggested applications include heavy duty control and interconnecting systems, audio-visual control, and instrumentation.

Type	Stock No.	No. of Cond.	Nom. O.D.	100 Ft.	500 Ft.
1244	37F1350	2	.240"	17.04	81.14
1245	37F1351	3	.255"	18.66	90.23
1246	37F1352	4	.275"	21.00	102.23
1247	37F1353	5	.300"	28.17	132.60
1247/6	37F1354	6	.315"	34.26	163.14
1247/7	37F1355	7	.325"	41.52	197.72
1247/8	37F1356	8	.360"	43.17	207.62
1247/10	37F1357	10	.410"	70.62	328.04
1247/12	37F1358	12	.435"	98.07	469.02

NEOPRENE JACKETED SHIELDED CABLE

Shielded control cable has stranded tinned copper conductor with color-coded rubber insulation, .040" nominal wall thickness. Cabled with fillers where necessary, cotton wrap. Jacket is heavy duty black neoprene. Specifications: −20°C to +60°C, 300 volts. Braided tinned copper shield with cotton wrap. Designed for application in such areas as heavy duty control and interconnection. Oil and grease resistant.

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
1449	37F689	1	18	41/34	.240"	24.90	120.42
1450	37F690	2	18	41/34	.295"	32.72	160.53
1451	37F691	3	18	41/34	.305"	60.53	277.86
1452	37F692	4	18	41/34	.330"	74.10	345.78
1450/16	37F470	2	16	65/34	.335"	62.99	290.22
1451/16	37F471	3	16	65/34	.355"	75.75	354.03
1452/16	37F472	4	16	65/34	.385"	86.25	406.50

TEFLON MULTICONDUCTOR CABLE

Stranded silver plated copper conductor cable conforms to MIL-W-16878D. Extruded color-coded Type E Teflon insulation, .010" wall. Jacket is white, TFE cables tape wrapped, FEP cables extruded. Braided silver-plated copper shield. −65°C to +200°C, 600 V.

TFE

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet
2824	37F1029WA	1	22	19/34	.102"	30.87
2824/2	37F1042WA	2	22	19/34	.154"	45.78
2824/3	37F2256WA	3	22	19/34	.162"	62.27
2824/4	37F2257WA	4	22	19/34	.176"	82.02
2826	37F1028WA	1	16	19/29	.130"	45.63
2826/2	37F1027WA	2	16	19/29	.210"	81.14
2827	37F1045WA	1	20	19/32	.110"	33.51
2827/2	37F1046WA	2	20	19/32	.170"	50.75
2827/3	37F2258WA	3	20	19/32	.180"	72.00
2827/4	37F2259WA	4	20	19/32	.195"	89.75
2829	37F1049WA	1	18	19/30	.120"	42.32
2829/2	37F1050WA	2	18	19/30	.190"	63.23

FEP

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet
2831	37F1053WA	1	24	19/36	.085"	32.76
2831/2	37F1054WA	2	24	19/36	.130"	45.48
2831/3	37F1055WA	3	24	19/36	.135"	62.58
2834	37F1056WA	1	22	19/34	.091"	32.76
2834/2	37F1057WA	2	22	19/34	.150"	48.39
2834/3	37F1058WA	3	22	19/34	.158"	70.77
2837	37F1059WA	1	20	19/32	.100"	35.66
2837/2	37F1060WA	2	20	19/32	.168"	53.48
2837/3	37F1061WA	3	20	19/32	.178"	77.87

MIL-SPEC CABLES

Stranded tinned copper wire cables meet MIL-W-16878D Type B. Color-coded PVC wall has .010" nominal thickness. Clear nylon jacket, cabled. Braided tinned copper shield has 90% coverage. White PVC jacket. Specifications: −55°C to +105°C, 600 volts. Color code: 1—white, 2—black, 3—red. Resistant to acids, alkalis, oil, flame, moisture, fungus, solvents.

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 Feet	500 Feet
3210	37F1260	1	24	19/36	.092"	5.73	28.28
3211	37F1261	2	24	19/36	.152"	8.01	40.20
3212	37F1262	3	24	19/36	.161"	10.46	51.45
3213	37F1504	4	24	19/36	.172"	12.83	62.10
3220	37F1263	1	22	19/34	.100"	6.89	30.78
3221	37F1264	2	22	19/34	.168"	11.94	56.06
3222	37F1265	3	22	19/34	.178"	15.35	72.89
3230	37F1266	1	20	19/32	.106"	6.38	30.98
3231	37F1505	2	20	19/32	.186"	12.00	56.03
3232	37F1268	3	20	19/32	.196"	15.05	73.67
3240	37F1269	1	18	19/30	.120"	9.18	42.03
3241	37F1270	2	18	19/30	.210"	15.17	71.88
3242	37F1271	3	18	19/30	.227"	19.97	96.20
3245	37F1508	1	16	19/29	.137"	8.81	43.22
3246	37F1509	2	16	19/29	.236"	14.45	72.23
3247	37F1510	3	16	19/29	.240"	19.95	98.57

IRRADIATED CONDUCTOR CABLE

Irradiated inner conductors will not melt or char at solder iron heat. Stranded tinned copper conductors, color coded irradiated PVC insulation, .010" thick. Braided tinned copper shield with white PVC jacket overall, .025" thick. For up to 600 V at 105°C.

UNSHIELDED

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 NET	500 NET
6621A	37F2260	1	24	7/32	.090"	6.26	29.81
6622A	37F2261	2	24	7/32	.129"	9.99	45.38
6623	37F2262	3	24	7/32	.139"	12.38	59.00
6624A	37F2263	4	24	7/32	.150"	16.50	78.51
6631	37F2264	1	22	7/30	.098"	6.66	31.77
6632A	37F2265	2	22	7/30	.149"	11.15	53.07
6633	37F2266	3	22	7/30	.155"	13.88	66.09
6634A	37F2437	4	22	7/30	.168"	19.97	95.06
6641A	37F2438	1	20	7/28	.105"	7.95	37.82
6642A	37F2439	2	20	7/28	.163"	11.45	54.56
6643	37F1678	3	20	7/28	.178"	16.20	77.15
6644A	37F1679	4	20	7/28	.187"	21.57	102.69

SHIELDED

Alpha No.	Stock No.	No. Cond.	Conductor Size	Conductor Strand	Nom. O.D.	100 NET	500 NET
7621	37F1680	1	24	7/32	.115"	7.52	35.76
7622A	37F1681	2	24	7/32	.158"	11.99	54.45
7623	37F1682	3	24	7/32	.164"	14.85	70.79
7624A	37F1683	4	24	7/32	.176"	19.79	94.20
7631	37F1684	1	22	7/30	.122"	8.01	38.12
7632A	37F1685	2	22	7/30	.172"	13.37	63.68
7633	37F1686	3	22	7/30	.180"	16.65	79.31
7634A	37F1687	4	22	7/30	.193"	23.96	114.06
7661	37F1688	1	20	7/28	.130"	9.54	45.38
7662	37F1689	2	20	7/28	.188"	13.74	65.46
7663	37F1690	3	20	7/28	.197"	19.44	92.57
7664	37F1691	4	20	7/28	.212"	25.88	123.24

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Computer & Control Cable

UNSHIELDED UL STYLE 1061 CABLE

Stranded tinned copper conductor with .010" color-coded PVC insulation. Cabled singly or in pairs, with gray vinyl jacket overall. Specifications: Cable rated at 80°C, 300 volts. Individual conductors rated 105°C 600 volts. Nominal jacket thickness, .063". For control and signal applications in computers, industrial equipment and instrumentation.

24-GAUGE, MULTI. Strand, 7/32

Alpha No.	Stock No.	No. of Cond.	Nom. O.D.	NET 100'	NET 500'
5200	37F1692	5	.218	37.62	171.00
5201	37F1693	7	.251	40.68	184.86
5202	37F1694	12	.301	56.19	255.36
5203	37F1695	15	.328	76.38	347.19
5204	37F1696	19	.341	82.79	376.31
5205	37F1697	27	.394	110.69	503.12
5206	37F1821	37	.418	152.55	693.35
5207	37F1822	48	.470	191.76	871.64
5208	37F1823	60	.508	228.92	1040.54

24-GAUGE, PAIRED. Strand 7/32.

5230	37F1824	5 pr.	.332	54.21	246.36
5231	37F1825	7 pr.	.352	62.21	282.75
5232	37F1826	12 pr.	.438	89.64	407.49
5233	37F1827	15 pr.	.488	114.57	520.79
5234	37F1828	19 pr.	.507	130.13	591.48
5235	37F1829	27 pr.	.595	176.55	802.50
5236	37F1830	37 pr.	.665	236.70	1075.89
5237	37F1831	48 pr.	.747	295.47	1343.04
5238	37F1832	60 pr.	.819	377.34	1715.18

22 GAUGE, MULTI. Strand, 7/30.

5210	37F1833	5	.202	40.71	185.03
5211	37F1834	7	.272	43.68	198.54
5212	37F1835	12	.332	61.52	279.63
5213	37F1836	15	.352	82.55	372.26
5214	37F1837	19	.372	90.78	412.68
5215	37F1838	27	.432	120.98	549.90
5216	37F1839	37	.481	166.95	758.84
5217	37F1840	48	.533	208.56	948.03
5218	37F1841	60	.574	258.75	1176.12

22 GAUGE, PAIRED. Strand, 7/30

5240	37F1842	5 pr.	.368	59.46	270.27
5241	37F1843	7 pr.	.393	68.84	312.89
5242	37F1844	12 pr.	.475	101.09	459.47
5243	37F1845	15 pr.	.551	132.87	603.95
5244	37F1846	19 pr.	.563	149.34	678.80
5245	37F1847	27 pr.	.604	198.05	900.21
5246	37F1848	37 pr.	.755	265.97	1208.94
5247	37F1849	48 pr.	.856	343.73	1562.37
5248	37F1885	60 pr.	.984	425.37	1933.47

20 GAUGE, MULTI. Strand, 19/32.

5220	37F1886	5	.277	46.20	209.99
5221	37F1887	7	.293	51.68	234.93
5222	37F1888	12	.363	73.64	334.73
5223	37F1889	15	.393	99.02	450.11
5224	37F1890	19	.412	112.29	510.39
5225	37F1891	27	.494	66.84	678.80
5226	37F1892	37	.521	205.59	934.52
5227	37F1893	48	.584	260.03	1181.91
5228	37F1894	60	.644	316.07	1436.60

20 GAUGE, PAIRED. Strand, 19/32.

5250	37F1895	5 pr.	.398	70.91	322.25
5251	37F1896	7 pr.	.445	85.31	387.74
5252	37F1897	12 pr.	.545	127.85	581.09
5253	37F1898	15 pr.	.607	155.06	704.78
5254	37F1899	19 pr.	.634	193.92	881.49
5255	37F1901	27 pr.	.749	259.34	1178.79
5256	37F1902	37 pr.	.826	356.30	1619.54
5257	37F1903	48 pr.	.955	448.92	2040.54
5258	37F1904	60 pr.	1.045	555.03	2522.85

SHIELDED UL STYLE 1061 CABLE

Stranded tinned copper conductor has .010" color-coded PVC insulation and braided tinned copper shield. Cabled singly or in pairs, with gray vinyl jacket overall. Specifications: Cable rated at 80°C, 300 volts. Individual conductors rated 105°C, 600 volts. For control and signal applications in computers. Nominal jacket thickness, .063".

24 GAUGE, MULTI. Strand 7/32.

Alpha No.	Stock No.	No. of Cond.	Nom. O.D.	NET 100'	NET 500'
5300	37F1905	5	.247	45.27	205.82
5301	37F1906	7	.277	49.85	226.61
5302	37F1907	12	.328	67.47	306.66
5303	37F1908	15	.353	88.74	403.32
5304	37F1909	19	.367	96.29	437.63
5305	37F1913	27	.418	126.69	575.88
5306	37F1914	37	.447	172.22	782.75
5307	37F1915	48	.497	215.66	980.25
5308	37F1916	60	.538	255.23	1160.09

24 GAUGE, PAIRED. Strand, 7/32.

5330	37F1917	5 pr.	.357	66.78	303.54
5331	37F1918	7 pr.	.378	76.38	347.19
5332	37F1919	12 pr.	.378	111.60	507.27
5333	37F1920	15 pr.	.513	138.81	630.98
5334	37F1921	19 pr.	.533	156.42	711.02
5335	37F1992	27 pr.	.622	208.11	945.95
5336	37F1923	37 pr.	.693	272.37	1238.04
5337	37F1924	48 pr.	.778	336.41	1529.10
5338	37F1925	60 pr.	.847	422.61	1920.99

22 GAUGE, MULTI. Strand, 7/30.

5310	37F1926	5	.287	49.85	226.61
5311	37F1927	7	.298	53.97	245.33
5312	37F1928	12	.357	74.10	336.80
5313	37F1929	15	.382	96.51	438.68
5314	37F1930	19	.397	105.65	480.26
5315	37F1931	27	.458	140.64	639.30
5316	37F1932	37	.513	191.19	869.03
5317	37F1933	48	.563	236.24	1073.81
5318	37F1934	60	.603	285.41	1297.29

22 GAUGE, PAIRED. Strand, 7/30.

5340	37F1935	5 pr.	.392	73.88	335.76
5341	37F1936	7 pr.	.418	84.62	384.62
5342	37F1937	12 pr.	.497	126.24	573.81
5343	37F1938	15 pr.	.578	153.56	697.95
5344	37F1939	19 pr.	.584	179.52	816.02
5345	37F1940	27 pr.	.672	233.73	1063.38
5346	37F1941	37 pr.	.784	307.83	1399.17
5347	37F1942	48 pr.	.883	391.28	1778.58
5348	37F1943	60 pr.	.960	482.76	2194.38

20 GAUGE, MULTI. Strand, 19/32.

5320	37F1944	5	.302	56.48	256.76
5321	37F1945	7	.318	62.90	285.87
5322	37F1946	12	.387	87.81	399.17
5323	37F1947	15	.417	114.57	520.79
5324	37F1948	19	.437	127.61	580.04
5325	37F1949	27	.518	173.12	786.90
5326	37F1975	37	.552	232.35	1056.14
5327	37F1976	48	.612	267.30	1214.91
5328	37F1977	60	.673	350.81	1594.59

20 GAUGE, PAIRED. Strand, 19/32.

5350	37F1978	5 pr.	.422	86.67	393.98
5351	37F1979	7 pr.	.468	105.89	481.16
5352	37F1980	12 pr.	.572	156.42	711.02
5353	37F1981	15 pr.	.633	197.82	899.18
5354	37F1982	19 pr.	.665	228.23	1037.42
5355	37F1983	27 pr.	.778	300.27	1364.87
5356	37F1984	37 pr.	.854	403.19	1832.64
5357	37F1985	48 pr.	.983	507.47	2306.66
5358	37F1986	60 pr.	1.074	619.29	2814.96

MULTICONDUCTOR SHIELDED CABLE PER MIL-W-16878D

Multiconductor shielded cable has stranded tinned copper conductor, color coded PVC insulation, cabled with mylar wrap. Shield is braided tinned copper with 90% coverage. Jacket is chrome-gray PVC. Specifications: −55°C to +105°C, 600 volts and 1000 volts. Designed for applications including instrumentation and control, telemetry data transmission, remote control.

MINIATURE—600 VOLTS

Alpha No.	Stock No.	Cond. No.	Nom. Jacket	Nom. O.D.	100 Feet	1000 Feet
3302	37F1272	2	.012"	.125"	15.56	145.46
3303	37F1273	3	.012"	.130"	20.57	194.19
3304	37F1274	4	.012"	.140"	24.84	237.05
3306	37F1275	6	.015"	.170"	31.38	302.97
3308	37F1276	8	.015"	.175"	35.58	345.00
3310	37F1277	10	.018"	.210"	44.94	438.12
3312	37F1278	12	.018"	.215"	51.75	495.89
3315	37F1279	15	.022"	.230"	62.22	602.58
3320	37F1280	20	.022"	.260"	77.33	752.22

HEAVY DUTY—1000 VOLTS

Alpha No.	Stock No.	Cond. No.	Nom. Jacket	Nom. O.D.	100 Feet	1000 Feet
3405	37F1281	5	.025"	.300"	63.03	611.06
3408	37F1987	8	.025"	.350"	94.91	821.70
3410	37F1282	10	.035"	.405"	111.42	1092.57
3412	37F1988	12	.035"	.430"	151.43	1310.93
3415	37F1283	15	.040"	.470"	151.35	1491.77
3420	37F1284	20	.045"	.530"	203.82	2017.05
3430	37F1285	30	.050"	.650"	304.71	2983.56

Shielded and Unshielded Cable, Shielding

COMMUNICATION AND INTERCOM CABLE

Each conductor is stranded tinned copper with color-coded PVC or polypropolene insulation, braided, tinned or aluminum mylar overconductors forming shield. Unshielded conductors paired. Foil shielded cables have solid tinned copper drain for grounding. −20°C to 80°C, 350 V. (*) PP ins., foil shield; (**) PVC, braid.

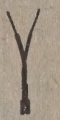
Alpha No.	Stock No.	Conductor No.	Shld.	Size	Strand	Nom. O.D.	NET 100	NET 500
1243**	37F1989	3	1	22	7/30	.200″	6.58	28.65
2464*	37F1990	4	2	22	7/30	.172″	7.22	33.00
2465*	37F1991	4	2	20	7/28	.233″	9.29	41.22

TELEPHONE STATION CABLE

Solid annealed 22-gauge bare copper conductor with color-coded polyethylene insulation, cables with PVC jacket overall. Jacket designed to resist weathering and abrasion. Insulation thickness, .015″. For use in telephone and intercom installation. May be used in building ducts or in outside installations.

Alpha No.	Stock No.	No. of Cond.	Nom. O.D.	NET 100	NET 500
1202	37F1992	2	.155″	3.65	13.50
1203	37F1993	3	.163″	4.14	16.50
1204	37F1994	4	.185″	4.82	20.25

MINIATURE SHIELDED CABLE



Each conductor is stranded tinned copper with color-coded PVC insulation. Conductors are twisted, with fine braided tinned copper shield overall. Clear polyvinyl-chloride jacket overall. Recommended operating temperature: −20°C to −80°C. Suggested operating voltage: 200 volts, 28 ga., 7/36 strand

Alpha No.	Stock No.	No. of Cond.	Nom. O.D.	NET 100	NET 500
1120	37F2020	2	.105″	11.39	52.11
1121	37F2021	3	.115″	13.19	61.31
1122	37F2022	4	.120″	16.37	77.27

LOW LEAKAGE MEDICAL SAFETY CABLE

Specially designed low leakage power cable greatly reduces danger of electrical shock in medical and dental applications. Stranded and annealed copper conductor with color-coded FEP Teflon insulation. Low dielectric constant polyethylene fillers provide wider conductor spacing. Paper tape wrap over core with red PVC jacket overall. Maximum leakage, 10 ft. length at 120 volts is 6 microamperes to ground wire, 16 microamperes through jacket. Nominal insulation thickness: .031″. Nominal jacket thickness: .050″. For use on medical test and analytical equipment. 3 conductor.

Alpha No.	Stock No.	Cond. Size AWG	Nom. O.D.	NET 100	NET 500
1980	37F2023	18	.430″	151.77	729.30
1981	37F2024	16	.475″	173.84	835.07

HEADSET CABLE

Combination tinned copper and copperweld strands in color-coded polyethylene insulation. Spiral wrapped, tinned copper shield. Chrome gray vinyl jacket in flat configuration. Insulation thickness: .017″. Jacket thickness: .020″. For two-channel stereo use.

Alpha No.	Stock No.	No. of Cond.	Cond. Size	Strand	Nom. O.D.	NET 100	NET 500
1985	37F2025	2	25	7/33	.108x.215″	7.76	42.41

COLOR/BLEND JACKET COLOR CODE

1—Gray	5—Bronze	9—Red
2—Black	6—White	10—Yellow
3—Brown	7—Tan	11—Blue
4—Metallic Blue	8—Orange	12—Green

TINNED COPPER FLAT BRAID

Woven braid is rolled flat at time of manufacture to a specific width. High current capacity and extreme flexibility. May be used for battery grounding, bonding strap, and electrical connection to moving parts.

Alpha No.	Stock No.	Flat Width	Thick	AWG Equiv.	Cir. MILS	Amps	100 Ft.	1000 Ft.
1221	37F1144	.025″	.015	27	200	4.0	6.27	52.11
1222	37F1145	1/32″	.020	24	400	6.0	6.74	55.76
1223	37F1146	3/64″	.020	22	600	7.0	7.11	59.51
1224	37F1147	3/32″	.020	19	1200	11.0	7.92	69.86
1229	37F1148	1/8″	.020	18	1800	16.0	8.93	78.05
1230	37F1149	3/16″	.020	15	3000	25.0	9.74	86.88
1231	37F1150	1/4″	.030	14	4200	32.0	13.19	121.25
1232	37F1151	3/8″	.030	12	7200	46.0	21.11	199.94
1233/2	37F1152	1/2″	.030	10	9600	53.0	26.75	257.78
1233	37F1153	5/8″	.030	10	9600	53.0	28.31	272.34
1234	37F1154	3/4″	.040	7	20800	85.0	64.85	626.60
1235	37F1155	1″	.045	7	20800	85.0	69.41	672.18
1239	37F1547	1 3/8″	.050	5	33700	100.0	78.68	765.05
1240	37F1548	1 1/2″	.060	3	53064	150.0	110.24	.....
1241	37F1549	1 3/4″	.080	00	125424	280.0	220.47	.....
1242	37F1550	2″	.120	000	154368	310.0	276.71	.....
1242/4	37F1554	3″	.200	0000	225000	390.0	533.82	.....

TINNED COPPER OVAL BRAID

Woven tinned copper braid left in tubular configuration as it leaves braiding equipment. May be used as electrostatic shield over conductor or series of conductors, cable, or other components.

Alpha No.	Stock No.	Nom. I.D.	AWG Equiv.	Circ. Mills	Amps	NET 100
2132	37F2026WA	1/16	19	1192	11.0	6.27
2138	37F2027WA	1 1/64	14	4770	32.0	15.84
2140	37F2028WA	3/16	13	5724	38.0	17.30
2142	37F2029WA	1/4	12	6678	41.0	20.57
2144	37F2030WA	3/8	11	7632	46.0	23.37

TINNED COPPER TUBULAR BRAID

Manufactured completely round as outlined in Mil Spec QQ-B-575. Each strand is soft drawn tinned copper wire. Provides 95% minimum coverage. Current rating below is in free air at 86°F.

Alpha No.	Stock No.	I.D.	AWG Equiv.	Cir. MIL	Amp.	100 Ft.
2160	37F1156WA	1/32″	22	600	7	4.85
2162	37F1157WA	1/16″	19	1200	11	10.23
2164	37F1158WA	7/64″	16	2400	19	15.95
2166	37F1159WA	1/8″	15	3000	25	16.64
2168	37F1160WA	11/64″	14	4200	32	20.79
2170	37F1161WA	13/64″	11	7630	46	29.46
2172	37F1162WA	3/16″	10	9600	53	41.07
2174	37F1163WA	1/2″	9	13200	62	56.31
2176	37F1164WA	25/32″	7	21600	88	76.23

BUS BAR TINNED COPPER

Solid wire offers pure electrolytic soft drawn copper properly annealed and tinned for quick and convenient soldering. Meets or exceeds specifications MIL-W-3861 Type S, QQ-W-343 Type S, and ASTM-B-33. Designed for application in such areas as winding of coils, antenna wiring, point-to-point wiring, bus bar, component leads and grounding wire.

Alpha No.	Stock No.	Cond. AWG	MIL Area	Nom. O.D.	NET 100	NET 1000
299/3	37F1131	30	100.5	.010″	1.11	5.30
299/2	37F1132	28	159.8	.013″	1.11	5.43
299/1	37F1133	26	254.1	.016″	1.13	5.54
299	37F1134	24	404.0	.020″	1.22	6.45
298	37F1135	22	642.4	.025″	1.32	7.37
297	37F1136	20	1022.0	.033″	1.68	11.04
296	37F1137	18	1642.0	.040″	2.43	17.48
295	37F1138	16	2583.0	.051″	2.90	22.56
286	37F1139	14	4107.0	.065″	4.74	35.21
289	37F1140	12	6530.0	.082″	6.57	54.09
292	37F2031	10	10380.0	.103″	13.05	128.87
292/8	37F2032	8	16510.0	.129″	22.31	200.19
292/6	37F2033	6	26250.0	.162″	34.53	322.19

YOU CAN DEPEND ON NEWARK FOR EVERYTHING IN INDUSTRIAL ELECTRONICS

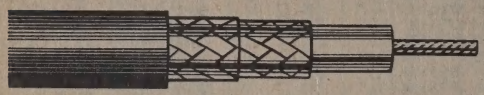
Coaxial Cable

TYPE 6/U AND 59/U POLYETHYLENE CABLE

For commercial and CATV, MATV and CCTV applications. BC=Bare Copper; BCW=Bare Copper Weld. Dielectric material, foam polyethylene, except *solid polyethylene. PVC jacket material. Put-up of 1000'.

Alpha No.	Stock No.	Type	Size	Shield	O.D.	Imped., Ohms	Stock Color	1000 Feet
9843	37F2050WM	6/U	18	Foil	.242	75	Black	46.35
9830*	37F1970WM	59/U	22	Braid. Bare	.242	75	Black	51.74
9840	37F1971WM	59/U	22	Copper	.242	75	Black	53.55
9844	37F2051WM	59/U	22	Foil	.218	80	Black	39.45

POLYETHYLENE DIELECTRIC COAXIAL CABLE



Conform to MIL-C-17, latest revision. C=Bare Copper; TC=Tinned Copper, SC=Silver Covered Copper, CW=Copper Covered Steel, PE=Solid Polyethylene, SSP=Semi Solid Polyethylene, BP=Black Polyethylene—Type IIIA, NP=Natural Polyethylene—Type III, V=Polyvinylchloride—Type I, NCV=Non-Contaminating Polyvinylchloride=Type IIA.

Alpha No.	Type	Inner Cond. Mat.	Inner Cond. Strand	Inner Cond. O.D.	Dielec. Mat.	Dielec. O.D.	Shields Inner	Shields Outer	O.D.	Jacket Mat.	Jacket O.D.	Imped., Ohms	Stock No.	100 Feet	Stock No.	1000 Feet
9006A	6A/U	CW	1	.0285	PE	.189	SC	C	.264	NCV	.336	75	37F2052WA	38.48	37F2052WM	375.44
9008	8/U	C	7/.0285	.086	PE	.295	C	.....	.340	V	.415	52	37F2053WA	18.20	37F2053WM	149.00
9008A	8A/U	C	7/.0285	.086	PE	.295	C	.....	.340	NCV	.415	52	37F2054WA	19.61	37F2054WM	177.87
9009B	9B/U	SC	7/.0285	.086	PE	.285	SC	SC	.355	NCV	.430	50	37F2055WA	62.63	37F2055WM	613.47
9011	11/U	TC	7/.0159	.048	PE	.295	C	.....	.340	V	.415	75	37F2056WA	16.02	37F2056WM	128.04
9011A	11A/U	TC	7/.0159	.048	PE	.292	C	.....	.340	NCV	.412	75	37F2057WA	17.70	37F2057WM	157.01
9012A	12A/U	TC	7/.0159	.048	PE	.292	C	.....	.340	NCV	.412	75	37F2058WA	29.96	37F2058WM	279.51
9014A	14A/U	C	1	.102	PE	.383	C	C	.463	NCV	.558	52	37F2059WA	48.02	37F2059WM	467.55
9017A	17A/U	C	1	.188	PE	.695	C	.....	.760	NCV	.885	52	37F2060WA	93.93	37F2060WM	914.22
9019A	19A/U	C	1	.250	PE	.925	C	.....	.990	NCV	1.135	52	37F2061WA	156.56	37F2061WM	1461.08
9055	55/U	C	1	.032	PE	.121	TC	TC	.176	NP	.206	53.5	37F2063WA	12.32	37F2063WM	113.04
9055B	55B/U	SC	1	.032	PE	.121	TC	TC	.176	BP	.206	53.5	37F2064WA	13.37	37F2064WM	126.29
9058	58/U	C	1	.032	PE	.121	TC	.....	.150	V	.200	53.5	37F3065WA	6.50	37F2065WM	47.66
9058A	58A/U	TC	19/.0071	.0375	PE	.120	TC	.....	.150	V	.199	50	37F2066WA	7.37	37F2066WM	54.59
9058C	58C/U	TC	19/.0071	.0375	PE	.120	TC	.....	.150	NCV	.199	50	37F2067WA	8.45	37F2067WM	63.71
9059	59/U	CW	1	.0253	PE	.150	C	.....	.191	V	.250	73	37F2068WA	7.80	37F2068WM	55.10
9059B	59B/U	CW	1	.023	PE	.150	C	.....	.191	NCV	.246	75	37F2069WA	7.73	37F2069WM	69.33
9062	62/U	CW	1	.025	SSP	.151	C	.....	.191	V	.250	93	37F2070WA	8.31	37F2070WM	62.64
9062A	62A/U	CW	1	.025	SSP	.151	C	.....	.191	NCV	.249	93	37F2071WA	9.20	37F2071WM	80.16
9063B	63B/U	CW	1	.0253	SSP	.295	C	.....	.340	NCV	.415	125	37F2072WA	18.15	37F2072WM	173.88
9071B	71B/U	CW	1	.025	SSP	.151	C	TC	.208	BP	.250	93	37F2073WA	14.63	37F2073WM	129.41
9074	174/U	CW	7/.0063	.019	PE	.060	TC	.....	.088	NCV	.105	50	37F2074WA	5.46	37F2074WM	38.39
9212	212/U	SC	1	.056	PE	.189	SC	SC	.265	NCV	.336	50	37F2075WA	52.64	37F2075WM	490.05
9213	213/U	C	7/.0296	.090	PE	.292	C	.....	.340	NCV	.412	50	37F2076WA	18.33	37F2076WM	170.07
9214	214/U	SC	7/.0296	.090	PE	.292	SC	SC	.360	NCV	.432	50	37F2077WA	65.34	37F2077WM	576.27
9215	215/U	C	7/.0296	.090	PE	.292	C	.....	.340	NCV	.412	50	37F2078WA	30.86	37F2078WM	290.40
9217	217/U	C	1	.106	PE	.380	C	C	.463	NCV	.555	50	37F2079WA	48.11	37F2079WM	453.75
9218	218/U	C	1	.195	PE	.690	C	.....	.760	NCV	.880	50	37F2080WA	88.04	37F2080WM	853.05
9219	219/U	C	1	.195	PE	.690	C	.....	.760	NCV	.880	50	37F2081WA	119.79	37F2081WM	1177.94
9223	223/U	SC	1	.036	PE	.120	SC	SC	.176	NCV	.216	50	37F2082WA	29.04	37F2082WM	263.18

All dimensions are maximum except where indicated

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TEFLON DIELECTRIC COAXIAL CABLE

Conductors are silver plated copperweld. Operating temperature of 200° C. Meet MIL-C-17, latest revision. Cond., 7/.004 except Alpha No. 9188A, 7/.0067. Suitable for a wide variety of commercial or industrial application. In 100' or 1000' put-ups.

Alpha No.	Type	Wall Thick.	Jacket Thick.	Jacket Type	Max. O.D.	Cap. Nom.	Imped., Ohms	Stock No.	100 Feet	Stock No.	1000 Feet
9178B	178B/U	.012	.010	Extruded FEP	.075	27.9	50±2	37F2083WA	16.50	37F2083WM	140.25
9179B	179B/U	.021	.010	Extruded FEP	.105	20.4	75±3	37F2084WA	29.70	37F2084WM	245.03
9180B	180B/U	.045	.010	Extruded FEP	.145	15.3	93±2	37F2085WA	39.60	37F2085WM	358.88
9187A	187A/U	.024	.012	Fused TFE Tape	.110	19.5	75±3	37F1482WA	27.23	37F1482WM	247.17
9188A	188A/U	.020	.012	Fused TFE Tape	.110	27.5	50±2	37F2086WA	27.23	37F2086WM	239.25
9195A	195A/U	.045	.014	Fused TFE Tape	.155	14.5	95±3	37F2087WA	54.45	37F2087WM	518.10
9196A	196A/U	.011	.012	Fused TFE Tape	.080	28.5	50±2	37F2088WA	21.45	37F2088WM	174.90

CATV, MATV, CCTV COAXIAL CABLE

All types listed conform to latest revision MIL-C-17. These cables are designed specifically for commercial and CATV, MATV and CCTV applications.

Alpha No.	Stock No.	Type	Dielec. Material	Shield*	Jacket Material	O.D.	Imped., Ohms	Color	1000 Feet
9843	37F2050WM	6/U	Foam PE	Foil	PVC	.242	75	Black	46.35
9846	37F2089WM	8/U	Foam PE	BBC	PVC	.407	50	Black	166.65
9847	37F2090WM	11/U	Foam PE	BBC	PE	.405	75	Black	151.80
9848	37F2091WM	58/U	Foam PE	BTC	PVC	.195	50	Black	58.65
9830	37F1970WM	59/U	Solid PE	BBC	PVC	.242	75	Black	51.74
9840	37F1971WM	59/U	Foam PE	BBC	PVC	.242	75	Black	53.55
9844	37F2051WM	59/U	Foam PE	Foil	PVC	.218	80	Black	39.45

BBC—Braided Bare Copper BTC—Braided Tinned Copper
Foil—Aluminum Polyester Tape with 4-28 AWC Tinned Copperweld Drain Wires BCW—Bare Copper Weld
BC—Bare Copper Foam PE—Unicellular Foamed Polyethylene

UL Service Cords, Retractiles, Test Lead Wire

NEOPRENE SERVICE AND POWER CORDS

UL listed power cords have bare stranded copper conductor, color-coded rubber insulation, cabled with fillers, paper separator. Tough black neoprene jacket. Specifications: −20°C to +60°C, oil, acid and ozone resistant. **Types SJO and SVO,** stationary service, 300 volts. **Type SO,** portable cord, 600 volts. **SVO** is for light duty applications, **SJO** for medium duty, **SO** for heavy duty.

STATIONARY SERVICE—300 VOLT

Alpha No.	Stock No.	U/L Type	No. of Cond.	Cond. Size	Nom. O.D.	100 Ft.	250 Ft.
1931	37F1359	SVO	2	18	.250″	16.05	36.98
1932	37F1360	SJO	2	18	.305″	19.97	47.12
1932/3	37F1361	SJO	3	18	.330″	25.95	57.23
1933	37F1362	SJO	2	16	.330″	25.95	57.23
1933/3	37F1363	SJO	3	16	.360″	34.26	80.12

PORTABLE SERVICE—600 VOLT

1934	37F1364	SO	2	18	.390″	32.51	75.72
1934/3	37F1365	SO	3	18	.405″	39.20	92.45
1935	37F1366	SO	2	16	.405″	35.66	83.64
1935/3	37F1367	SO	3	16	.430″	48.86	116.67
1936	37F1368	SO	2	14	.530″	57.23	137.58
1936/3	37F1369	SO	3	14	.560″	69.14	167.30
1937	37F1370	SO	2	12	.600″	70.89	171.71
1937/3	37F1371	SO	3	12	.635″	88.47	215.72
1937/4	37F1372	SO	4	12	.665″	107.87	264.14
1938	37F1373	SO	2	10	.640″	86.73	211.32
1938/3	37F1374	SO	3	10	.690″	116.67	265.16
1938/4	37F1375	SO	4	10	.745″	143.94	343.38

REPLACEMENT CORD SETS

UL, CSA listed 2 and 3 conductor cords have molded male plug on one end, stripped leads on other. Specifications: 300 volts, heavy duty black rubber jacket. Use 3 conductor when 1 conductor requires grounding. For use in business machines, small tools, appliances.

#18—7 Amp. 2 Conductor Cord Sets #16—10 Amp

Alp. No.	Stock No.	Cond. Size	Cond. Strand	U.L. Type	Cord Lgth.	Net
600	37F1107	18	41/34	SV	6	1.14
602	37F1108	18	41/34	SV	6	1.35

#18—7 Amp 3 Conductor Cord Sets #6—10 Amp

615	37F1412	18	16/30	SJ	6	1.46
616	37F1413	18	16/30	SJ	9	1.67
618	37F1414	16	26/30	SJ	6	2.09

EXTENSION CORD SETS

UL/CSA listed 2 and 3 conductor cords have molded black male and female plugs. Specifications: 300 volt rating, heavy duty black rubber jacket. 3 conductor used when 1 conductor requires grounding. For use with small appliances or small business machines.

2 CONDUCTOR CORDS

Alp. No.	Stock No.	Co. Sz.	Cond. Strand	U/L Type	Nom. O.D.	Cord Lgth.	Net
620	37F1114	18	41/34	SV	.245″	6	1.31
628	37F1118	16	26/30	SJ	.325″	10	2.00

3 CONDUCTOR CORDS

636	37F1122	18	16/30	SJ	.330″	10	2.43
638	37F1123	18	16/30	SJ	.330″	25	4.74
640	37F1417	16	26/30	SJ	.365″	10	4.46
642	37F1418	16	26/30	SJ	.365″	25	8.55
644	37F1419	16	26/30	SJ	.365″	50	13.32

Make NEWARK Your One Stop Source For All Your Electronic Components And Accessories

RUBBER TEST LEAD WIRE

Extra-flexible stranded tinned copper conductor with red or black rubber stain finish insulation. Specifications: Standard, Heavy-duty, or Mil-Spec. −20°C to +60°C, 1500 to 10,000 volts. For analyzers, oscillators, meters, etc.

Heavy Duty Type

Alp. No.	Stock No.	Color	Cond. Size	Cond. Strand	Nom. O.D.	100 Ft.	1000 Ft.
1638	37F1403	Red	18	65/36	.230″	6.33	53.25
1638	37F1404	Black	18	65/36	.230″	6.33	53.25

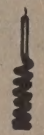
Military Type Meet MIL-W-13169B

1639	37F1405	Red	18	65/36	.145″	5.37	40.76
1639	37F1406	Black	18	65/36	.145″	5.37	40.76

Standard Type

Alp. No.	Stock No.	Color	Cond. Size	Cond. Strand	Nom. O.D.	100 Ft.	1000 Ft.
1632	37F1397	Red	20	41/36	.125″	3.89	29.54
1632	37F1398	Black	20	41/36	.125″	3.89	29.54
1635	37F1399	Red	20	41/36	.140″	4.05	30.69
1635	37F1400	Black	20	41/36	.140″	4.05	30.69
1636	37F1401	Red	18	65/36	.140″	4.53	34.80
1636	37F1402	Black	18	65/36	.140″	4.53	34.80

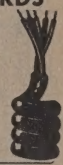
RETRACTILE TEST LEAD WIRE



High grade quality rubber insulation for maximum flex life extruded over flexible tinned copper which gives long life to this retractile test lead wire. Available in 12″ retracted length with 6″ straight lead on each end. Cord extends to approximately 6 feet.

Alp. No.	Stock No.	Color	Volt. Rating	Amp.	Each
650	37F1910	Red	5,000	4	1.62
650	37F1911	Black	5,000	4	1.62

PVC RETRACTILE COMMUNICATIONS CORDS



Has stranded tinned copper conductor with PVC jacket plus PVC jacket overall. 1 ft. length below extends to 6 ft., 2 ft. to 12 ft., 3 ft. to 18 ft., 4 ft. to 25 ft. Characteristics: Suggested operating temperature, −20°C to +60°C. 23 AWG conductor, 21/36 strands, 120 volts, 1 amp. For mobile and ham equipment, head sets. Black.

UNSHIELDED

Alp. No.	Stock No.	Lgth. (ft.)	No. of Cond.	Coil O.D.	Cord O.D.	1-9	10-Up
702	37F1912	1	2	¾″	.200″	2.28	2.04
703	37F1913	1	3	¾″	.210″	2.64	2.37
704	37F1914	1	4	13/16″	.240″	3.20	2.90
705	37F1915	1	5	1″	.285″	4.19	3.75
706	37F1916	1	6	1⅛″	.305″	4.85	4.38
707	37F1917	1	7	1¼″	.320″	5.39	4.83
702/2	37F1918	2	2	¾″	.200″	4.73	4.25
703/2	37F1919	2	3	¾″	.210″	5.70	5.13
704/2	37F1920	2	4	13/16″	.240″	6.60	5.94
705/2	37F1921	2	5	1″	.285″	9.00	8.10
706/2	37F1922	2	6	1⅛″	.305″	10.65	9.59
707/2	37F1923	2	7	1¼″	.320″	11.87	10.68
702/3	37F1924	3	2	¾″	.200″	7.35	6.62
703/3	37F1925	3	3	¾″	.210″	8.70	7.82
704/3	37F1926	3	4	13/16″	.240″	9.90	8.91
705/3	37F1927	3	5	1″	.285″	12.83	11.54
706/3	37F1928	3	6	1⅛″	.305″	15.87	14.31
707/3	37F1929	3	7	1¼″	.320″	15.90	14.33
702/4	37F1930	4	2	¾″	.200″	8.43	7.59
703/4	37F1931	4	3	¾″	.210″	9.96	8.97
704/4	37F1932	4	4	13/16″	.240″	11.51	10.35
705/4	37F1933	4	5	1″	.285″	15.47	13.91
706/4	37F1934	4	6	1⅛″	.305″	19.59	17.63
707/4	37F1935	4	7	1¼″	.320″	21.98	19.79
708/4	37F1936	4	8	35/32″	.360″	32.67	29.40
710/4	37F1937	4	10	5/32″	.380″	38.16	34.35
712/4	37F1938	4	12	7/32″	.410″	51.75	46.56
715/4	37F1939	4	15	9/32″	.470″	56.36	50.72

SHIELDED—BRAIDED TINNED COPPER SHIELD

Alp. No.	Stock No.	Lgth.	No. of Cond.	Coil O.D.	Cord O.D.	00-00	00-Up
720/2	37F1940	2	1	5/8″	.160	7.56	6.80
722/2	37F1941	2	2	7/8″	.225	10.95	9.87
723/2	37F1942	2	3	1″	.250	14.91	13.43
724/2	37F1943	2	4	1¼″	.270	17.36	15.63
720/4	37F1944	4	1	5/8″	.160	13.80	12.41
722/4	37F1945	4	2	7/8″	.225	19.83	17.85
723/4	37F1946	4	3	1″	.250	27.20	24.47
724/4	37F1947	4	4	1¼″	.270	31.32	28.19

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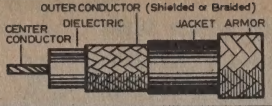
DEARBORN

Coaxial and Audio Cable



MIL Desig.	Jacket Type	Temperature Limits
Type I	Black*	−40°C to +80°C
Type IIA	Blk., Grey*	−¼" O.D. −55 to +90°C −¼" O.D. −40 to +90°C
Type V	Fiberglas Braid	−55 to +250°C
Type VII	Teflon (PTFE)	−55 to +250°C
Type IX	Teflon (FEP)	−55 to +200°C

*Polyvinylchloride

CABLE JACKET TYPES

Type I (MIL-C-17)—Black PVC. Excellent weathering and abrasion properties, but is of the contaminating type and will cause cable attenuation to increase with age. May be used for direct burial.

Type IIA (MIL-C-17)—Black or Grey PVC. Non-contaminating. Good weathering and abrasion resistant properties. May be used for direct burial.

Type V (MIL-C-17)—Fiberglas Braid. Impregnated with silicone varnish to provide abrasion resistance and moisture seal.

Type VII (MIL-C-17)—Teflon (Polytetrafluordethyene). Either extruded or tape wrapped. Withstands high temperatures; chemically inert; insoluble in liquids and gases.

Type IX (MIL-C-17)—Teflon (Fluorinated Ethylene Propylene). Excellent weathering properties and chemically inert. Max. oper. temp. of 200°C.

RG COAXIAL CABLE—POLYETHYLENE DIELECTRIC

RG/U No.	Type	Jkt. O.D.	Jkt. Type	Imp. Ohm	Cap. pF	Max. Volts	Stk. No.	100′	1000′
58	6058	.195	I	53.5	28.5	1900	37F2500	5.52	40.58
58A	6058A	.195	I	52.0	28.5	1900	37F2501	6.30	46.35
58B	6058B	.195	IIa	53.5	28.5	1900	37F2502	5.40	48.75
58C	6058C	.195	IIa	50.0	28.5	1900	37F2503	6.75	52.05
59	6059	.242	I	73.0	21.0	2300	37F2504	6.75	46.88
59A	6059A	.242	IIa	75.0	20.5	2300	37F2505	6.98	64.13
59B	6059B	.242	IIa	75.0	21.5	2300	37F2506	6.23	56.63
62A	6062A	.242	IIa	93.0	13.5	750	37F2507	6.53	59.88
.....	6075SM	.150	I	75.0	20.5	2500	37F2508	6.83	50.25
108A	6108A	.235	IIa	78.0	20.0	1000	37F2509	15.00	124.50
8	6008	.405	I	52.0	29.5	5000	37F2510	15.75	126.90
8A	6008A	.405	IIa	52.0	29.5	5000	37F2511	15.75	140.25
11	6011	.405	I	75.0	20.5	5000	37F2512	13.80	108.90
174	6174	.100	I	50.0	30.0	1500	37F2513	4.50	33.00
213	6213	.405	IIa	50.0	29.5	3000	37F2514	15.00	140.25
218	6218	.870	IIa	50.0	29.5	11000	37F2515	72.75	675.00
223	6223	.216	IIa	50.0	29.5	1900	37F2516	18.75	165.00

RG COAXIAL CABLE TEFLON™ DIELECTRIC

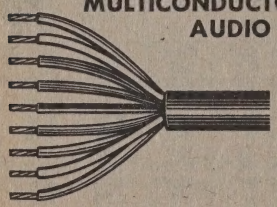
RG/U No.	Type	Jkt. O.D.	Jkt. Type	Imp. Ohms	Cap. pF	Max. Volts	Stk. No.	100′
141A	6141A	.190	V	50.0	28.5	1900	37F2517	48.75
142B	6142B	.195	IX	50.0	28.5	1900	37F2518	78.00
179B	6179B	.105	IX	75.0	19.5	1200	37F2519	24.00
180B	6180B	.145	IX	95.0	15.0	1500	37F2520	31.50
187A	6187A	.110	VII	75.0	19.5	1200	37F2521	22.50
188A	6188A	.110	VII	50.0	29.0	1200	37F2522	22.50
196A	6196A	.080	VII	50.0	28.5	1000	37F2523	16.80
303	6303	.170	IX	50.0	28.5	1900	37F2524	52.50
316	6316	.102	IX	50.0	29.0	1200	37F2525	22.50

LOW LOSS COAXIAL CABLE WITH (FOAM) CELLULAR POLYETHYLENE DIELECTRIC

Compared to ordinary RG/U cable of similar size, attenuation is reduced by as much as 35%. These cables are well suited for CATV, Closed Circuit or MATV; ideal for use in amateur, commercial or citizen band. Adapt to terrain problems, are weather resistant.

RG/U No.	Type	Jkt. O.D.	Jkt. Type	Shield	Imp. Ohms	Cap. pF	Max. Volts	Stk. No.	100′	1000′
8	6008F	.405	I	C	50	24.5	1500	37F2526	17.33	151.43
11	6011F	.405	I	C	75	16.5	1300	37F2527	16.50	139.05
58	6058F	.195	I	C	50	17.0	1000	37F2528	5.97	46.13
59	6059F	.242	I	C	75	17.3	1000	37F2529	7.50	51.00

MULTICONDUCTOR UNSHIELDED AUDIO CABLE



Stranded tinned copper conductors. Color coded polyvinylchloride insulation. Conductors cabled and covered with gray PVC jacket overall. Can be used outdoors. All are No. 22 conductor, U.L. style 1061. Nom. wall thick., .010; nom. jacket thick., .020. Temp. rating, −10° to +80°C.

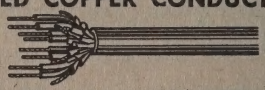
Type	No. of Cond	Strand-ing	Nom. O.D.	Stk. No.	100′	1000′
832202	2	7/30	.140	37F2530	3.72	24.00
832203	3	7/30	.145	37F2531	3.68	29.25
832204	4	7/30	.170	37F2532	4.83	39.90
832205	5	7/30	.175	37F2533	5.55	47.70
832206	6	7/30	.185	37F2534	8.33	55.88
832207	7	7/30	.190	37F2535	8.63	65.63
832208	8	7/30	.200	37F2536	9.00	68.25
832209	9	7/30	.225	37F2537	10.50	90.00
832210	10	7/30	.235	37F2538	10.80	99.00

MINIATURE SHIELDED CABLE

Tinned copper conductors are insulated with color coded polyvinylchloride; twisted; and have a fine braided tinned copper shield. Clear, .010" polyvinylchloride jacket overall. Cond. size: No. 28. Nom. wall thick., .010. Suggested max. operating voltage: 200 V. Temp. rating, −20°C to +60°C.

Type	No. Cond.	Strand-ing	Nom. O.D.	Stk. No.	100′	1000′
942802	2	7/36	.105	37F2539	8.78	76.50
942803	3	7/36	.115	37F2540	10.13	91.50
942804	4	7/36	.120	37F2541	12.60	114.75

INDIVIDUALLY SHIELDED MULTIPLE PAIRS TINNED COPPER CONDUCTORS



Color coded .010" polyethylene insulation. Pairs have Mylar supported aluminum foil shield; 22 gauge stranded tinned copper drain wire; twisted. Grey PVC jacket overall. Mylar wrap between shields, jacket. Size & stranding: 22-7/30. *.008" polypropylene insulation.

Type	No. Pairs	No. Cond	Nom. Jkt. Thick.	Nom. O.D.	Stk. No.	100′	1000′
962201*	1	2	.020	.135	37F2542	4.74	39.00
962203	3	6	.025	.252	37F2543	12.83	121.50
962206	6	12	.030	.342	37F2544	26.10	255.00
962209	8	18	.035	.410	37F2545	39.60	374.25
962211	11	22	.040	.457	37F2546	46.35	444.00
962215	15	30	.040	.523	37F2547	61.05	588.00
962219	19	38	.050	.570	37F2548	82.50	784.50
962227	27	54	.055	.687	37F2549	113.70	1,137.00

FOIL SHIELDED, MULTI-CONDUCTOR CABLE

Conductors: stranded tinned copper; .015" color coded Polyethylene insulation; cabled; aluminum foil Mylar backed shield. No. 22 tinned copper stranded drain wire laid parallel. Gray PVC jacket overall. Temp.: −20° to +60°C. Oper. voltage: 400 V.

Type	No. Cond	AWG Size	Strand-ing	Nom. O.D.	Stk. No.	100′	1000′
972202	2	22	7/30	.167	37F2550	5.18	35.10
972203	3	22	7/30	.175	37F2551	5.63	44.25
972204	4	22	7/30	.190	37F2552	11.40	97.50
972002	2	20	10/30	.195	37F2553	5.33	44.25
972003	3	20	10/30	.200	37F2554	7.05	55.80
972004	4	20	10/30	.215	37F2555	11.93	108.75

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DEARBORN

Color-Code Nos. for Dearborn Items on This Page—Specify Color Number
0. Black 1. Brown 2. Red 3. Orange 4. Yellow 5. Green 6. Blue 7. Violet 8. Gray 9. White

MTW MACHINE TOOL, CONTROL, SWITCHBOARD WIRE

Stranded copper cond. 600 V. PVC insul. 500 foot put-up.

UL Style 1335 Wire. 1/32" PVC insulation. Stock in black, red, green, white—Specify color number.

Stock No.	Mfr's Type	Conductor AWG	Nom. O.D.	Wt./500' lbs.	500' EACH
37F2150WF	461816	18 (16/30)	.113	5	12.34
37F2151WF	461626	16 (26/30)	.125	7	14.19
37F2152WF	461419	14 (19/27)	.139	10½	19.22
37F2153WF	461219	12 (19/25)	.158	14½	26.78
37F2154WF	461019	10 (19/.0234)	.182	27½	40.75

UL Style 1336 Wire. 3/64" PVC insulation. Stock in black, red, and white—Specify color number.

37F2155WF	521419	14 (19/27)	.165	12½	20.13
37F2156WF	521219	12 (19/25)	.185	15½	28.05
37F2157WF	521019	10 (19/.0234)	.214	29½	42.07
37F2158WF	520819	8 (19/.0295)	.249	37	61.05

UL STYLE 1007 HOOK-UP WIRE

Voltage rating 300V. Oper. Temp. −10 to +80°C. 1/16" PVC insulation. Stocked in black and white. Specify color number.

Stock No.	Type	Conductor AWG	Nom. O.D.	Wt./1000' lbs.	1000' Each
37F2230WM	402407	24 (7/32)	.057	2.8	10.23
37F2231WM	402207	22 (7/30)	.065	3.7	12.70
37F2232WM	402010	20 (10/30)	.071	5.0	13.36
37F2233WM	401816	18 (16/30)	.080	7.2	17.65
37F2234WM	401626	16 (26/30)	.095	10.8	27.55

U.L. STYLE 1061 SEMI-RIGID HOOKUP WIRE

Suitable for business machine and wire wrap applications. Voltage rating: −10°C to +80°C. Constructed with .009" PVC insulation over tinned copper conductors. Available in 500 foot and 1000 foot spools in black, red, green, or white. Specify color by No.

Mfr's Type	Conductor AWG	Wt. 1000' lbs.	500' Spool Stock No.	500' Spool EACH	1000' Spool Stock No.	1000' Spool EACH
422601	26 (1)	1½	37F2163WF	4.54	37F2164WM	6.93
422401	24 (1)	2¼	37F2165WF	4.87	37F2165WM	7.42
422201	22 (1)	3	37F2167WF	5.70	37F2168WM	9.98
422001	20 (1)	4½	37F2169WF	6.77	37F2170WM	12.87
422607	26 (7/34)	1½	37F2171WF	5.61	37F2172WM	9.49
422407	24 (7/32)	2¼	37F2173WF	5.78	37F2174WM	10.46
422207	22 (7/30)	3	37F2175WF	6.60	37F2176WM	11.40
422007	20 (7/28)	4½	37F2177WF	7.10	37F2178WM	14.02
422010	20 (10/30)	4½	37F2179WF	7.84	37F2180WM	14.35
421816	18 (16/30)	7	37F2181WF	9.08	37F2182WM	18.15
421626	16 (26/30)	9	37F2183WF	11.35	37F2184WM	21.07

KYNAR® COMPUTER-TYPE HOOKUP WIRE APPROVED BY U.L. AND CSA

Especially suited for automatic point-to-point terminations in computer applications (back panel boards). Excellent abrasion characteristics and superior resistance to cold flow makes this type of mechanically tough insulation suitable for all areas where a large number of wires are used in close quarters.

Insulation is Kynar®, which is a vinylidene fluoride plastic developed by Pennwalt. It is mechanically tough; flame retardant and self-extinguishing; highly resistant to ultra-violet and weathering. Its insulation characteristics remain unchanged when exposed to up to 300 million roentgens.

Operating temperature range: to +125°C continuous. U.L. Rating: 105°C. Conductor is (solid) OFHC (oxygen-free high conductivity) annealed copper. All are supplied on large sturdy hub reels. Available in black, red, orange, yellow, green, blue, gray, and white—**Specify Color by number.**

Mfr's Type	AWG Size	Insul. Thk's.	Nom. O.D.	U.L. Style	Stock No.	PER 1000' HUB 1-4	5-9	10-Up
773001	30 (1)	.005"	.0195"	1422	37F2225WM	41.25	27.50	24.75
772801	28 (1)	.0035"	.020"	1423	37F2226WM	42.07	28.05	25.02
772601	26 (1)	.005"	.027"	1422	37F2227WM	40.42	26.95	24.20
772401	24 (1)	.010"	.042"	1327	37F2228WM	42.90	28.60	26.67

Kynar® is trademark of Pennwalt

"TEW" U.L. AND CSA HOOKUP WIRE

Style 1015 in sizes #22 through #10; style 1028 in size #8. Stranded, tinned copper conductor. Letter "F" after type number indicates bonded tinned copper. Sizes #10 through #22 have 1/32" PVC insulation; Size 8 has 3/64" PVC insulation. All rated 600 volts. Temperature rating: 105°C. Available in black, brown, red, orange, yellow, green, blue, violet, gray, white—**Specify color by number.**

Mfr's Type	AWG Size	Nom. O.D.	500' Spool Stock No.	500' Spool EACH	1000' Spool Stock No.	1000' Spool EACH
412207	22 (7/30)	.095	37F2185WF	7.74	37F2186WM	13.61
412207F	22 (7/30)	.095	37F2187WF	8.27	37F2188WM	15.03
412010	20 (10/30)	.100	37F2189WF	9.46	37F2190WM	16.09
412010F	20 (10/30)	.100	37F2191WF	9.99	37F2192WM	18.56
411816	18 (16/30)	.110	37F2193WF	11.14	37F2194WM	19.70
411816F	18 (16/30)	.110	37F2195WF	12.18	37F2196WM	21.58
411626	16 (26/30)	.124	37F2197WF	15.18	37F2198WM	27.72
411441	14 (41/30)	.141	37F2199WF	20.71	37F2200WM	41.41
411265	12 (65/30)	.160	37F2201WF	33.42	37F2202WM	62.29
411000	10 (105/30)	.194	37F2203WF	49.69	37F2204WM	93.64
418133	8 (133/29)	.255	37F2205WF	82.50	37F2206WM	159.22

NYLON LACING TAPE MIL-T-43435 TYPE I

Flat braided high-tenacity nylon yarn impregnated with microcrystalline fungicidal wax or to MIL specs. *Test tensile strength (lbs.); (†) Finishes code see box at right.

Stock No.	Mfr's Type	*	Width	Color	†	500-yard Spools, EACH 1-9	10-24	25-49	50-99	100-Up
37F2207	805032W	50 lbs.	.090"	Natural	A	8.25	7.64	6.87	6.05	5.50
37F2208	805032B	50 lbs.	.090"	Black	A	9.13	8.53	7.92	6.82	6.21
37F2209	805036W	50 lbs.	.090"	Natural	W	8.58	7.97	7.42	6.49	4.40
37F2210	805036B	50 lbs.	.090"	Black	W	9.62	9.07	8.52	7.26	5.17
37F2213	802534W	25 lbs.	.062"	Natural	W	5.28	4.86	4.54	4.01	3.96
37F2214	802534B	25 lbs.	.062"	Black	W	6.93	6.34	5.61	4.95	4.34

POLYESTER LACING TAPE MIL-T-43435 TYPE II

Flat braided polyester yarn impregnated with microcrystalline fungicidal wax or to meet MIL specs. 1½ lbs. *Test tensile strength (lbs.), (†) Finishes code see box at right.

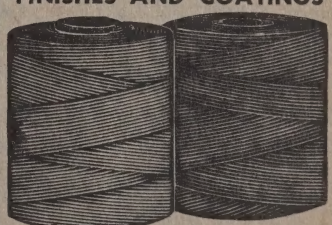
Stock No.	Mfr's Type	*	Width	Color	†	500-yard Spools, EACH 1-9	10-24	25-49	50-99	100-Up
37F2215	805058W	50 lbs.	.090"	Natural	A	7.46	7.04	6.38	5.77	5.22
37F2216	805058B	50 lbs.	.090"	Black	A	8.91	8.30	7.70	6.60	5.94
37F2217	805062W	50 lbs.	.090"	Natural	W	7.64	7.04	6.43	5.50	5.22
37F2218	805062B	50 lbs.	.090"	Black	W	8.91	8.30	7.70	6.60	5.94

NYLON LACING TWINE MIL-T-713D TYPE P

Round twisted nylon fiber impregnated with microcrystalline wax. Excellent knot retention, for lacing or spot ties. 32 lb. test 1100 yd. spool; 48 lb. test 750 yd. spool; 70 lb. test 550 yd. spool. *Test tensile strength (lbs.); (†) Finishes code see box at right.

Stock No.	Mfr's Type	*	Nom. Diam.	Spool Length	Color	†	1 Lb. Spools, EACH 1-9	10-24	25-49	50-99	100-Up
37F2219	807013W	70 lbs.	.039"	550 yds.	Natural	W	9.62	8.52	7.64	6.32	5.22
37F2220	807013B	70 lbs.	.039"	550 yds.	Black	W	11.38	9.84	8.36	7.19	5.99
37F2221	804814W	48 lbs.	.029"	750 yds.	Natural	W	9.62	8.52	7.64	6.32	5.22
37F2223	803215W	32 lbs.	.025"	1100 yds.	Natural	W	9.62	8.52	7.64	6.32	5.22
37F2224	803215B	32 lbs.	.025"	1100 yds.	Black	W	11.38	9.84	8.36	7.19	5.99

FINISHES AND COATINGS



Nylon Lacing Tape MIL-T-43435 Type 1 (Supersedes MIL-T-713D)

W-WAX (MIL SPEC B)

A microcrystalline fungicidal wax which exceeds MIL specs. Provides excellent knot retention and is suitable for either lacing or spot ties.

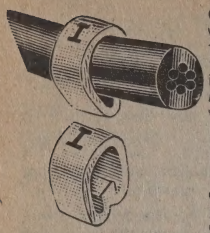
A-SYNTHETIC RESIN (MIL SPEC E)

A synthetic rubber-like resin formulated with fungicidal ingredients. Handling characteristics are excellent, knot retention is outstanding; meets or exceeds MIL specs. requirements.

OPERATIONAL TEMPERATURE RANGES: −67°F to +250°F.

13

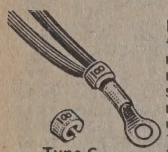
SLIP-ON "Z" MARKERS



Cable Markers permanently identify every wire or group of wires for instant recognition. Can be installed in seconds. Feature flexible "accordion" type backs for easy installation and sturdy gripping on wires. Made of durable P.V.C. material. Comply with military, civil, and trade associations. (J.I.C., MIL-E-5400B (ASG), MIL-E-4158A (USAF); etc.). White with black marking. Please specify Letter (A-Z) or Numeral (0-9) desired when ordering. Minimum order is one package of 50 of any Letter, or Numeral. **Sold Only in Packages of 50. Order by the Package.**

Stock No.	Type No.	AWG Size	For Cable Diameter	Per Package 1-100	101-250	251-500	501-1000
30F833	Z22P	22	.045"-.065"	.70	.64	.50	.43
30F834	Z20P	20	.066"-.085"	.70	.64	.50	.43
30F835	Z18P	18	.086"-.115"	.70	.64	.50	.43
30F820	Z16P	16	.110"-.135"	.70	.64	.50	.43
30F821	Z14P	14	.130"-.160"	.70	.64	.50	.43
30F822*	Z12P	12	.150"-.175"	.70	.64	.50	.43

CLIP-ON "C" MARKERS



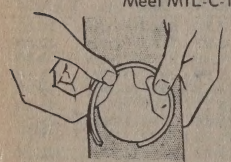
Designed for application either before or after terminal connection has been made. May be removed for re-coding without breaking terminal connection. Rigid PVC material. For single wire or cable. Same size fits a given range cable dia. Specify Letter (A-Z) or Numeral (0-9) when ordering. Minimum order is 1 pkg. of 50 of any letter or numeral. **Sold only in Packages of 50. Order by the Package.**

				Per Package 1-100	101-250	251-500	501-1000
47F014	C2P	18/20	.080-.100	.92	.75	.67	.59
47F015	C3P	18	.100-.118	.92	.75	.67	.59
47F016	C4P	16	.118-.138	.94	.77	.69	.60
47F017	C5P	14	.138-.156	.96	.79	.70	.62
47F018*	C6P	10/12	.156-.218	1.01	.82	.73	.64
47F019*	C7P	9	.187-.218	1.14	.94	.83	.73

*Non-stock items, available on special order.
Packages may be combined for quantity prices.

GROMMET STRIPS

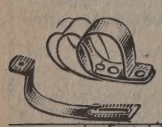
Meet MIL-C-17D, MIL-W-76B, and MIL-C-915A



You have the advantage of one strip only application to round, square, rectangular, and oval holes. Comes in 6 sizes. For all gauges, from 20 gauge to ¼" thick. Easily applied. No special tools required. **Sold only in multiples of pkg length shown.**

Stk. No.	Type	Application Min. Max.	Pkg.	100'-500'	600'-5000'	5100'-10000'
NATURAL POLYETHYLENE						
30F315	GS2	.020-.039	100 ft.	5.50/C	4.62/C	4.15/C
30F320	GS2A	.040-.062	100 ft.	5.99/C	5.03/C	4.67/C
30F316	GS3	.063-.099	100 ft.	6.40/C	5.38/C	4.99/C
30F317	GS-4	.100-.144	100 ft.	7.36/C	6.18/C	5.72/C
30F318	GS-5	.145-.187	50 ft.	12.86/C	10.80/C	9.82/C
30F319	GS-6	.187-.250	50 ft.	18.56/C	15.59/C	13.86/C
ULTRA—VIOLET RESISTANT						
30F1630	GS-2	.020-.039	100 ft.	6.90/C	5.80/C	5.04/C
30F1631	GS-2A	.040-.062	100 ft.	7.48/C	6.28/C	5.62/C
30F1632	GS-3	.063-.099	100 ft.	8.05/C	6.76/C	5.99/C
30F1633	GS-4	.100-.144	100 ft.	9.20/C	7.73/C	6.88/C
30F1634	GS-5	.145-.187	50 ft.	16.10/C	13.52/C	11.87/C
30F1635	GS-6	.187-.250	50 ft.	23.29/C	19.56/C	16.70/C
FIRE RETARDANT (RULAN)						
30F1636	GS-2	.020-.039	100 ft.	9.94/C	8.35/C	7.09/C
30F1637	GS-2A	.040-.062	100 ft.	11.38/C	9.56/C	8.66/C
30F1638	GS-3	.063-.099	100 ft.	12.13/C	10.19/C	9.29/C
30F1639	GS-4	.100-.144	100 ft.	13.00/C	10.92/C	9.98/C
30F1640	GS-5	.145-.187	50 ft.	18.84/C	15.82/C	14.39/C
30F1641	GS-6	.187-.250	50 ft.	27.18/C	22.83/C	20.32/C

ADJUSTABLE P-CLIPS



Ratchet teeth provide positive locking action. Virgin nylon, light weight, abrasion resistance. Tensile strength: 11,000 psi. Melting point: 482 —500°F self extinguishing. Endurance limit: 3000 psi; no failures to 2,000,000 cycles. **Sold in Multiples of 100 only.**

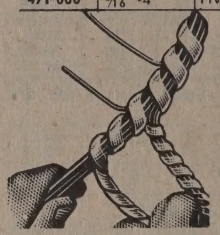
Stk. No.	Size No.	Bundle Dia. Min.-Max.	Screw Clear.	100-900	1,000-5000	6,000-10,000
30F842	AP-0	1/8-3/16	No. 4	3.16/C	28.41/M	25.53/M
30F843	AP-1	3/16-1/4	No. 4	3.28/C	29.56/M	26.57/M
30F844	AP-2	1/4-3/8	No. 6	3.45/C	31.05/M	27.95/M
30F845	AP-3	3/8-9/16	No. 6	4.20/C	37.72/M	33.93/M
47F001	AP-5	7/8-1 3/16	No. 10	7.19/C	58.19/M	52.27/M

EL CABLE TIES Meets MS17821 and MS18034

Molded of virgin nylon; light weight; abrasion resistant; high tensile strength; minimum absorption rate; resistant to common solvents, alkalies, oils.

SOLD IN MULTIPLES OF 100 ONLY

Stk. No.	Bundle Diameter Min.-Max.	Descrip.	Mil No.	Type	100-2500	2600-5000
30F847	1/16"-1"	Min	—4	EL-A	2.45/C	2.35/C
30F848	1/16"-1 5/16"	Intermed	—1	EL-B	3.50/C	3.10/C
30F849	1/16"-4 3/16"	Standard	—2	EL-C	8.05	7.65
47F000	3/16"-4"	Hvy. Duty	—3	EL-D	11.60	10.90



SPIROBAND

Spiral wrapping for flexible electric harnesses and cables. Unusual flexibility and elasticity make it ideal for temporary and experimental as well as permanent applications. Permits lead-offs or additions of wire at any point. High dielectric strength provides excellent insulation. Nylon and Teflon types for high temperature applications. (Nylon to 250°F; Teflon to 500°F). **Sold only in multiples of pkg. lengths shown. Order by the foot.**

NATURAL POLYETHYLENE

Stock No.	Size	Wall Thick	Bundle Range	Std. Pkg.	100' 1000'	1,000-' 10,000'	11,000'-25,000'
30F839	1/8"	.032	1/16"-1/2"	100'	3.72/C	31.90/M	24.00/M
30F840	1/4"	.045	3/16"-2	100'	6.18/C	52.80/M	40.00/M
47F005	3/8"	.055	5/16"3"	50'	9.30/C	80.30/M	61.00/M

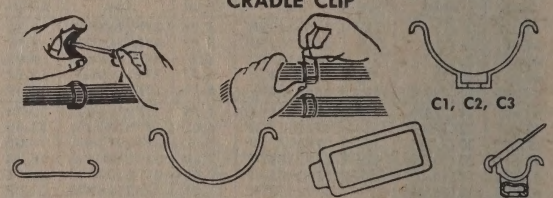
NYLON

Stock No.	Size	Wall Thick	Bundle Range	Std. Pkg.	25-75'	100'-1000'	1000-' 5000'	6000'-10000'
47F006	1/8"	.030	1/16"-1/2"	100'	.....	10.95/C	92.00/M	75.50/M
47F007	1/4"	.030	3/16"-2	100'	.....	19.75/C	168.50/M	144.40/M
47F008	3/8"	.030	5/16"-3"	50'	.62/ft.	57.31/C	504.00/M	457.00/M
47F009	1/2"	.030	3/8"-4"	25'	.66/ft.	60.23/C	533.00/M	478.50/M

TEFLON

47F010	1/8"	.030	1/16"-1/2"	25'	1.80/ft.	121.00/C	.....	.....

CRADLE CLIP



On the spot wiring changes without replacement or tools. Only 5 seconds per fixing point. Binders and cradles are nylon; clips are neoprene. Secure design will withstand vibration without damage to wire insulation. Color: black.

RECOMMENDED COMBINATIONS

Diameter of Cable Form	Supported Wiring Cradle	Clip	Unsupported Wiring Binder	Clip
1/8"-5/16"	CO+NO			
1/4"-5/8"	C1	N1	B1	N1
1/2"-1 1/16"	C1	N3	B1	N5
1 1/16"-1 1/16"	C2	N3	B12	N3
1 5/16"-1 1/16"	C2	N5	B12	N5
1"-1 1/4"	C3	N3	B2	N3
1 1/4"-1 1/2"	C3	N5	B2	N5
1 1/2"-2"	C3	N7	B2	N7
Over 2"	Use combination of above sizes			

ORDERING DATA

Stk. No.	Type	Descrip.	1-99	100-900	1K-10K	11K-30K
30F300	C1	Cradle	.10	7.51/C	68.37/M	64.98/M
30F301	C2	Cradle	.11	8.87/C	80.91/M	76.90/M
30F302	C3	Cradle	.12	9.44/C	85.77/M	81.47/M
30F303	C1-M*	Cradle	.17	17.18/C	155.94/M	148.14/M
30F304	C2-M*	Cradle	.24	28.02/C	255.10/M	242.27/M
30F305	C3-M*	Cradle	.27	29.04/C	263.18/M	250.01/M
30F307	B2	Binder	.11	8.81/C	80.00/M	75.99/M
30F308	N1	Clip	.05	4.24/C	37.86/M	36.10/M
30F309	N3	Clip	.07	5.71/C	51.81/M	49.49/M
30F310	N5	Clip	.09	8.14/C	73.34/M	69.66/M
30F311	N7	Clip	.11	10.00/C	90.23/M	86.73/M
30F312	CO-NO**	Crd. & Clip	.12	11.20/C	101.84/M	96.76/M

**cradle with captive clip *with captive nut
Cradles and Binders may be combined for quantity prices.
Clips may be combined for quantity prices.

Wiring Accessories

PANDUIT

PLASTIC SNAP-SLOT WIRING DUCT

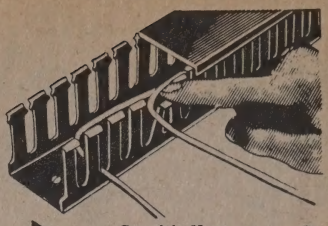
Vinyl plastic ducts. Standard 6 ft. sections can be cut with hacksaw. Snap-slot design permits easy insertion of wires. Wire can be removed with no electrical disconnect. Use ducts with CS-1 corner strips. Order cover, below. Standard put-up 24-ft., in four 6-ft. lengths. Supplied in light gray (dark gray and white on special order).

WIRING DUCT

Stock No.	WxH In.	24-ft. Std. Pkg. Wt., Lbs.	PER PKG. 1-9	10-79	80-100
78F550	.5 x .5	3	14.40	11.76	11.04
78F552	.5 x 1	4	16.08	13.20	12.72
78F555	.75 x .75	3½	15.84	12.96	12.48
78F558	1 x 1	4	16.08	13.44	12.72
78F559	1 x 1.5	4½	20.64	17.28	16.08
78F560	1 x 2	5	21.84	17.76	16.80
78F600	1 x 3	8½	27.12	22.32	20.64
78F561	1.5 x 1.5	5	21.84	18.00	16.56
78F601	1.5 x 2	4¾	23.52	19.20	17.76
78F602	1.5 x 3	8½	29.04	23.76	21.84
78F603	2 x 2	5¾	23.76	19.44	18.00
78F604	2 x 3	9½	30.24	24.24	22.56
78F605	3 x 2	8½	27.60	22.32	20.64
78F606	3 x 3	10½	32.64	26.40	24.24

DUCT COVER TO FIT

Stock No.	W. In.	24-ft. Std. Pkg. Wt., Lbs.	PER PKG. 1-9	10-79	80-100
78F562	.5	1	4.80	4.32	4.08
78F563	.75	1½	5.04	4.56	4.32
78F564	1	2½	6.00	5.04	4.80
78F570	1.5	2¼	6.48	5.76	5.52
78F607	2	2½	7.68	6.48	6.00
78F608	3	3¼	10.08	8.40	7.92



Simplify Your Complex Wiring Projects

CS-1 Corner Strip Duct for Making Smooth Rounded Corners

MODEL CS-1 CORNER STRIP

Easily cut to correspond to any duct length needed. Four 6' lengths per pkg. Shpg. wt., 100-ft., 15 lbs. Supplied in light gray (dark gray and white on special order).

Stk. No.	1-9	10-79	80-199
78F565	11.04	9.60	9.12

CABLE TIES AND CLAMPS—STA-STRAP SERIES SS

Permanent, hand or tool applied, natural nylon ties for fast harnessing of wire bundles. Available as ties (SST-Fig. A), clamps with integral mounting tab (SSC-Fig. B), and identification markers (SSM-Fig. C). Type "M"=miniature tie, "I"=intermediate, "S"=standard, "H"=heavy duty. Sta-Straps meet applicable MIL Specs. Package size: C=100, M=1000.

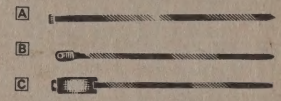


Fig.	Bundle Dia. Max.	Wt. Per 100	LP=Pkg. of 50; CP=Pkg. of 100 Stk. No	Type	1-4	5-9	D=Pkg. of 500; M=Pkg. of 1000 Stk. No.	Type	1-24	25-49	50-99
A	¾"	4 oz.	78F516	SST1M-CP	3.13	2.50	78F529	SST1M-M	15.23	13.78	12.35
A	1½"	4 oz.	78F517	SST1.5M-CP	3.29	2.64	78F530	SST1.5M-M	18.00	17.15	16.35
A	1¼"	3 oz.	...	...	...	...	78F610	SST1.5I-M	20.83	18.82	16.90
A	1¾"	5 oz.	78F518	SST2I-CP	4.13	3.30	78F531	SST2I-M	21.71	20.73	19.74
A	3"	5 oz.	78F519	SST3I-CP	7.25	5.80	78F532	SST3I-M	43.56	41.58	39.60
A	1¾"	6 oz.	78F609	SST2S-CP	4.38	3.50					
A	3"	6 oz.	78F520	SST3S-CP	8.50	6.80	78F533	SST3S-M	47.60	45.45	43.30
A	4"	9 oz.	78F521	SST4I-CP	9.13	7.30	78F534	SST4I-M	48.51	46.30	44.10
A	4"	1¼ lbs.	78F522	SST4H-LP	7.25	5.80	78F535	SST4H-D	46.31	41.71	37.48
A	8"	2¼ lbs.	78F523	SST8H-LP	15.00	12.00	...	...	...	...	...
B	1¾"	6 oz.	78F524	SSC2S-S10-CP	6.13	4.90	78F501	SSC2S-S10-M	44.80	38.16	34.00
B	4"	10 oz.	78F525	SSC4S-S10-CP	17.00	13.60	78F502	SSC4S-S10-M	85.00	81.15	77.25
B	4"	1¼ lbs.	78F526	SSC4H-S25-LP	9.69	7.75	78F503	SSC4H-S25-D	62.50	56.50	53.00
C	1¾"	6 oz.	78F527	SSM2S-CP	12.38	9.90	78F504	SSM2S-D	29.50	26.55	25.10
C	4"	10 oz.	78F528	SSM4S-CP	15.00	12.00	...	...	...	...	...

PAN-TY ONE-PIECE CABLE TIES, CLAMPS, MARKERS

Speed harness tying with one-piece self-locking cable ties. Constructed of self-extinguishing, fungus inert nylon. Unique design permits tight installation on bundle with minimum effort. May be installed by hand or with easy-to-use Panduit Cabling Tool GS2B (see below), to assure fast, uniform tensioning and flush cut-off. PRT Releasable Ties (Fig. E) are hand-installed only. A wide variety of mounting accessories is available to provide added versatility in applying self locking and releasable Pan-Ty cable ties. Normal service temperature: —40°C to 85°C. Natural nylon is standard. A total of ten colors are available on special order. Meets all applicable Military Specifications.

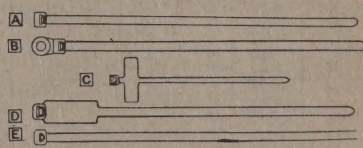


Fig.	Bundle Dia. Max.	Wt. Per 100	LP=Pkg. of 50; CP=Pkg. of 100 Stk. No	Type	1-4	5-9	Per Package of 1000 Stk. No	Type	1-24	25-49	50-99
A	¾"	1½ oz.	78F506	PLT1M-CP	3.13	2.50	78F536	PLT1M-M	15.23	13.78	12.35
A	1¼"	1¾ oz.	78F507	PLT1.5I-CP	3.50	2.80	78F537	PLT1.5I-M	20.83	18.82	16.90
A	1¾"	2½ oz.	78F508	PLT2S-CP	4.38	3.50	78F538	PLT2S-M	25.59	23.11	20.80
A	3"	3½ oz.	78F509	PLT3S-CP	8.50	6.80	78F539	PLT3S-M	47.60	45.45	43.30
A	4"	6½ oz.	78F510	PLT4S-CP	10.13	8.10	78F540	PLT4S-M	58.63	53.00	47.60
A	4"	1¼ lbs.	78F511	PLT4H-CLP	7.25	5.80	...	...	...	...	...
A	4"	4 oz.	...	...	...	...	78F611	PLT4I-M	48.51	46.30	44.10
B	1¾"	5 oz.	78F512	PLC2S-S10-CP	6.13	4.90	78F542	PLC2S-S10-M	44.80	38.16	34.00
C	¾"	1½ oz.	78F513	PLM1M-CP	6.13	4.90	78F543	PLM1M-M	40.00	36.00	34.00
D	1¾"	5 oz.	78F514	PLM2S-CP	12.38	9.90	...	...	...	...	...
E	2"	3½ oz.	78F515	PRT2S-CP	4.50	3.60	78F545	PRT2S-CM	27.20	25.95	24.75

GS-2B GUN-TYPE CABLING TOOL

Light Durable

Easy To Use

Hand operated tool ties all Panduit miniature, intermediate and standard cable ties, clamps and markers. Incorporates an easy-to-use three-position selector knob. Automatically tightens to pre-set tension, cuts cable tie flush and ejects the cut-off portion. Shpg. wt., 1 lb.

78F547. NET. **30.00**

GS-4H GUN-TYPE CABLING TOOL

Heavy-duty cabling tool. Essentially the same as Type GS-2B above, except designed for Panduit standard and heavy-duty cable ties and clamps. Easy to use. A simple squeeze of the trigger tightens the ties to the preset tension and cuts them flush. Shpg. wt., 1½ lbs.

78F566. NET. **50.00**

¼" O.D. SPIRAL CABLE WRAPPING

For bundles 3/16" to 2" dia. Suffix "F" clear polyethylene; "R" fire-resistant white polyethylene; "N" clear nylon. Std. ¼" O.D. 100-ft. coils. With tool. 2 lbs.

Stock No.	Type	1-9	10-49	50-Up
78F548	T-25F	7.50	6.00	5.34
78F549	T-25R	10.98	8.82	7.80
78F546	T-25N	16.80	13.44	11.94

PANDUIT PRODUCTS STOCKED BY NEWARK, CHICAGO AND DENVER

ESSEX Stancor transformers

Power Transformers

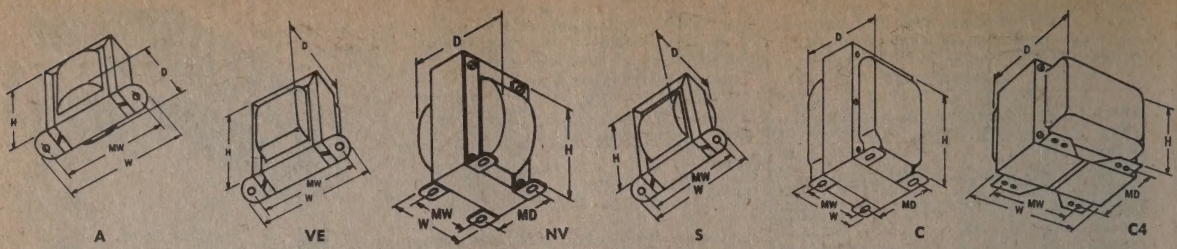


PLATE AND FILAMENT TYPE FOR CAPACITOR INPUT SYSTEMS

Primaries 117 Volts 60 Hz (‡‡). Primary and Secondary termination: Leads. § Also has 5V rect. fil. winding.

Stock No.	Type	Style	Plate ACV	Plate DCMA	Filament V	Filament A	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Bulk Packed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F026	PS-8415	S	125††	15	6.3	0.6	1 5/16	2 3/8	2	2	....	0.7	3.67	3.30	2.97	2.75	2.24	2.09
5F1400	P-8624	S	125††	15	12.6	0.3	1 5/16	2 3/8	2	2	....	0.7	3.58	3.22	2.90	2.69	2.18	2.04
1F027	PS-8416	S	125-0-125	25	6.3	1.0	2 5/16	2 13/16	1 3/4	2 3/8	....	1.0	4.33	3.90	3.51	3.25	2.64	2.47
5F1401	P-8625	S	125-0-125	25	12.6	0.6	2 5/16	2 13/16	1 3/4	2 3/8	....	1.0	4.42	3.98	3.58	3.32	2.70	2.52
1F035	PA-8421	A	125††	50	6.3	2.0	2 1/4	3 1/16	2 1/8	3 1/8	....	1.5	5.17	4.65	4.19	3.88	3.15	2.95
5F1402	P-8626	A	125††	50	12.6	1.0	2 1/4	3 1/16	2 1/8	3 1/8	....	1.5	5.17	4.65	4.19	3.88	3.15	2.95
1F525	P-8181	VE	150††	25	6.3CT	0.5	1 5/16	2 3/8	1 13/16	2	....	0.8	4.83	4.35	3.91	3.62	2.95	2.75
5F1403	P-8627	VE	150††	25	12.6CT	0.3	1 5/16	2 3/8	1 13/16	2	....	0.8	4.92	4.43	3.99	3.69	3.00	2.80
1F029	PC-8418	C	230-0-230	50	6.3	2.5	3 1/8	2 1/2	2 5/8	2	1 3/16	2.2	7.17	6.45	5.81	5.38	4.37	4.09
1F030	PM-8418	M	230-0-230	50	6.3	2.5	2 5/8	2 1/2	3	2	2 1/2	2.2	7.33	6.60	5.94	5.50	4.47	4.18
1F002	PC-8402	C	240-0-240	55	6.3CT§	2.0	3 1/8	2 1/2	2 3/4	2	1 3/4	2.4	8.67	7.80	7.02	6.50	5.29	4.94
1F031	PC-8419	C	240-0-240	70	6.3	3.0	3 1/8	2 1/2	2 7/8	2	1 13/16	2.6	8.08	7.27	6.54	6.06	4.93	4.61
1F004	PC-8403	C	250-0-250	70	6.3CT§	2.5	3 1/8	2 1/2	3 1/2	2	2 1/16	3.2	9.34	8.41	7.57	7.01	5.70	5.32
1F006	PC-8404	C	260-0-260	90	6.3CT§	3.0	3 1/2	2 13/16	3 1/2	2 1/4	2 1/4	4.0	10.34	9.31	8.38	7.76	6.31	5.89
1F008	PC-8405	C	270-0-270	120	6.3CT§	3.5	3 5/8	3 1/8	3 1/2	2 1/2	2 3/16	4.9	11.59	10.43	9.39	8.69	7.07	6.61
5F1404	P-8356	C**	270-0-270	260	6.3§	8.8	3 5/8	3 1/8	3 3/8	2 1/2	2 1/4	6.5	17.50	15.75	14.18	13.13	10.68	9.98
5F1405	P-8355	C4**	285-0-285	250	6.3§	9.5	3 3/16	3 3/4	3 1/2	2 1/2	2 3/16	6.5	19.59	17.63	15.87	14.69	11.95	11.17
5F1406	P-6358	C	300-0-300	65	6.3CT	2.7	3 1/8	2 1/2	2 1/2	2	1 3/4	3.0	8.34	7.51	6.76	6.26	5.09	4.75
1F012	PC-8407	C	325-0-325	55	6.3CT§	2.0	3 1/8	2 1/2	3 1/8	2	2 1/16	3.2	9.59	8.63	7.77	7.19	5.85	5.47
1F018	PC-8410	C	360-0-360	120	6.3CT§	3.5	3 5/8	3 1/8	3 3/4	2 1/2	2 7/16	5.5	12.92	11.63	10.47	9.69	7.88	7.36
1F022	PC-8412	C	400-0-400	200	6.3CT§	5.0	4 1/16	3 3/4	4	3	2 13/16	8.2	17.50	15.75	14.18	13.13	10.68	9.98

FILAMENT/CONTROL TYPE WITH SINGLE SECONDARY

All Primaries 50/60 Hz (‡‡).

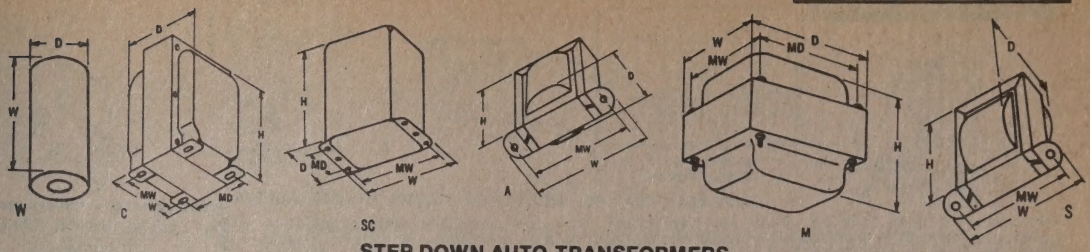
Stock No.	Type	Style	Secondary Volts	Secondary Amps	Insul. RMS V*	Pri. Volts	Termination Pri.	Termination Sec.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Bulk Packed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
5F1407	P-8628	A	2.5CT	0.3	1500	117	Leads	Leads	1 1/4	2 1/8	1 5/16	1 3/4	....	0.3	2.50	2.25	2.03	1.88	1.53	1.43
1F093	P-4026	A	2.5	1.5	2500	117	Leads	Leads	1 5/8	2 7/8	1 5/8	2 3/8	....	0.7	3.58	3.22	2.90	2.69	2.18	2.04
1F100	P-6133†	S	2.5CT	5.0	7500	117	Leads	Leads	2 3/4	3 1/8	2 1/4	2 13/16	....	1.5	6.50	5.85	5.27	4.88	3.97	3.71
1F095	P-6467	A	5.0CT	3.0	2500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	....	1.4	4.17	3.75	3.38	3.13	2.54	2.38
1F104	P-6135	NV	5.0CT	10.0	2500	117	Leads	Leads/lugs	3 1/8	2 1/2	2 3/4	2	2 3/8	3.0	7.75	6.98	6.28	5.81	4.73	4.42
5F1408	P-6433†	NV	5.0CT	15.0	2500	117	Leads	Leads	3 1/8	2 1/2	2 3/4	2	2 1/4	3.0	10.00	9.00	8.10	7.50	6.10	5.70
5F1409	P-8385	A	6.3CT	0.3	1500	117	Leads	Leads	1 1/4	2 1/8	1 3/8	1 3/4	....	0.3	3.17	2.85	2.57	2.38	1.93	1.81
1F375	P-6465	A	6.3CT	0.6	1500	117	Leads	Leads	1 3/8	2 3/8	1 1/2	2	....	0.4	3.08	2.77	2.49	2.31	1.88	1.76
5F1410	P-8705	A	6.3CT	0.6	1500	230	Leads	Leads	1 3/8	2 3/8	2 1/2	2	....	0.4	2.83	2.55	2.29	2.12	1.73	1.61
1F946	P-8389	A	6.3	1.0	1500	117	Leads	Leads	1 5/8	2 7/8	1 1/2	2 3/8	....	0.6	3.00	2.70	2.43	2.25	1.83	1.71
1F105	P-6134	A	6.3CT	1.2	3000	117	Leads	Leads	1 5/8	2 7/8	1 7/8	2 3/8	....	0.8	3.00	2.70	2.43	2.25	1.83	1.71
1F539	P-8190	A	6.3	1.2	5000	117	Leads	Leads	2	3 1/4	1 7/8	2 13/16	....	1.0	4.33	3.90	3.51	3.25	2.64	2.47
1F106	P-5014†	NV	6.3CT	3.0	2500	117	Lugs	Lugs	3 1/8	2 1/2	2 1/2	2	1 3/4	2.0	6.67	6.00	5.40	5.00	4.07	3.80
1F123	P-6466	A	6.3CT	3.0	2500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	....	1.4	4.33	3.90	3.51	3.25	2.64	2.47
1F138	P-6462	S	6.3	3.0	7000	117/107	Leads	Leads	3 1/8	3 5/8	2 3/8	3 1/8	....	2.0	6.00	5.40	4.86	4.50	3.66	3.42
1F107	P-3064†	NV	6.3CT	6.0	2500	117	Lugs	Lugs	3 1/8	2 1/2	2 3/8	2	2	2.4	7.92	7.13	6.42	5.94	4.83	4.51
1F139	P-6456	A	6.3CT	6.0	2000	117/107	Leads	Leads	2 3/8	3 3/4	2 3/8	3 1/8	....	2.0	6.67	6.00	5.40	5.00	4.07	3.80
5F1411	P-6464	C	6.3CT	10.0	2000	117	Leads	Leads	3 1/2	2 13/16	3 1/4	2 1/4	2	3.5	8.67	7.80	7.02	6.50	5.29	4.94
1F108	P-6308†	NV	6.3CT	10.0	2500	117/107	Leads	Leads	3 7/16	2 13/16	2 5/8	2 1/4	2 1/8	3.4	10.84	9.76	8.78	8.13	6.61	6.18
1F109	P-6309	NV	6.3CT	20.0	2500	117/107	Leads	Leads	4 5/16	3 3/4	3 3/8	3	2 3/8	6.7	14.17	12.75	11.48	10.63	8.64	8.08
1F110	P-5015†	NV	7.5CT	4.0	2500	117	Lugs	Lugs	3 1/8	2 1/2	2 1/4	2	2 1/8	2.7	8.84	7.96	7.16	6.63	5.39	5.04
1F048	P-8380	A	10.0CT	3.0	1500	117	Leads	Leads	2 3/8	3 3/4	2 1/4	3 1/8	....	1.6	5.25	4.73	4.25	3.94	3.20	2.99
1F112	P-5016†	NV	10.0CT	4.0	2500	117	Lugs	Lugs	3 7/16	2 13/16	2 1/2	2 1/4	2	3.3	9.17	8.25	7.43	6.88	5.59	5.23
1F141	P-6458	NV	10.0CT	5.0	2000	117/107	Leads	Leads	3 1/16	2 1/2	2 1/2	2 1/8	1 15/16	3.0	8.34	7.51	6.76	6.26	5.09	4.75
1F119	P-6139†	NV	10.0CT	8.0	2500	117	Leads	Leads	3 13/16	3 1/8	3	2 1/2	2 3/8	4.9	10.50	9.45	8.51	7.88	6.41	5.99
1F142	P-6461	C	10.0CT	10.0	2000	117	Leads	Leads	3 7/8	3 1/4	3 9/16	2 3/4	2 11/16	5.0	12.59	11.33	10.20	9.44	7.68	7.18
5F1412	P-8384	A	12.6CT	1.0	1500	117	Leads	Leads	2	3 1/4	1 3/4	2 13/16	....	0.9	3.92	3.53	3.18	2.94	2.39	2.23
1F120	P-8130	A	12.6CT	2.0	1500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	....	1.4	4.17	3.75	3.38	3.13	2.54	2.38
5F1413	P-8715	A	12.6CT	2.0	1500	230	Leads	Leads	2	3 1/4	2 1/8	2 13/16	....	1.4	4.33	3.90	3.51	3.25	2.64	2.47
1F882	P-8358	A	12.6CT	3.0	1500	117	Leads	Leads	2 3/8	3 3/4	2 1/4	3 1/8	....	1.6	4.67	4.20	3.78	3.50	2.85	2.66
5F1414	P-8641	A	12.6CT	4.0	1500	117	Leads	Leads	2 5/8	4	2 3/8	3 5/16	....	2.3	5.42	4.88	4.39	4.07	3.31	3.09
1F116	P-6469	A	25.2	1.0	1500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	....	1.4	3.92	3.53	3.18	2.94	2.39	2.23
1F944	P-8180	A	25.2CT	1.0	1500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	....	1.4	3.75	3.38	3.04	2.81	2.29	2.14
1F883	P-8357	A	25.2CT	2.0	1500	117	Leads	Leads	2 5/8	4	2 1/4	3 5/16	....	2.2	5.83	5.25	4.72	4.37	3.56	3.32
1F945	P-8388	A	25.2CT	2.8	1500	117	Leads	Leads	2 5/8	4	2 1/4	3 5/16	....	2.2	7.50	6.75	6.08	5.63	4.58	4.28
1F966	P-8608	A	26.5CT	.6	2500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	....	1.3	4.17	3.75	3.38	3.13	2.54	2.38
1F967	P-8609	A	26.8CT	1.0	1500	117	Leads	Leads	2	3 1/4	2 1/8	2 13/16	....	1.3	3.83	3.45	3.10	2.87	2.34	2.18
1F968	P-8606	A	26 CT	.04	2500	117#	Leads	Leads	1 1/4	2 1/8	1 3/8	1 3/4	....	0.25	6.00	5.40	4.86	4.50	3.66	3.42
1F969	P-8607	A	26 CT	.25	2500	117#	Leads	Leads	1 5/8	2 7/8	1 3/4	2 3/8	....	0.70	6.00	5.40	4.86	4.50	3.66	3.42
1F970	P-8605	A	48 CT	1.0	2500	117●	Leads	Leads	2 5/8	4	2 3/8	3 5/16	....	2.3	7.83	7.05	6.34	5.87	4.78	4.46

(#) Pri. tapped to provide Sec. V of 24.5CT, 27.5CT, 29CT.
(‡‡) May be operated from 400 Hz with no change in output.
(*) Insulation Test: Twice Allowable RMS WV plus 1000 V.
(**) With copper shorting band to reduce external magnetic field.
(†) Has Electrostatic shield.
(††) For use in halfwave circuits.
(‡) For use in voltage doubler circuits.
(●) Pri-tapped to prov. Sec. V of 45CT, 51CT, 54CT

14

Power Transformers

ESSEX Stancor transformers



STEP DOWN AUTO-TRANSFORMERS

Primaries 230 Volts 50/60 Hz. Line cord and plug secondaries 115 Volts, standard female receptacle (‡‡). Intended to reduce 230 V 50/60 Hz line to 115 V. Designed for minimum weight and cost. Ideal for operating American made appliances in Europe and other countries where 230 V power sources dominate. May be used for domestic application.

Stock No.	Type	RMS Test V	Style	VA Cap	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
5F1415	P-8630	1500	C	85	3½	2⅝	2¾	2	1¾	2.5	8.00	7.20	6.48	6.00	4.88	4.56
5F1416	P-8631	1500	C	125	3½	2⅝	3	2	2	3.0	9.17	8.25	7.43	6.88	5.59	5.23
5F1417	P-8632	1500	C	200	3⅞	3⅛	3¾	2½	2	4.2	12.34	11.11	10.00	9.26	7.53	7.03
5F1418	P-8633	1500	C	300	3⅞	3⅛	4⅛	2½	2 15/16	5.2	14.17	12.75	11.48	10.63	8.64	8.08
5F1419	P-8634	1500	C	400	3⅞	3⅛	4¾	2½	3	7.0	15.92	14.33	12.90	11.94	9.71	9.07
5F1420	P-8635	1500	C	500	4 9/16	3¾	4¾	3	3 5/16	10.3	19.42	17.48	15.73	14.57	11.85	11.07
5F1421	P-8636	1500	C	1000	4 9/16	3¾	6⅜	3	4⅞	17.0	27.92	25.13	22.62	20.94	17.03	15.91

STEP-DOWN AUTO-TRANSFORMERS—Three Conductor Line Cord and Receptacle

230/115 V, 50/60 Hz (‡‡). Case and core internally connected to third conductor of NEMA standard cord and receptacle for safety.

Stock No.	Type	Voltage Input	Voltage Output	RMS Test V	Style	VA Cap	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
5F-1422	GSD-75	230	115	1500	C	75	3⅞	3 3/16	2¾	2½	1½	3.0	11.67	10.50	9.45	8.75	7.12	6.65
5F-1423	GSD-100	230	115	1500	C	100	3⅞	3 3/16	3	2½	1¾	3.7	12.67	11.40	10.26	9.50	7.73	7.22
5F-1424	GSD-150	230	115	1500	C	150	3⅞	3 3/16	3¼	2½	2	4.4	12.75	11.48	10.33	9.56	7.78	7.27
5F-1425	GSD-250	230	115	1500	C	250	4⅝	3 13/16	3¾	3	2⅝	7.6	16.92	15.23	13.71	12.69	10.32	9.64
5F-1426	GSD-350	230	115	1500	C	350	4⅝	3 13/16	3¾	3	2⅝	7.4	17.34	15.61	14.05	13.01	10.58	9.88
5F-1427	GSD-500	230	115	1500	C	500	4⅝	3 13/16	4 3/16	3	3 1/16	9.6	23.75	21.38	19.24	17.81	14.49	13.54
5F-1428	GSD-750	230	115	1500	C	750	5½	4⅝	4 9/16	3½	2⅞	12.1	26.26	23.63	21.27	19.70	16.02	14.97
5F-1429	GSD-1000	230	115	1500	C	1000	5½	4⅝	5⅜	3½	3¾	16.5	36.01	32.41	29.17	27.01	21.97	20.53
5F-1430	GSD-1500	230	115	1500	C	1500	5½	4⅝	5⅞	3½	4¼	20.1	45.01	40.51	36.46	33.76	27.46	25.66

STRAIGHT ISOLATION—ELECTROSTATIC SHIELDS GROUNDED TO CORE

Primaries 50/60 Hz, Line cord (‡‡). Secondary female receptacle Except P-6411, P-6412, P-6413 Lead Termination.

5F1431	P-6413	115	115	1500	A	0.6	1¼	2⅛	1¼	1¾	—	0.25	2.83	2.55	2.29	2.12	1.73	1.61
1F043	P-6411	115	115	1500	A	15	2	3¼	1⅞	2 13/16	—	1.0	4.33	3.90	3.51	3.25	2.64	2.47
5F1432	P-6412	115	115	1500	A	35	2⅜	2¾	2	3⅛	—	1.7	5.50	4.95	4.46	4.13	3.36	3.14
1F317	P-6410	115	115	1500	C	50	3½	2 13/16	3⅛	2¼	1⅞	3.7	11.50	10.35	9.32	8.63	7.02	6.56
1F315	P-6160	105/115/125	115	1500	C	100	4 11/16	3¾	3¾	3	2 9/16	7.0	25.01	22.51	20.26	18.76	15.26	14.26
1F923	P-6161	105/115/125	115	1500	C	250	4 11/16	3¾	5½	3	4 5/16	14.2	29.17	26.25	23.63	21.88	17.79	16.63

STEP-DOWN ISOLATION—ELECTROSTATIC

Primaries 50/60 Hz, Line Cord Secondary Female Receptacle (‡‡)

5F1433	P-6385	210/230/250	115	1500	C	250	4 11/16	3¾	5½	3	4 5/16	14.2	32.51	29.26	26.33	24.38	19.83	18.53

ISOLATION TESTING TRANSFORMERS—ELECTROSTATIC SHIELD GROUNDED TO CORE

Primaries 50/60 Hz, line cord secondary three female receptacles (‡‡)

1F316	P-6415	117	105/115/125	1500	C	350	5½	4⅝	5 13/16	3½	4 1/16	17	35.42	31.88	28.69	26.57	21.61	20.19

FOR CATHODE RAY TUBES—Primaries 117 V 60 Hz (‡‡) Termination: P-8150—Leads, P-8179—Lugs.

Stock No.	Type	Style	Plate ACV	Plate DCMA	Rect. Fila. V	Rect. Fila. A	Other Windings V	Other Windings A	Case Dim. H	Case Dim. W	Case Dim. D	Case Dim. MW	Case Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F090	P-8150	SC	1550††	1.5	2.5	1.75	...	...	3 1/16	3	2½	2 11/16	1¾	1.8	12.00	10.80	9.72	9.00	7.32	6.84
1F310	P-8179	M	1600††	3.0	...	...	6.3/5/2.5	1.0	3½	2½	3	2	2½	3.5	17.67	15.90	14.31	13.25	10.78	10.07
							6.3/5/2.5	3.0												

FOR 100 WS ELECTRONIC PHOTOFLASH—Primaries 105/115/125 V 60 Hz (‡‡) Termination: Leads.

1F086	P-6425	S	380††	20	Charges 1050 mfd. to 450 VDC	2 5/16	2 7/8	2	2 3/8	...	1.4	5.00	4.50	4.05	3.75	3.05	2.85
1F087	P-6426	W	Trigger Coil for use with P-6425. Ratio 1 to 35. Write for Bulletin 470R for circuit details.			...	¾	9 16	...	...	0.2	2.08	1.87	1.68	1.56	1.27	1.19

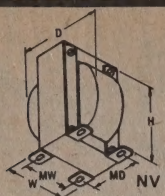
WITH MULTIPLE SECONDARIES—All primaries 117 V, 60/60 Hz (‡‡). Termination—Leads.

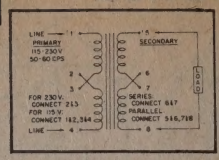
Stock No.	Type	Style	Secondary Volts	Secondary Amps	RMS Volts	Case Dim H	Case Dim W	Case Dim D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F971	P-6434**	C	12.6 12.6 CT	2.5 2.5	1500	3½	2 13/16	3¼	2¼	2	3.5	8.34	7.51	6.76	6.26	5.09	4.75

(‡‡) May be operated from 400 Hz with no change in output.
(*) Insulation Test V: Twice Allowable RMS WV plus 1000V.
(**) Windings may be connected in series or parallel if properly phased.
(†) Has Electrostatic shield.
(††) For use in halfwave circuits.

14

STANCOR Control/Rectifier Transformers





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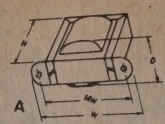

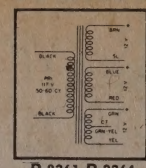

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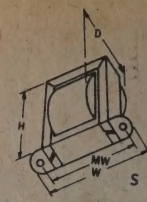


UNIVERSAL CONTROL/RECTIFIER POWER TRANSFORMERS

Primaries 115/230 V, 50/60 Hz. Solder lug termination. With dual secondary winding (Refer to Schematic Diagram at top of page). Typical applications: Automatic assembly equipment, Relays, Solenoids, Small motors, Speed changers, Recording Devices, Pumps, Electronic Tubes, Heating elements, Elevators, Door openers, Automatic musical instruments, Low voltage lighting signal lamps, Spark plug testers, Control valves for fluids and gases, Fans, Blowers, Mechanical and Electrical signs and similar application.

ASK US FOR FREE STANCOR#207 INDUSTRIAL CATALOG

Stock No.	Type	Style	VA Cap	Output From Two Secondary Windings* Individually	Parallel	Series	Case Dim. H	W	D	Mtg. MW	Dim. MD	Wt.	Each, Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F197	P-6375	S	12	6V @ 1A	6V @ 2A	12V @ 1A	2⅜	2⅞	1⅝	2⅜	—	1.0	4.58	4.12	3.71	3.44	2.79	2.61
1F818	P-6376	S	24	6V @ 2A	6V @ 4A	12V @ 2A	2¾	3⅛	1⅞	2 13/16	—	1.5	5.33	4.80	4.32	4.00	3.25	3.04
1F819	P-6377	S	48	12V @ 2A	12V @ 4A	24V @ 2A	3⅛	3⅝	2¼	3⅛	—	2.5	6.83	6.15	5.53	5.12	4.17	3.89
1F820	P-6378	NV	96	12V @ 4A	12V @ 8A	24V @ 4A	3 1/16	2 13/16	2⅞	2¼	2¼	4.2	12.09	10.88	9.79	9.07	7.37	6.89
1F198	P-6379	NV	192	12V @ 8A	12V @ 16A	24V @ 8A	4 1/16	3 1/16	3⅜	2¾	3	8.0	20.84	18.76	16.88	15.63	12.71	11.88
5F1434	P-8615	S	12	24V @ 0.25A	24V @ 0.5A	48V @ 0.25A	2⅜	2⅞	1⅝	2⅜	—	1.0	5.17	4.65	4.19	3.88	3.15	2.95
5F1435	P-8616	S	24	24V @ 0.5A	24V @ 1A	48V @ 0.5A	2¾	3⅛	1⅞	2 13/16	—	1.5	6.00	5.40	4.86	4.50	3.66	3.42
5F1436	P-8617	S	48	24V @ 1A	24V @ 2A	48V @1A	3⅛	3⅝	2¼	3⅛	—	2.5	7.08	6.37	5.73	5.31	4.32	4.04
5F1437	P-8618	NV	96	24V @ 2A	24V @ 4A	48V @ 2A	3 1/16	2 13/16	2⅞	2¼	2¼	4.2	11.25	10.13	9.11	8.44	6.86	6.41
5F1438	P-8619	NV	192	24V @ 4A	24V @ 8A	48V @ 4A	4 1/16	3 1/16	3⅜	2¾	3	8.0	16.67	15.00	13.50	12.50	10.17	9.50

(*) By connecting primaries in series (for 230) Volts) but using only 115 V input, a series of half voltage output ratings becomes available at the full rated current from each secondary.

MINIATURIZED CONTROL TRANSFORMERS

Primaries 117 V, 50/60 Hz (‡‡). Secondaries 12 V. Lead wire termination.

Stock No.	Type	Style	Secondary Amperes RMS	Bridge+	Half Wave+	Case Dim. H	W	D	Mtg. Dim. MW	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F950	P-8390	A	.150	.100 DC	.050 DC	1¼	2⅛	1¼	1¾	.25	3.17	2.85	2.57	2.38	1.93	1.81
1F951	P-8391	A	.350	.200 DC	.110 DC	1⅜	2⅜	1⅜	2	.35	3.25	2.93	2.63	2.44	1.98	1.85
1F952	P-8392	A	.700	.450 DC	.225 DC	1⅝	2⅞	1½	2⅜	.60	3.33	3.00	2.70	2.50	2.03	1.90
1F953	P-8393	A	1.200	.750 DC	.375 DC	2	3¼	1⅝	2 13/16	.85	4.00	3.60	3.24	3.00	2.44	2.28

Primaries 117 V, 50/60 Hz (‡‡) Secondaries 24 V CT. Lead Wire Termination

Stock No.	Type	Style	Secondary Amperes RMS	Full Wave+	Bridge+	Case Dim. H	W	D	Mtg. Dim. MW	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F954	P-8394	A	.085	.135 DC	.065 DC	1¼	2⅛	1¼	1¾	.25	3.67	3.30	2.97	2.75	2.24	2.09
1F955	P-8395	A	.200	.275 DC	.135 DC	1⅜	2⅜	1⅜	2	.35	3.67	3.30	2.97	2.75	2.24	2.09
1F956	P-8396	A	.400	.550 DC	.270 DC	1⅝	2⅞	1½	2⅜	.60	3.67	3.30	2.97	2.75	2.24	2.09
1F957	P-8397	A	.700	.925 DC	.450 DC	2	3¼	1⅝	2 13/16	.85	4.17	3.75	3.38	3.13	2.54	2.38

Primaries 230 V, 50/60 Hz (‡‡). Secondaries 24 VCT. Lead Wire Termination.

Stock No.	Type	Style	Secondary Amperes RMS	Full Wave+	Bridge+	Case Dim H	W	D	Mtg. Dim MW	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
5F1439	P-8720	A	.085	.135 DC	.065 DC	1¼	2⅛	1¼	1¾	.25	3.33	3.00	2.70	2.50	2.03	1.90
5F1440	P-8721	A	.200	.275 DC	.135 DC	1⅜	2⅜	1⅜	2	.35	3.17	2.85	2.57	2.38	1.93	1.81
5F1441	P-8722	A	.400	.550 DC	.270 DC	1⅝	2⅞	1½	2⅜	.60	4.08	3.67	3.30	3.06	2.49	2.33
5F1442	P-8723	A	.700	.925 DC	.450 DC	2	3¼	1⅝	2 13/16	.85	4.50	4.05	3.65	3.38	2.75	2.57

Primaries 117 V, 50/60 Hz (‡‡). Secondaries 28 VCT. Lead Wire Termination.

Stock No.	Type	Style	Secondary Amperes RMS	Full Wave+	Bridge+	Case Dim H	W	D	Mtg. Dim MW	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F958	P-8600	A	.085	.110 DC	.065 DC	1¼	2⅛	1¼	1¾	.25	3.17	2.85	2.57	2.38	1.93	1.81
1F959	P-8601	A	.175	.225 DC	.125 DC	1⅜	2⅜	1⅜	2	.35	3.50	3.15	2.84	2.63	2.14	2.00
1F960	P-8602	A	.300	.350 DC	.200 DC	1⅝	2⅞	1½	2⅜	.60	3.67	3.30	2.97	2.75	2.24	2.09
1F961	P-8603	A	.800	1.000 DC	.500 DC	2	3¼	2	2 13/16	1.0	4.17	3.75	3.38	3.13	2.54	2.38

Primaries 117 V, 50/60 Hz (‡‡). Secondaries 36 VCT. Lead Wire Termination.

1F962	P-8610	A	.065	.075 DC	.045 DC	1¼	2⅛	1¼	1¾		3.25	2.93	2.63	2.44	1.98	1.85
1F963	P-8611	A	.135	.175 DC	.100 DC	1⅜	2⅜	1⅜	2	.35	3.08	2.77	2.49	2.31	1.88	1.76
1F964	P-8612	A	.300	.350 DC	.200 DC	1⅝	2⅞	1½	2⅜	.60	3.50	3.15	2.84	2.63	2.14	2.00
1F965	P-8613	A	.550	.650 DC	.350 DC	2	3¼	1⅞	2 13/16	1.0	4.25	3.83	3.44	3.19	2.59	2.42

Primaries 230 V, 50/60 Hz (‡‡). Secondaries 36 VCT. Lead Wire Termination.

5F1443	P-8728	A	.065	.075DC	.045 DC	1¼	2⅛	1¼	1¾	.25	3.25	2.93	2.63	2.44	1.98	1.85

VERSATILE LOW CURRENT CONTROL TRANSFORMERS

Primaries 117 V, 50/60 Hz (‡‡). Lead Wire Termination. Multiple secondaries. Three isolated 12 V secondaries (one with a center tap) provide many combinations of output voltages and current by series or parallel combinations.

ASK NEWARK FOR LARGER QUANTITY BULK PACKED PRICES ON THESE ITEMS

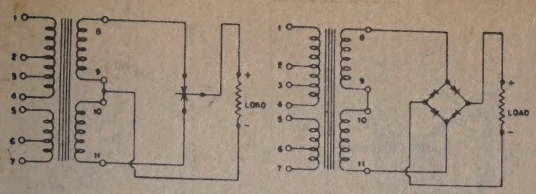
Stock	Type	Style	Winding Arrangement	Amperes Each Sec.	Case Dim. H	W	D	Mtg. Dim.	Wt. Lbs.	Each Boxed 1-9	10-24	25-49	50-99	Bulk Packed 100-249	250-499
1F146	P-8361	S	See Schematic	.10	1¾	2	1½	1¾	.36	4.67	4.20	3.78	3.50	2.85	2.66
1F147	P-8362	S	at top of this	.15	2	2⅜	1¾	2	.60	3.83	3.45	3.10	2.87	2.34	2.18
1F148	P-8363	S	page	.25	2⅜	2⅞	1¾	2⅜	.85	5.00	4.50	4.05	3.75	3.05	2.85
1F149	P-8364	S		.50	2⅜	2⅞	2⅛	2⅜	1.25	5.50	4.95	4.46	4.13	3.36	3.14

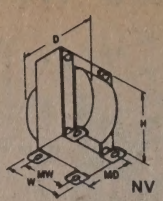
(‡‡) May be operated from a 400 Hz source with no change in output ratings.

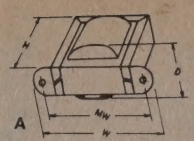
(+) All values of output DC are based on a capacitive load.

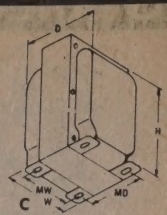
Rectifier Transformers

STANCOR









UNIVERSAL RECTIFIER TRANSFORMERS - Primaries 117 V, 50/60 Hz. Solder Lug Termination. Style NV.

Stock No.	Type	Rect. Circuit	Range of Applied AC Volts Under Load (Approx.)	Output Resistive or Inductive Load Max. DC Volts	Output Resistive or Inductive Load Max. DC Amps	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F378	RT-201	C.T.	11.7 to 29.4	11.2	2.0	3 1/8	2 1/2	2 3/8	2	2 1/8	2.5	8.17	7.35	6.62	6.13	4.98	4.66
		Bridge	11.1 to 28.5	23.0	1.25												
1F379	RT-202	C.T.	12.0 to 29.8	11.1	4.0	3 7/16	2 13/16	2 3/4	2 1/4	2 3/8	3.8	10.42	9.38	8.44	7.82	6.36	5.94
		Bridge	12.0 to 29.8	24.3	2.0												
1F380	RT-204	C.T.	11.7 to 29.2	12.0	8.0	3 13/16	3 1/8	3 1/2	2 1/2	2 7/8	6.1	15.00	13.50	12.15	11.25	9.15	8.55
		Bridge	11.6 to 29.2	24.0	4.0												
1F381	RT-206	C.T.	12.0 to 29.7	11.5	12.0	4 3/16	3 7/16	4	2 3/4	3 1/4	9.1	20.34	18.31	16.48	15.26	12.41	11.59
		Bridge	12.10 to 29.7	24.0	6.0												
1F382	RT-208	C.T.	12.1 to 29.2	11.4	15.0	4 9/16	3 3/4	5	2 15/16	3 3/4	12.6	28.67	25.80	23.22	21.50	17.49	16.34
		Bridge	12.1 to 29.2	23.7	8.0												
1F383	RT-2012	C.T.	12.2 to 29.0	11.4	22.5	5 5/16	4 3/8	5 7/8	3 1/2	4 1/4	20.5	41.34	37.21	33.49	31.01	25.22	23.56
		Bridge	12.2 to 29.0	23.5	12.0												
5F1444	RT-400	C.T.	23.5 to 60.0	25.0	1.0	3 1/8	2 1/2	3 3/8	2	2 1/4	2.7	9.00	8.10	7.29	6.75	5.49	5.13
		Bridge	23.5 to 60.0	53.0	0.5												
5F1445	RT-401	C.T.	24.0 to 59.0	25.0	2.0	3 7/16	2 13/16	3 11/16	2 1/4	2 1/2	4.1	11.92	10.73	9.66	8.94	7.27	6.79
		Bridge	24.0 to 59.0	52.5	1.0												
5F1446	RT-402	C.T.	23.0 to 58.0	25.0	4.0	3 13/16	3 1/8	4 1/2	2 1/2	3 1/16	6.9	16.34	14.71	13.24	12.26	9.97	9.31
		Bridge	23.0 to 58.0	51.5	2.0												
1F384	RT-408	C.T.	25.0 to 53.5	--	...	5 5/16	4 3/8	6 3/4	3 1/2	5 1/4	26.5	72.01	64.81	58.33	54.01	43.93	41.05
		Bridge	25.0 to 53.5	44.0	8.0												
5F1447	RT-4012	C.T.	25.0 to 53.0	--	...	7 1/8	5 5/8	6 1/2	4 5/8	5 1/2	34.0	95.44	85.90	77.31	71.58	58.22	54.40
		Bridge	25.0 to 53.0	43.5	12.0												

FOR TRANSISTOR POWER SUPPLIES - Primaries 117 V, 60 Hz (‡‡)

Lead Wire Termination.

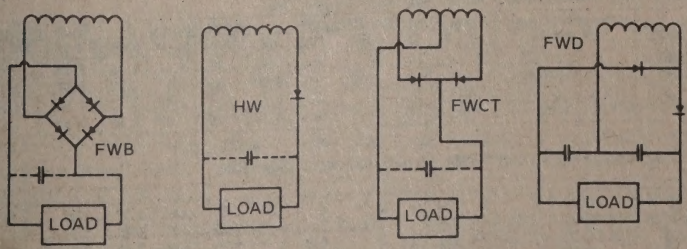
Stock No.	Type	Style	Secondary 1 Volts	Secondary 1 Amps	Secondary 2 Volts	Secondary 2 Amps	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
5F1460	P-8604*	A	20 C.T.	1.0 Amps. RMS	—	—	2	3 1/4	2 1/8	2 13/16	—	1.4	3.50	3.15	2.84	2.63	2.14	2.00
5F1461	P-8614*	C	30	3.0 Amps. RMS	—	—	3 1/2	2 13/16	3 5/8	2 1/4	2 7/16	4.2	8.59	7.73	6.96	6.44	5.24	4.90
1F046	P-8197	C	50 C.T.	1.0 Amps. RMS	—	—	3 1/8	2 1/2	2 11/16	2	1 3/4	2.3	7.17	6.45	5.81	5.38	4.37	4.09
1F047	P-8198	C	54 C.T.	.5 Amps. RMS	6.3	.5 Amps RMS	2 5/8	2 3/16	2 9/16	1 3/4	1 5/8	1.7	6.50	5.85	5.27	4.88	3.97	3.71
1F045	P-8193	NV	17/18	6 Amps. RMS	—	—	3 13/16	3 1/8	3 1/8	2 1/2	2 5/8	6.0	14.34	12.91	11.62	10.76	8.75	8.17
5F1462	P-8194	NV	36	3 Amps. RMS	36	3 AMPS. RMS	4 9/16	3 3/4	3 3/4	3	3		23.34	21.01	18.91	17.51	14.24	13.30
1F828	P-8196	C	80 C.T.	1.2 Amps. RMS	—	—	3 1/2	2 13/16	3 5/8	2 1/4	2 3/8	4.5	8.92	8.03	7.23	6.69	5.44	5.08

(*)May be operated from 117 volts 50/60 Hz at full rated load. Write **NEWARK** for Bulletin 587 for Rectifier Circuits showing DCV and allowable DC Current (‡‡) May be operated from a 400 Hz source with no change in output ratings.

RECTIFIER TRANSFORMERS

Primaries 117 V, 60 Hz (‡‡). Lead Wire Termination. Multiple primary and secondary taps offer a wide selection of output Voltages. All DC current rating are based on capacitor input Filtering. Max. DCMA for TP-1 is for each secondary.

Stock No.	Type	Style	Max. DC MA Full-Wave CT	Max. DC MA Bridge	Max. DC MA Half Wave	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F441	TP-1	C	1500	900	450	3 1/8	2 1/2	3	2	2	2.7	7.92	7.13	6.42	5.94	4.83	4.51
1F825	TP-2	A	150	100	50	1 5/8	2 7/8	1 7/8	2 3/8	—	0.7	4.33	3.90	3.51	3.25	2.64	2.47
1F826	TP-3	A	400	300	150	2 3/8	3 3/4	2 1/8	3 1/8	—	1.5	5.33	4.80	4.32	4.00	3.25	3.04
1F827	TP-4	C	1500	1000	500	3 1/8	2 1/2	3 1/8	2	2 1/8	3.2	9.09	8.18	7.36	6.82	5.54	5.18
5F1448	TP-5	A	1100	750	375	2 5/8	4	2 3/8	3 9/16	—	2.3	5.42	4.88	4.39	4.07	3.31	3.09



SECONDARY CURRENT RELATIONSHIP

AC = DC x K FACTOR

Rectifier Circuit	Filter Input	K Factor
HW	Reactor	1.25
FWCT	Reactor	0.7
FWB	Reactor	1.0
HW	Capacitor	2.3
FWCT	Capacitor	1.2
FWB	Capacitor	1.8
FWD	Capacitor	4.0

AC to DC CURRENT RELATIONSHIP IN TRANSFORMER/RECTIFIER APPLICATIONS

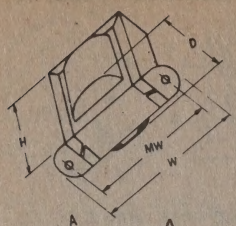
When used in various rectifier circuits, with possibility of different types of loads, RMS current in transformer secondary will be different for same amount of DC output current in each specific condition. AC to DC relationship factor "K" for each specific condition given in adjacent table. It should be used as an aid in selecting a transformer having proper secondary RMS current rating.

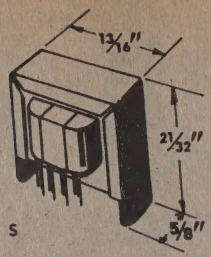
Where:

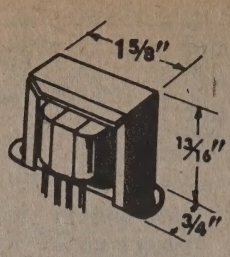
Use this factor as follows: AC = K x DC

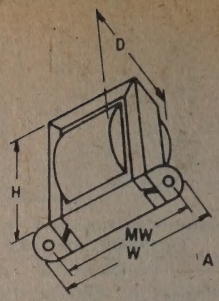
AC = Secondary RMS current in Transformer
DC = Output current from rectifier.
K = AC to DC Relationship Factor.

STANCOR Audio Transformers









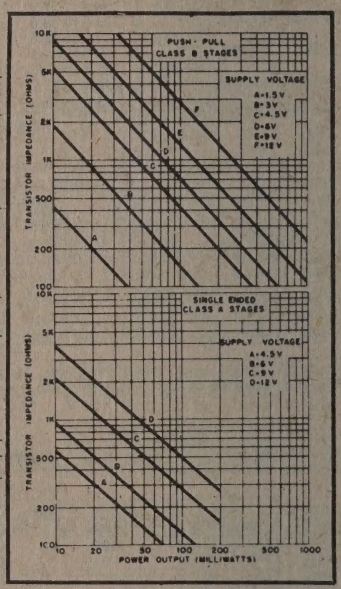
TRANSISTOR APPLICATIONS - All Units Terminate With Leads

Stock No.	Type	Style	Application	Imp.-Ohms Pri.	Imp.-Ohms Sec.	Max. P. DC/MA	Audio Watts	Case Dim. H	Case Dim. W	Case Dim. D	Mtg.Dim. MW	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F428	TA-2	A	Interstage	100 C.T.	10 C.T.	100	.25	1¼	2⅛	1½	1¾	.25	2.75	2.48	2.23	2.06	1.68	1.57
1F429	TA-3	A	Interstage	100	1000 C.T.	100	.25	1⅜	2⅜	1½	2	.35	2.92	2.63	2.37	2.19	1.78	1.66
1F430	TA-4	A	Interstage	500 C.T.	5000 C.T.	12	.03	1⅜	2⅜	1⅝	2	.35	4.25	3.83	3.44	3.19	2.59	2.42
1F433	TA-7	A	Driver	100	100 C.T.	100	.5	1⅝	2⅞	1⅝	2⅜	.60	3.50	3.15	2.84	2.63	2.14	2.00
1F438	TA-11	A	Output	48 C.T.	16/8	275	5	2	3¼	1⅞	2 13/16	1.0	5.33	4.80	4.32	4.00	3.25	3.04
1F440	TA-12	A	Output	20 C.T.	8	500	10	1⅜	2⅜	1⅝	2	.45	3.50	3.15	2.84	2.63	2.14	2.00
5F1463	TA-56	S†	Output	48 C.T.	16/8/3.2	550	10	2⅜	2⅞	1¾	2⅜	.90	4.33	3.90	3.51	3.25	2.64	2.47
5F1464	TA-57	S	Output	100 C.T.	16/8/3.2	500	10	2⅜	2⅞	1⅞	2⅜	.95	4.58	4.12	3.71	3.44	2.79	2.61
1F821	TA-59	A	Driver	500 C.T.	200 C.T.	50	.5	1¼	2⅛	1⅜	1¾	.20	3.83	3.45	3.10	2.87	2.34	2.18

MINIATURE AUDIOS 0.150 WATT GROUP

Dimensions: 21/32H x 13/16W x 5/8D. Mtg. tabs: 3/16 wide, 25/32 centers.
Weight: 0.65 oz.

Stock No.	Type	Style	Application	TurnRat. Pri.-Sec.	Imp.-Ohms Pri.	Imp.-Ohms Sec.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F686	TA-21	A1	Output	5.53:1	500 C.T.	4,8,16	5.00	4.50	4.05	3.75	3.05	2.85
1F675	TA-27	A1	Interstage	1:4.08	1200	20000 C.T.	5.42	4.88	4.39	4.07	3.31	3.09
1F676	TA-28	A1	Interstage	1.65:1	1500	500 C.T.	5.33	4.80	4.32	4.00	3.25	3.04
5F1465	TA-29	A1	Output	11.8:1	2500	4,16	4.83	4.35	3.91	3.62	2.95	2.75
1F677	TA-30	A1	Interstage	1.00:1.22	5000 C.T.	7500 C.T.	5.17	4.65	4.19	3.88	3.15	2.95
1F678	TA-31	A1	Interstage	1.00:1.41	5000 C.T.	10000 C.T.	5.00	4.50	4.05	3.75	3.05	2.85
1F679	TA-32	A1	Interstage	1.00:4	5000 C.T.	80000 C.T.	5.42	4.88	4.39	4.07	3.31	3.09
1F691	TA-33	A1	Output	24.6:1	10000 C.T.	4,8,16	4.17	3.75	3.38	3.13	2.54	2.38
1F681	TA-35	A1	Interstage	2.24:1	10000	2000 C.T.	4.58	4.12	3.71	3.44	2.79	2.61
1F682	TA-36	A1	Interstage	1.83:1	10000	3000 C.T.	4.83	4.35	3.91	3.62	2.95	2.75
5F1466	TA-54	A1	Interstage	5:1	20000	800 C.T.	4.33	3.90	3.51	3.25	2.64	2.47
1F683	TA-38	A1	Interstage	1.72:1	500 C.T.	150 C.T.	4.58	4.12	3.71	3.44	2.79	2.61



MINIATURE AUDIOS 0.300 WATT GROUP

Dimensions: 13/16H x 1⅝W x ¾D. Mtg. Centers: 1⅜. Weight 1.2 oz.

Stock No.	Type	Style	Use	TurnRat. Pri.-Sec.	Imp.-Ohms Pri.	Imp.-Ohms Sec.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F693	TA-39	A	Output	2.5:1	100 C.T.	4, 8, 16	4.50	4.05	3.65	3.38	2.75	2.57
1F695	TA-41	A	Output	5.00:1	400 C.T.	4, 8, 16	4.58	4.12	3.71	3.44	2.79	2.61
1F696	TA-42	A	Output	5.60:1	500 C.T.	4, 8, 16	4.83	4.35	3.91	3.62	2.95	2.75
5F1467	TA-52	A	Interstage	1:1	500 C.T.	500 C.T.	5.17	4.65	4.19	3.88	3.15	2.95
1F671	TA-47	A	Input	1.00:14.1	1000 C.T.	200000 C.T.	5.33	4.80	4.32	4.00	3.25	3.04
1F823	TA-63	A	Driver	3.17:1	20000 C.T.	2000 C.T.	5.75	5.18	4.66	4.31	3.51	3.28

14

CONSTANT VOLTAGE TYPES - LINE TO VOICE COIL

25 VOLT - Termination Lugs except A-8087 leads. RM test voltage, 1000

Stock No.	Type	Style	Imp.-Ohms Pri.	Imp.-Ohms Sec.	Power Steps In Watts	Case Dim. H	Case Dim. W	Case Dim. D	Mtg.Dim. MW	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Each Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F390	A-8096	S	78/156/312/625/1250	4/8/16	8/4/2/1/0.5	2	2⅜	1⅝	2	0.65	5.50	4.95	4.46	4.13	3.36	3.14
5F1468	A-8097	S	39/78/156/312/625/1250	4/8/16	16/8/4/2/1/0.5	2¾	3⅛	2¼	2 13/16	1.6	6.50	5.85	5.27	4.88	3.97	3.71
1F389	A-8095	A	125/250/500/1000/2000	4/8	5/2.5/1.25/.62/.31	1⅜	2⅜	1½	2	0.4	4.17	3.75	3.38	3.13	2.54	2.38
5F1469	A-8087	A	312/625/1250	8	2/1/0.5	1⅜	2⅜	1⅜	2	0.4	3.00	2.70	2.43	2.25	1.83	1.71

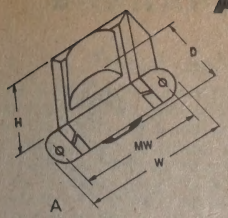
70.7 VOLT - Termination Lugs except A-8083 and A-8084 leads. RMS test voltage: 1000.

1F373	A-8102	S	625/1250/2500/5000/10000	4/8/16	8/4/2/1/0.5	2	2⅜	1⅝	2	0.7	4.25	3.83	3.44	3.19	2.59	2.42
5F1470	A-8103	S	312/625/1250/2500/5000/10000	4/8/16	16/8/4/2/1/0.5	2¾	3⅛	2¼	2 13/16	1.5	6.50	5.85	5.27	4.88	3.97	3.71
1F126	A-8105	A	1000/2000/4000/8000/16000	4/8	5/2.5/1.25/.62/.31	1⅜	2⅜	1½	2	0.4	4.17	3.75	3.38	3.13	2.54	2.38
5F1471	A-8109	A	2500/5000/10000	4/8	2/1/0.5	1¼	2⅛	1⅜	1¾	0.3	3.83	3.45	3.10	2.87	2.34	2.18
5F1472	A-8080	A	1000/1250/1667/2500/5000	8/16	5/4/3/2/1	1⅜	2⅜	1½	2	0.4	4.25	3.83	3.44	3.19	2.59	2.42
5F1473	A-8081	S	500/555/625/715/833	8/16	10/9/8/7/6	2	2⅜	1⅝	2	0.7	5.00	4.50	4.05	3.75	3.05	2.85
5F1474	A-8083	A	2500/5000/10000	8	2/1/0.5	2	2⅜	1⅜	2	0.4	3.08	2.77	2.49	2.31	1.88	1.76
1F344	A-8084	A	1250/2500/5000/10000/20000/40000	8	4/2/1/.5/.25/.12	1⅝	2⅞	1⅝	2⅜	0.7	4.33	3.90	3.51	3.25	2.64	2.47
1F974	A-8078	S	167/250/500/1000	4/8/16	30/20/10/5	2⅜	2⅞	1¾	2⅜	1.0	5.75	5.18	4.66	4.31	3.51	3.28

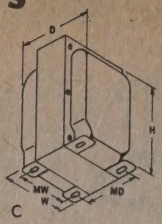
For A Complete Listing of Stancor Transistor Transformers Ask NEWARK For Stancor Catalog #207.

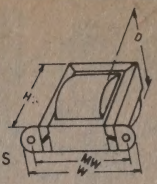
Audio Transformers

STANCOR



NEWARK Can Supply All Your Transformer Needs. Call, Write Or Wire Your Nearest Newark Facility For Information.





MICROPHONE - PICKUP OR LINE TO GRID

Stock No.	Type	Style	Application	Imp.-Ohms Pri.	Imp.-Ohms Sec.	Audio Watts	Termination Pri.	Termination Sec.	Case Dim H	Case Dim W	Case Dim D	Mtg. Dim. MW	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
5F1475	A-8090	A	Line to Voice Coil	45 or 50	6-8/3-4	3	Lugs	Lugs	1 3/8	2 3/8	1 1/4	2	0.5	2.67	2.40	2.16	2.00	1.62	1.52
5F1476	A-4779	A	Line to S. or P.P. Grids	600/500 C.T.	60000 C.T.	.....	Leads	Leads	1 3/8	2 3/8	1 3/8	2	0.5	3.83	3.45	3.10	2.87	2.34	2.18

INTERSTAGE - SINGLE PLATE (7000 to 20000 OHM) TO SINGLE GRID

Stock No.	Type	Style	Ratio	Max. Pri. DC MA	Termination Pri.	Termination Sec.	DC Res. Ohms Pri.	DC Res. Ohms Sec.	RMS Test V	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F302	A-53	A	1:3	10	Leads	Leads	400	1500	1000	1 3/8	2 3/8	1 3/8	2	0.5	3.42	3.08	2.77	2.57	2.08	1.94

INTERSTAGE - SINGLE PLATE (7000 to 15000 OHM) TO PUSH-PULL GRIDS

1F294	A-52C	A	1:2	10	Leads	Leads	570	1450	1000	1 3/8	2 3/8	1 1/2	2	0.4	3.92	3.53	3.18	2.94	2.39	2.23
1F918	A-53C	A	1:3	10	Leads	Leads	400	1500	1000	1 3/8	2 3/8	1 1/2	2	0.5	3.67	3.30	2.97	2.75	2.24	2.09

LINE TO LINE - Audio Watts - 10, Termination - Lugs

Stock No.	Type	Style	Imp. in Ohms Pri.	Imp. in Ohms Sec.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F763	A-4350	A	50/125/200/333/500	50/125/200/333/500	2	3 1/4	1 7/8	2 13/16	1.0	6.17	5.55	5.00	4.63	3.76	3.52

OUTPUT - SINGLE PLATE TO VOICE COIL AND/OR LINE

Stock No.	Type	Style	Imp. - Ohms Pri.	Imp. - Ohms Sec.	Max. Pri. DC MA	Audio Watts	Termination Pri.	Termination Sec.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F276	A-3332	A	2000	3.2	50	3	Leads	Leads	1 1/4	2 1/8	1 1/4	1 3/4	0.4	2.42	2.18	1.96	1.82	1.48	1.38
1F265	A-3876	A	2000	4.0	60	5	Leads	Leads	1 3/8	2 3/8	1 3/8	2	0.4	2.25	2.03	1.82	1.69	1.37	1.28
1F266	A-3877	A	5000	4.0	40	5	Leads	Leads	1 3/8	2 3/8	1 3/8	2	0.4	2.33	2.10	1.89	1.75	1.42	1.33
5F1477	A-3309	A	5000	3-4	35	3	Leads	Leads	1 1/4	2 1/8	1 3/8	1 3/4	0.4	2.58	2.32	2.09	1.94	1.57	1.47
1F340	A-8092	A	5000	3-4	50	8	Leads	Leads	1 5/8	2 7/8	1 1/2	2 3/8	0.5	3.08	2.77	2.49	2.31	1.88	1.76
1F261	A-3329	A	8000	3.5	10	3	Leads	Leads	1 1/4	2 1/8	1 1/8	1 3/4	0.4	2.17	1.95	1.76	1.63	1.32	1.24
1F268	A-3879	A	10000	4.0	30	5	Leads	Leads	1 3/8	2 3/8	1 3/8	2	0.4	2.33	2.10	1.89	1.75	1.42	1.33
1F296	A-3250	A	20000/10000/5000	500/333/200/125/50	15	5	Lugs	Lugs	2	3 1/4	1 7/8	2 13/16	1.0	5.83	5.25	4.72	4.37	3.56	3.32
1F910	A-3327	A	25000	4.0	5	5	Leads	Leads	1 3/8	2 3/8	1 3/8	2	0.4	2.67	2.40	2.16	2.00	1.62	1.52

OUTPUT - PUSH-PULL PLATES TO VOICE COIL AND/OR LINE

Stock No.	Type	Style	Imp.-Ohms Pri.	Imp.-Ohms Sec.	Max. Pri. DC MA	Termination Pri.	Termination Sec.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F275	A-3801	C	6600 CT	500/250/15/8/4	150	Leads	Leads	3 7/8	3 1/8	3 1/2	2 1/2	2 3/16	4.8	12.00	10.80	9.72	9.00	7.32	6.84
1F296	A-3250	A	20000 CT	500/333/200 125/50	15	Lugs	Lugs	2	3 1/4	1 7/8	2 13/16	....	1.0	5.83	5.25	4.72	4.37	3.56	3.32

OUTPUT - HIGH FIDELITY

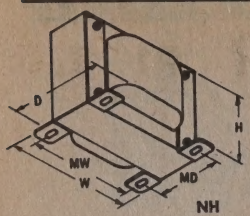
Stock No.	Type	Style	Imp.-Ohms Pri.	Imp.-Ohms Sec.	Max. Pri. DC MA	Audio Watts	Termination Pri.	Termination Sec.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F904	A-8053	C	5000 CT	16/8	150	50	Leads	Leads	4 1/4	3 7/16	4 1/4	2 3/4	3 3/16	6.5	20.00	18.00	16.20	15.00	12.20	11.40

UNIVERSAL OUTPUT - "POLY-PEDANCE" - SINGLE OR PUSH-PULL PLATES TO VOICE COIL

Stock No.	Type	Style	Imp.-Ohms Pri.	Imp.-Ohms Sec.	Max. Pri. DC MA	Audio Watts	Termination Pri.	Termination Sec.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Wt. Lbs.	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Each, Boxed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F250	A-3856	A	S. or P.P. Plates 4000 to 14000	.05 to 122	35	4	Leads	Lugs	1 3/8	2 3/8	1 1/2	2	0.4	4.33	3.90	3.51	3.25	2.64	2.47
5F1478	A-3823	A	S. or P.P. Plates 4000 to 14000	.05 to 122	40	8	Leads	Lugs	1 5/8	2 7/8	1 5/8	2 3/8	0.7	4.83	4.35	3.91	3.62	2.95	2.75
5F1479	A-3849	A	S. Plates 1500 to 10000	.02 to 21	55	10	Lugs	Lugs	1 5/8	2 7/8	1 1/2	2 3/8	0.7	5.00	4.50	4.05	3.75	3.05	2.85
5F1480	A-3852	S	P.P. Plates 4000 to 14000	.05 to 122	40	18	Leads	Lugs	2 3/8	2 7/8	2	2 3/8	...	6.67	6.00	5.40	5.00	4.07	3.80
5F1481	A-3830	S	P.P. Plates 3000 to 10000	.04 to 122	60	20	Leads	Lugs	2 3/4	3 1/8	2 1/8	2 13/16	1.8	6.33	5.70	5.13	4.75	3.86	3.61

14

Filter Chokes/Audio Transformers



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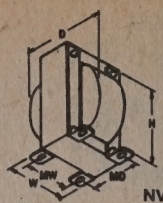

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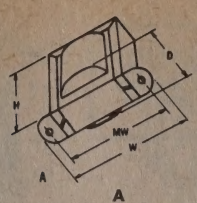

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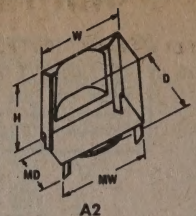

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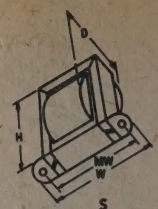

S

SMOOTHING CHOKES—INDUCTANCE TOL. —15% PLUS 50% AT 10 V 60 HZ. Termination—Leads.

Stock No.	Type	Style	Ind. Henries	DC MA	DC Res. Ohms	RMS V*	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Bulk Packed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
5F1482	C-2344	A	1.5	10	85	2500	1¼	2⅛	1⅛	1¾	0.4	2.25	2.03	1.82	1.69	1.37	1.28
1F898	C-2707	A	2.0	15	70	1500	1¼	2⅛	1⅛	1¾	0.4	2.17	1.95	1.76	1.63	1.32	1.24
1F178	C-1515	A	20.0	15	900	1500	1⅝	2⅞	1⅜	2⅜	0.7	3.42	3.08	2.77	2.57	2.08	1.94
5F1483	C-2346	A	35.0	15	1800	1500	1⅜	2⅜	1⅜	2	0.5	2.50	2.25	2.03	1.88	1.53	1.43
1F175	C-2318	A	12.0	30	400	2000	1⅜	2⅜	1⅜	2	0.5	2.50	2.25	2.03	1.88	1.53	1.43
1F156	C-1706	A	4.5	50	300	1500	1⅜	2⅜	1¼	2	0.5	2.33	2.10	1.89	1.75	1.42	1.33
1F157	C-1707	A	7.0	50	550	1500	1⅜	2⅜	1¼	2	0.5	3.08	2.77	2.49	2.31	1.88	1.76
1F902	C-1003	A	16.0	50	580	1500	2	3¼	1⅝	2 13/16	1.0	3.58	3.22	2.90	2.69	2.18	2.04
1F162	C-1002	A	15.0	75	400	1500	2⅜	3¾	2	3⅛	1.7	3.67	3.30	2.97	2.75	2.24	2.09
1F159	C-1709	A	8.0	85	250	1500	2	3¼	1⅞	2 13/16	1.4	3.17	2.85	2.57	2.38	1.93	1.81
1F163	C-1001	A	10.5	110	225	3000	2⅝	4	2⅛	3 9/16	2.3	4.83	4.35	3.91	3.62	2.95	2.75
1F164	C-2303	A	2.5	130	100	2000	2	3¼	1⅝	2 13/16	1.0	3.75	3.38	3.04	2.81	2.29	2.14
1F165	C-2304	A	2.3	150	60	1500	2	3¼	1¾	2 13/16	1.0	4.08	3.67	3.30	3.06	2.49	2.33
1F533	C-2327	A	1.5	200	85	1500	1⅝	2⅞	1½	2⅜	0.7	2.92	2.63	2.37	2.19	1.78	1.66
1F897	C-2343	A	0.75	300	32	1500	1⅝	2⅞	1⅜	2⅜	0.7	2.58	2.32	2.09	1.94	1.57	1.47
5F1484	C-2347	A	1.0	350	40	1500	2	3¼	1¾	2 13/16	1.0	3.58	3.22	2.90	2.69	2.18	2.04
1F176	C-2328	A	0.8	375	25	1500	2⅜	3¾	1⅞	3⅛	1.5	4.58	4.12	3.71	3.44	2.79	2.61
1F896	C-2708	A	0.32	600	10	1500	2	3¼	1⅝	2 13/16	1.3	3.58	3.22	2.90	2.69	2.18	2.04

(*) Insulation Test Voltage: Twice allowable RMS Working Volts plus V.

NOTE: Inductance values shown are measured at full amount of DC listed and at specified values of RMS Voltage and Frequency.

All items are made with Class "A" insulating materials and will withstand operation up to a limit of 105°C, continuously.

HIGH CURRENT CHOKES—INDUCTANCE MEASURED AT 1 VOLT 60 HZ. Termination: Leads.

Stock No.	Type	Style	Induct. Mh	DC Amps	DC Res. Ohms	RMS V*	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Bulk Packed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
5F1485	TC-1	A2	3.0	1.0	.25	1000	1 3/16	1½	1⅛	1 3/16	7/16	0.6	2.00	1.80	1.62	1.50	1.22	1.14
1F721	TC-2	A2	11.0	1.0	.75	1000	1 3/16	1½	1⅛	1 3/16	7/16	0.6	2.08	1.87	1.68	1.56	1.27	1.19
5F1486	C-2690	NV	300 or 75	1.0	3.0	1500	3 7/16	2 13/16	3	2¼	2⅝	5.0	9.59	8.63	7.77	7.19	5.85	5.47
1F893	C-2685	NH	35	2.0	.75	1500	2 5/16	2⅝	2⅛	2 5/16	2	1.9	5.50	4.95	4.46	4.13	3.36	3.14
1F991	C-2691	NV	80 or 20	2.5 2.0	.60 .75	1500	3 1 3/16	3⅛	3½	2½	3	7.0	13.17	11.85	10.67	9.88	8.03	7.51
1F894	C-2686	NH	25	4.0	4.25	1500	2⅞	3⅜	2⅝	2 13/16	2⅛	3.4	7.83	7.05	6.34	5.87	4.78	4.46
1F049	C-2687	NH	10	8.0	.15	1500	3 9/16	3¾	3	3⅛	2½	5.3	10.50	9.45	8.51	7.88	6.41	5.99
1F895	C-2688	NH	10	12.5	.11	1500	3½	4⅛	2⅞	3 7/16	2⅜	5.9	12.50	11.25	10.13	9.38	7.63	7.13

(*) Insulated Test Voltage: Twice allowable RMS Working Volts plus 1000 V.

NOTE: The above listed High Current Chokes are normally used in low voltage, high current DC power supply filter applications, where low voltage drop across filter and good voltage regulation is required without any type of voltage regulator.

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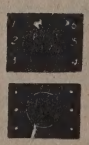
FOR PC BOARD APPLICATIONS

COLOR CODING by application to assure immediate and positive transformer identification.

RECTANGULAR SHAPE allows the utmost utilization of space and stacking in limited area.

PROTECTIVE STAND-OFF prevents solder flow back and maximum lead exit protection.

SPACED LEADS of fatigue resistant gold plated nickel-iron alloy are .020" in diameter, 9.16" long and have multiples of 0.1" grid spacing for PC applications.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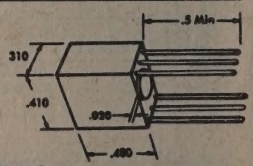


POLYCHROMATRANS—WITH MULTIPLES OF 0.1" GRID SPACING FOR PC

Stock No.	Type	Power Level MW	Application	Color Application Guide	Matching Imp. Pri.	Matching Imp. Sec.	Max. MA DC Unbal. in Pri.	DC Res. Pri.	DC Res. Sec.	Overall Turns Ratio	RMS Test Volts	Each, Boxed 1-9	Each, Boxed 10-24	Each, Boxed 25-49	Bulk Packed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
5F1487	PCT-14	15	Input	Brown	200,000 C.T.	1000 C.T.	0	6300	130	14.1:1	500	10.50	9.45	8.93	8.40	7.49	7.07
5F1488	PCT-17	15	Input	Brown	200,000	1000	0	6300	130	14.1:1	500	9.67	8.70	8.22	7.74	6.89	6.50
5F1489	PCT-54	75	Output	Yellow	600 C.T.	12	4.5	92	4	7.06:1	500	9.67	8.70	8.22	7.74	6.89	6.50
5F1490	PCT-76	75	Output Isolation	Green	10000 C.T.	10000 C.T.	1	1100	1400	1:1	500	10.00	9.00	8.50	8.00	7.13	6.73
5F1491	PCT-77	75	Output Isolation	Green	600 C.T.	600 C.T.	3	85	110	1:1	500	9.00	8.10	7.65	7.20	6.41	6.05

LINE TO VOICE COIL

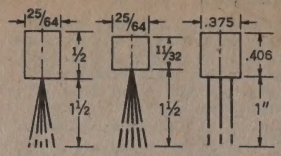
Stock No.	Type	Style	Imp. in Ohms Pri.	Imp. in Ohms Sec.	Audio Watts	Termination Pri.	Termination Sec.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Wt. Lbs.	Each Boxed 1-9	Each Boxed 10-24	Each Boxed 25-49	Bulk Packed 50-99	Bulk Packed 100-249	Bulk Packed 250-499
1F370	A-8104	S	3000/2000/1500/1000/500	4/8/16	10	Lugs	Lugs	2⅜	2⅞	1¾	2⅜	1.5	5.50	4.95	4.46	4.13	3.36	3.14
5F1492	A-3883	S	500	4/6/8/15	25	Lugs	Lugs	2⅜	2⅞	1¾	2⅜	1.1	4.33	3.90	3.51	3.25	2.64	2.47
1F366	A-8101	A	500	3.2/6-8	5	Lugs	Leads	1⅜	2⅜	1⅜	2	0.4	2.67	2.40	2.16	2.00	1.62	1.52
1F280	A-7947	A	2000/1500/1000/500	3.2/6-8	8	Lugs	Lugs	1⅝	2⅞	1⅝	2⅜	0.7	4.50	4.05	3.65	3.38	2.75	2.57

Miniature Transformers

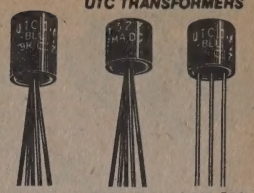
TRW
UTC TRANSFORMERS

I-DO-T AND I-DI-T TRANSFORMERS

Industrial quality counterparts of DO-T and DI-T Mil-Spec transformers. Plastic casing is designed for protection to 85°C. Bobbin is completely rigid and wire turns are circular to reduce turn stress and assure uniform wire lay. External leads withstand 10-lb. pull. Insulated leads are .016" dia. tinned copper (I-DI-T 500 series has gold plated uninsulated Dumet wire leads). Units mount vertically or on side; can be wave soldered. Working voltage: 50 V. Freq. response: ±3 db, 300-20,000 Hz for I-DO-T; 400-100,000 Hz for -DI-T. *split winding. †At1kHz, 5% dist. #Electrostatic shield.



I-DOT I-DIT I-DIT-500


I-DOT I-DIT I-DIT-500

TYPE I-DO-T AUDIO TRANSFORMERS

Stock No.	Type I-DO-T-	Primary Impedance, Ohms	Secondary Impedance, Ohms	P.† Max. mW	1-4	5-9	10-24
2F747	101	20K/30K	800/1200	50	5.14	4.45	4.07
2F748	102	500/600	50/60	100	4.86	4.21	3.85
2F749	103	1K/1.2K	50/60	100	4.86	4.21	3.85
2F750	104	600	3.2	100	4.95	4.29	3.91
2F751	105	1200	3.2	100	4.95	4.29	3.91
2F752	106	10K	3.2	100	5.14	4.45	4.07
2F756	107	200K	1K	25	8.32	7.21	6.58
2F757	109	10K/12K	500/600 CT	100	5.33	4.61	4.21
2F758	110	10K-12.5K	1200/1500 CT	100	5.33	4.61	4.21
2F759	111	10K-12.5K	2000/2500 CT	100	5.33	4.61	4.21
2F760	112	150/200 CT	12/16	500	5.14	4.45	4.07
2F761	113	300/400 CT	12/16	500	5.14	4.45	4.07
2F762	114	600/800 CT	12/16	500	5.14	4.45	4.07
2F763	115	800/1070 CT	12/16	500	5.14	4.45	4.07
2F764	116	1K/1.33K	12/16	500	5.14	4.45	4.07
2F765	117	1.5K/2K CT	12/16	500	5.14	4.45	4.07
2F766	118	7.5K/10K CT	12/16	100	5.14	4.45	4.07
2F767	119	300 CT	600	500	5.14	4.45	4.07
2F768	120	500 CT	600	500	5.14	4.45	4.07
2F769	121	900 CT	600	500	5.14	4.45	4.07
2F770	122	1.5 CT	600	500	5.14	4.45	4.07
2F771	123	20K/30K CT	800/1200 CT	50	5.33	4.61	4.21
2F772	124	200K CT	1K CT	25	9.06	7.85	7.17
2F773	125	10K/12K CT	1500/1800 CT	100	5.52	4.78	4.36
2F774	129	120/150 CT	3.2/4	500	5.14	4.45	4.07
2F775	130	320/400 CT	3.2/4	500	5.14	4.45	4.07
2F776	131	640/800 CT	3.2/4	500	5.14	4.45	4.07
2F777	132	800/1000 CT	3.2/4	500	5.14	4.45	4.07
2F778	133	1060/1330 CT	3.2/4	500	5.14	4.45	4.07
2F779	134	1.6K/2K	3.2/4	500	5.14	4.45	4.07
2F780	135	8K/10K CT	3.2/4	100	5.14	4.45	4.07
2F781	136	10K/12K CT	10K/12K CT	100	5.88	5.10	4.66
2F782	137	2K/2.5K CT	8K/10K*	100	5.88	5.10	4.66
2F783	138	10K/12K CT	2K/2.4K*	100	5.88	5.10	4.66
2F784	139	20K/30K CT	1K/1.5K*	50	5.88	5.10	4.66
2F785	140	40K/50K CT	400/500*	50	6.54	5.67	5.18
2F786	141	400/500 CT	400/500*	500	5.60	4.86	4.44
2F787	142	400/500 CT	120/150*	500	5.60	4.86	4.44
2F788	143	400/500 CT	40/50*	500	5.60	4.86	4.44
2F789	144	80/100 CT	32/40*	500	5.60	4.86	4.44
2F790	145	1K/1.25K CT	16K/20K*	100	6.16	5.34	4.88
2F791	146	100K CT#	500 CT	25	9.25	8.02	7.32
2F792	147	9K/10K CT#	9K/10K CT	100	6.54	5.67	5.18
2F793	148	8K/10K CT#	1.2K/1.5K CT	100	5.88	5.10	4.66
2F794	151	2K/2.5K CT	2K/2.5K*	100	5.79	5.02	4.58
2F795	152	4K/5K CT#	8K/10K CT	100	5.79	5.02	4.58
2F796	153	400/500 CT	4K/5K CT	500	5.79	5.02	4.58
2F797	154	40K/50K CT	4K/5K CT	50	6.35	5.50	5.03
2F798	155	600 CT	600 CT	500	6.35	5.50	5.03

TYPE I-DI-T AUDIO TRANSFORMERS

Stock No.	Type I-DI-T	Primary Impedance, Ohms	Secondary Impedance, Ohms	P.† Max. mW	1-4	5-9	10-24
2F799	301	20K/30K	800/1200	50	5.14	4.45	4.07
2F873	302	500/600	50/60	100	4.86	4.21	3.85
2F874	303	1000/1200	50/60	100	4.86	4.21	3.85
2F875	305	1200	3.2	100	4.95	4.29	3.91
2F876	309	10K/12K	500/600	100	5.52	4.78	4.36
2F877	310	10K/12.5K	1.2K/1.5K CT	100	5.52	4.78	4.36
2F878	311	10K/12.5K	2K/2.5K CT	100	5.52	4.78	4.36
2F879	319	300 CT	600	500	5.14	4.45	4.07
2F880	320	500 CT	600	500	5.14	4.45	4.07
2F881	321	900 CT	600	500	5.14	4.45	4.07
2F882	322	1500 CT	600	500	5.14	4.45	4.07
2F883	323	20K/30K CT	800/1.2K CT	50	5.79	5.02	4.58
2F884	325	10K/12K CT	1.5K/1.8K CT	100	5.79	5.02	4.58
2F885	336	10K/12K CT	10K/12K CT	100	5.88	5.10	4.66
2F886	337	2K/2.5K CT	8K/10K*	100	6.07	5.26	4.80
2F887	338	10K/12K CT	2K/2.4K*	100	6.07	5.26	4.80
2F888	341	400/500 CT	400/500*	500	5.88	5.10	4.66
2F889	343	400/500 CT	40/50*	500	5.79	5.02	4.58
2F890	344	80/100 CT	32/40*	500	5.79	5.02	4.58
2F891	351	2K/2.5K CT	2K/2.5K*	100	5.98	5.18	4.74
2F892	352	4K/5K CT#	8K/10K CT	100	5.98	5.18	4.74

I-DI-T 500 SERIES PC AUDIO TRANSFORMERS

2F893	525	80/100 CT	32/40*	500	7.38	6.39	5.84
2F894	530	300 CT	600 CT	500	6.82	5.90	5.39
2F895	535	400/500 CT	40/50*	500	7.38	6.39	5.84
2F896	540	400/500 CT	400/500*	500	7.38	6.39	5.84
2F897	545	500/600 CT	50/60 CT	500	6.82	5.90	4.93
2F898	550	500 CT	600 CT	500	6.82	5.90	4.93
2F899	555	1K/1.2K CT	50/60 CT	500	6.82	5.90	4.93
4F464	560	1500 CT	600 CT	500	6.82	5.90	5.39
4F465	565	2K/2.5K CT#	8K/10K*	100	7.85	6.81	6.22
4F466	570	10K/12K CT	500/600 CT	100	7.01	6.07	5.55
4F467	573	10K/12.5K CT	1.2K/1.5K CT	100	7.01	6.07	5.55
4F468	578	10K/12K CT	2K/2.5K*	100	7.85	6.81	6.22
4F469	583	10K/12K CT	10K/12K CT	100	7.28	6.32	5.77
4F470	588	20K/30K CT	800/1.2K CT	50	6.92	5.99	5.47

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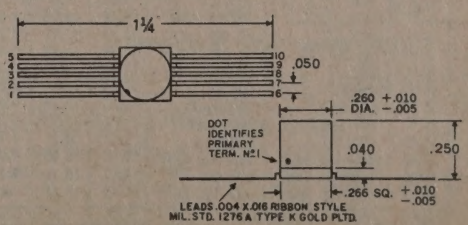
BIT-250™ MINIATURE AUDIO TRANSFORMERS

A new development in transformer technology. Offers reduced size without loss of performance, achieved by major reduction of air gaps in magnetic circuit. Materials, dimensions and surface finish are identical with IC Flat Packs. Cylindrical bobbin-winding techniques eliminate corner stress. 7-terminal types, with center-tapped primaries and split secondaries. Freq. response, ±2 dB, 300-250,000 Hz. Dielectric strength, tested at 200 V rms. Electromagnetically self-shielded. Gold-plated ribbon-style Kovar leads, solderable and weldable. To complete MIL-T-27C Specs. BIT-250-14 thru -36 are MIL type TF5RX17ZZ; others are TF5RX12ZZ.

Stock No.	Type BIT-	Typ. Application	Pri. Imp. CT	Secondary Impedance Ser./Par.	1-4	5-9	10-24
4F471	250-14	Output	150	12/3	12.31	10.68	9.74
4F472	250-18	Out/Match.	300	600/150	12.31	10.68	9.74
4F473	250-20	Match/Inter.	400	400/100	13.19	11.43	10.44
4F474	250-26	Output	500	50/12.5	13.19	11.43	10.44
4F475	250-30	Isol/Match.	600	600/150	13.19	11.43	10.44
4F476	250-36	Out/Match.	1000	1000/250	13.62	11.80	10.79
4F477	250-40	Output	1500	600/150	13.62	11.80	10.79
4F478	250-48	Isol/Inter.	2000	8K/2K	14.51	12.58	11.49
4F479	250-56	Out/Driver	10K	500/125	14.97	12.97	11.84
4F480	250-60	Driver	10K	1200/300	14.97	12.97	11.84
4F481	250-64	Interstage	10K	2K/500	14.97	12.97	11.84
4F482	250-70	Isol/Inter.	10K	10K/2500	14.97	12.97	11.84
4F483	250-90	Interstage	25K	1000/250	15.85	13.73	12.54



Miniature Transformers

"SUB-OUNCERS"

Tiny lead-mounted transformers for use in hearing aids, pocket radios, etc. Measure only $^{23}/_{32}$x$^{7}/_{8}$x$^{19}/_{32}$". Weighs .03 lb. each. Frequency response, 100 to 10,000 Hz, 2 dB. (*) indicates printed circuit type. (**) indicates split winding.

Stock No.	Type	Appli-cation	Pri. Imp.	Sec. Imp.	1-4	5-9	10-24
3F390	SO-1	Input	50/200	62,500/ 250,000	7.44	6.44	5.88
3F391	SO-2	Interstage	10,000	90,000	7.31	6.33	5.78
3F392	SO-3	Plate to line	10,000/ 25,000	200/500	6.57	5.70	5.20
3F396	SO-7	Transis. interstage	20,000/ 30,000	80/1200	5.77	5.00	4.57
3F397	SO-8	Transis. interstage	10,000	2,000 CT	6.59	5.72	5.22
3F398	SO-9	Transis. to VC	500 CT	3.2	5.77	5.00	4.57
3F399	SO-10	Transis. to VC	2,000 4,000 CT	8/16	5.58	4.84	4.43
3F595	SO-11	Transis. interstage	400 CT 500 CT	400** 500**	6.39	5.54	5.06
3F596	SO-12	Transis. interstage	400 CT 500 CT	120** 150**	6.39	5.54	5.06
5F1330	SO-2P	Interstage 3:1*	10,000	90,000	10.93	9.47	8.65
5F1331	SO-8P	Transis. to PP sec.*	10,000	2,000 CT	11.12	9.63	8.80
3F532	SO-CH	Mtg. Channel for any SO			.41	.36	.32

SUB-SUBOUNCER UNITS

Impendance ratios are constant; these units can be used for other impedances if in same ratios. Units may be reversed. Suffix "P" means printed circuit molded types to MIL Grade 5. Size: $^{43}/_{64}$ x$^{3}/_{4}$x$^{7}/_{16}$". Weight .02 lb. Approx. 2dB, 140-10,000 Hz.

3F377	SSO-3	Pl. to Line	10K/25K	200/ 500	7.97	6.92	6.32
3F378	SSO-4	Output	30K	50	7.44	6.44	5.88
3F379	SSO-5	Inductor	50 Hys @ 1 mA	4400 ohm DC res.	6.39	5.54	5.06
3F382	SSO-8	Transis. interstage	10K	2,000 CT	6.93	6.00	5.48
3F384	SSO-10	Transis. to VC	10K	3.2	6.20	5.37	4.92
3F385	SSO-11	Transis. Output	500 600	50 60	5.58	4.84	4.43
3F389	SSO-15	Transis. interstage	20K 30K CT	800 1200 CT	7.21	6.25	5.70
3F326	SSO-17	Output	10K/	500/ 600 CT	6.16	5.34	4.88
3F328	SSO-19	Matching	500 CT	600 CT	6.05	5.25	4.79
3F329	SSO-20	Output	1500 CT	600 CT	6.05	5.25	4.79
3F332	SSO-21	Chopper	200K CT	1000 CT	8.44	7.32	6.68
3F335	SSO-24	Inductor	1.5 Hys @ 5 mA	.....	4.95	4.29	3.91
3F336	SSO-25	Transis. interstage	10K/ 12K CT	10K/ 12K CT	7.85	6.81	6.22
3F533	SSO-CH	Mtg. Channel for any SO			.41	.36	.32

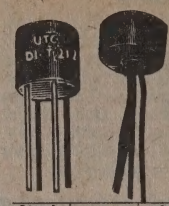
"OUNCER" AUDIO TRANSFORMERS

Famous one-ounce audio transformers for high fidelity use, from 30-20,000 Hz. Maximum output level -8 dB at 6.3 mW. Application: Input and Mixing, Interstage and Output Transformers. Fully impregnated and sealed in drawn aluminum housing. $^{7}/_{8}$" dia. x $1^{3}/_{16}$" Wt. 1 oz.

Stock No.	Type	Primary Imped., Ohms	Secondary Imped., Ohms	1-4	5-9	10-24
3F360	0-1	50, 200, 500	50K	11.75	10.19	9.31
3F361	0-2	50, 200, 500	50K CT	12.41	10.75	9.82
3F362	0-3	7.530	50K	11.35	9.84	9.00
3F363	0-4	15K	60K	10.11	8.76	8.01
3F365	0-6	15K	95K CT	11.35	9.84	9.00
3F367	0-8	15K	50, 200, 500	11.75	10.19	9.31
3F369	0-10	30K CT	50, 200, 500	12.59	19.91	9.96
3F370	0-12	50, 200, 500	50, 200, 500	11.75	10.19	9.31
3F372	0-14	200	500K	11.35	9.84	9.00
3F374	0-16	250 CT	50K	15.25	13.21	12.07
3F157	0-18	10K split	2000 split	11.75	10.19	9.31
3F322	0-19	10K split	4000 split	11.75	10.19	9.31
3F678	0-20	1500 CT	500 split	9.47	8.21	7.49
3F993	0-25	600/150 split	200/500 split	11.75	10.19	9.31
5F1456	0-26	10K CT, 4 mA	10K CT	11.75	10.19	9.31
3F136	0-30	500/125 split	500/125 split	11.95	10.36	9.46
3F325	0-17	Mumetal shield, slip fit		2.28	1.98	1.80
2F754	0-BR	Mounting Bracket for Ouncers.		.63	.56	.50

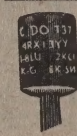
DI-T TRANSISTOR TRANSFORMERS

Meet MIL-T-27C-TF4RX



DI-T Smaller than the DO-T Deci-Ouncers (below). Power ratings and other characteristics identical to DO-T's, except frequency response is approximately ±3 dB, 400-100,000 Hz. Hermetically sealed; rated for Class R (105°C max. operating) temperature conditions. Size $^{5}/_{16}$" dia. x $^{1}/_{4}$" Wt. $^{1}/_{15}$ oz.
DI-T200. As above, with uninsulated leads spaced on .1" radius for printed circuit boards. Size, $^{5}/_{16}$" x $^{3}/_{8}$". Weight $^{1}/_{15}$ oz.

Stock No.	Type	Appli-cation	Pri. Imp.	Sec. Imp.	1-4	5-9	10-24
3F128	DI-T9	Driv./ Out.	10K/12K	500/600 CT	9.43	8.17	7.47
3F1455	DI-T25	Interstage	10K/12K CT	1500/1800 CT	10.27	8.91	8.14
5F1332	DI-T21	Output	900 CT	600	8.55	7.42	6.77
5F1333	DI-T27	Inductor	0.9 Hy	···	6.86	5.94	5.43
2F643	DI-T37	Interstage	2K/2.5K CT	8K/10K split	11.12	9.63	8.80
2F645	DI-T41	Interstage	400/500 CT	400/500 split	10.72	9.30	8.48
3F531	DI-TSH	Hipermalloy shield for DI-T's			1.27	1.10	1.00
2F663	DI-T204	Split Inductor. Ser: .1 Hy @ 4 mADC; Par.: .025 Hy @ 8 m A			8.55	7.42	6.77
2F651	DI-T240	Inter./ Out.	400/500 CT	400/500 split	11.98	10.37	9.49
2F652	DI-T245	Out./ Match.	500/600 CT	50/600 CT	9.83	8.52	7.78
2F653	DI-T250	Out./ Mixing	500 CT	600 CT	10.27	8.91	8.14
2F654	DI-T255	Out./ Match.	1K/1.2K CT	50/60 CT	9.83	8.52	7.78
2F655	DI-T260	Output	1500 CT	600 CT	10.27	8.91	8.14
2F657	DI-T270	Out./ Driver	10K/12K CT	500/600 CT	11.12	9.63	8.80
2F658	DI-T273	Out./ Driver	10K/12.5K	CT	11.12	9.63	8.80
2F659	DI-T276	Int./ Driver	10K/12K CT	2K/2.4K CT	11.12	9.63	8.80
2F661	DI-T283	Isol./ Int.	10K/12K CT	10K/12K CT	11.98	10.37	9.49
2F662	DI-T288	Int./ Driver	20K/30K CT	800/1200 CT	11.54	10.01	9.14



DO-T TRANSISTOR TRANSFORMERS

Unprecedented power handling capacity, reliability, plus ultra-small size. Hermetically sealed, metal cased to MIL-T-27C. Power rating, ± 2 dB, 200-20,000 Hz. Low distortion. Anchored leads stand 10-lb. pull test; tinned and insulated copper conductors. Size $^{5}/_{16}$" dia. x $^{13}/_{32}$" long. Weight $^{1}/_{10}$ oz.

3F550	DO-T1	Interstage	20K/30K	800/1200	8.55	7.42	6.77
3F553	DO-T4	Output	600	3.2	7.72	6.68	6.10
3F554	DO-T5	Output	1200	3.2	7.72	6.68	6.10
3F555	DO-T6	Output	10K	3.2	8.55	7.42	6.77
5F1334	DO-T7	Input	200K	1000	13.24	11.48	10.49
3F557	DO-T8	Inductor	3.5 Hy, 2 mA		6.86	5.94	5.43
3F660	DO-T9	Driv./ Out.	10K/12K	500/600 CT	9.43	8.17	7.47
3F662	DO-T11	Driver	10K/12.5K	2K/2.5K CT	9.43	8.17	7.47
3F663	DO-T12	Output	150/200 CT	12/16	8.16	7.07	6.46
3F666	DO-T15	Output	800/1070 CT	12/16	8.55	7.42	6.77
3F671	DO-T20	Output	500 CT	600	8.55	7.42	6.77
3F673	DO-T22	Output	1500 CT	600	8.55	7.42	6.77
3F674	DO-T23	Interstage	20K/30K CT	800/1200 CT	9.83	8.52	7.78
3F675	DO-T24	Input	200K CT	1000 CT	14.12	12.24	11.18
2F669	DO-T26	Inductor	6 Hy, 2 mA		8.16	7.07	6.46
3F658	DO-T27	Inductor	1.25 Hy, 2 mA		6.86	5.94	5.43
3F219	DO-T30	Output	320/400 CT	3.2/4	8.16	7.07	6.46
3F255	DO-T36	Interstage	10K/12K CT	10K/12K CT	10.72	9.30	8.48
3F236	DO-T37	Interstage	2K/2.5K CT	8K/10K split	11.12	9.63	8.80
2F670	DO-T41	Interstage	400/500 CT	400/500 split	10.72	9.30	8.48
5F1335	DO-T40	Interstage	40K/50K CT	400/500 split	11.98	10.37	9.49
3F252	DO-T43	Interstage	400/500 CT	40/50 split	10.72	9.30	8.48
2F673	DO-T47	Interstage	9K/10K	9K/10K CT	11.54	10.01	9.14
2F995	DO-T52	Interstage	4K/5K CT	8K/10K CT	11.12	9.63	8.80
2F997	DO-T420	Pri. 28V, 380-1 kHz		28V, 10 mA	11.12	9.63	8.80
3F659	DO-TSH	Hipermalloy shield for DO-T's			1.31	1.13	1.03

PIP TRANSISTOR PULSE TRANSFORMER

Meets Mil. Spec. MIL-T-21038B-TP6RX Sub-miniature, hermetically sealed metal case. Checked in transistor test circuit to give required pulse width. Size $^{3}/_{16}$" dia. x $^{3}/_{16}$". Wt. $^{1}/_{20}$oz.

Stock No	Type	Width µ sec	Rise Time	Imp. Out	1-4	5-9	10-24
2F550	PIP-1	.05	.02	50			
2F551	PIP-2	.1	.025	50			
2F552	PIP-3	.2	.03	100			
2F553	PIP-4	.5	.05	100	8.55	7.42	6.77
2F554	PIP-5	1.0	.08	100			
2F555	PIP-6	2.0	.10	100			
2F557	PIP-8	5.0	.30	200			
2F558	PIP-9	10.0	.35	200			

MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

Hermetically sealed to MIL-T-21038B-TP7SX by vacuum molding. Temperature, -70 to +130°C. Wound core structure.

3D084	H48	.50	.03	500	11.13	9.65	8.82
3F087	H51	3	.10	500	12.00	10.40	9.50
2F708	H-56	20	.25	1000	11.34	9.83	8.97
2F633	H-60	.05	.016	50	13.02	11.29	10.31
2F634	H-61	.1	.016	50	13.02	11.29	10.31

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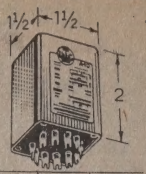
Transformers and Filters

AUDIO TRANSFORMERS

ULTRA-COMPACT "A" SERIES

Excellent shielding. For top or bottom mounting. High quality, rugged die-cast zinc alloy case. Size 1⅛x1½x2". ‡Indicates split winding. Weight ½ lb. Mounts in ⅜" dia. hole.



Stock No.	Type	Pri. Imped.	Sec. Imped.	Resp., Hz ±2 dB	1-4	5-9	10-24
3F340	A-10	50, 125-150,200-250,333, 500-600	50,000‡	20-20,000	28.06	24.32	22.22
3F341	A-11	50,200,500	50,000 CT	20-20,000	21.39	18.54	16.94
3F342	A-12	50, 125-150, 200-250, 333, 500-600	80,000‡	20-20,000	27.29	23.65	21.61
3F354	A-15	10,000 2,500‡	2000/500‡	40-20,000	16.79	14.56	13.30
3F344	A-16	15,000	60,000	20-20,000	20.79	18.03	16.46
3F345	A-18	15,000‡	80,000pp‡	20-20,000	24.92	21.60	19.73
3F346	A-19	15K, 8 mA	80,000pp‡	40-20,000	20.83	17.66	16.14
3F347	A-20	Same as A-10 Pri.	Same as Pri.	10-50,000	29.46	24.65	22.53
3F348	A-21	50,200-250, 500-600	Same as Pri.	30-30,000	18.48	16.01	14.62
3F355	A-22	500 CT	500/125‡	40-20,000	15.32	13.28	12.13
3F824	A-23	500 CT	16/4‡	40-20,000	15.32	13.28	12.13
3F349	A-24	15,000‡	50,125-150 200-250, 333, 500-600	20-40,000	27.37	23.72	21.66
3F350	A-25	15,000	Same as above	40-20,000	21.63	18.75	17.12
3F351	A-26	30,000 CT	Same as above	20-40,000	26.53	23.00	21.01
3F352	A-27	100,000‡	Same as above	30-20,000	25.61	22.20	20.27
3F080	A-35	10,000/2500‡	500/125‡	30-20,000	17.86	15.48	14.13
3F098	A-37	500/125‡	50/12.5‡	40-20,000	16.96	14.70	13.43
2F739	A-39	600/150‡	2000/500‡	20-20,000	19.70	17.08	15.60
2F740	A-43	600/150‡	600/150‡	20-30,000	26.77	23.20	21.19
2F742	A-42	Inductor ‡ Series 4 hys @ 50 ma, Par. 1 hy @ 100 ma			11.59	10.04	9.17
3F050	A-40	Transformer, 115V 60 cycle to two 6.3V CT @ 2A secs.			18.05	15.63	14.29
2F832	A-48	Hybrid. 3 500/600 ohm windings.			25.89	22.44	20.49
3F358	A-33	Hipermalloy shield slip fit over A case			5.88	5.10	4.66

POWER TRANSFORMERS

Designed for amateur and PA service, with ratings based on ICAS intermittent use. Formed case with top and bottom mountings. G-7 case is 4⅝x4⅝x5⅛"; G-8 case is 4⅝x5⅜x5⅜"; G-9, 5⅞x5⅜x6¾"; G-10, 5⅞x6⅛x6⅜"; G-11, 5⅞x6 19/32x7⅜"; G-12, 10¼x7⅜x9¼".

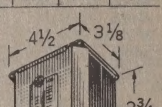


PLATE TRANSFORMERS

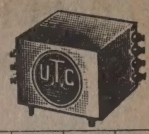
Stock No.	Type	High VAC	DCMA	Case	1-4	5-9	10-24
3F040	S-44	1150-1050 CT	500	G-9	71.10	61.63	56.29
5F1336	S-46	2000-1500 CT	300	G-9	68.84	59.66	54.50
3F043	S-47	3000-2500 2000 CT	300	G-10	91.74	79.51	72.64
3F044	S-48	Same as above	500	G-11	106.24	92.07	84.11
3F045	S-49	4200-3600 3000 CT	300	G-11	100.69	87.27	79.72
3F046	S-50	6000-5000 CT	300	G-12	181.77	157.54	143.90

PLATE AND FILAMENT TRANSFORMERS

Stock No.	Type	Ratings	Case	1-4	5-9	10-24
3F031	S-40	H.V., 1050-850 CT @ 250 mA. Rect. fil. 5V-3A; fil. no. 1, 6.3 VCT-3A; no. 2, 6.3 VCT-3A	G-7	52.80	45.76	41.80
3F033	S-42	H.V., 1200-1050 CT at 300 mA. Rect. fil. 5V-6A; fil. no. 1, 7.5 tapped 6.3V-3A; no. 2, 6.3VCT-3A	G-8	60.00	52.01	47.50

POWER LINE ISOLATION TRANSFORMERS

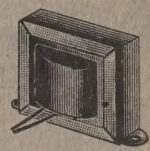
Ultrashielded hermetically sealed units. Less than 0.1 pF effective capacity between primary and secondary permits isolation formerly obtained only from battery power. Separate terminal for each shield. Input and output terminals on opposite sides of case. Primary & secondary—115 V 50/60 Hz



Stock No.	Type No.	Watts Mil.	Watts Ind.	Max. Size	Wt., Lbs.	1-4	5-9	10-24
2F735	HIT-1	50	60	4 1/32x4 1/32x3 1/32"	5½	76.78	66.54	60.78
2F736	HIT-15	120	150	5 11/32x5x3½"	13	101.18	87.69	80.10
2F737	HIT-2	160	200	5 11/32x5 17/32x4 17/32"	15½	105.58	91.51	83.59
2F738	HIT-3	400	480	8x6 17/32x5 17/32"	35	164.98	142.98	130.60
5F1337	HIT-4	1000	1200	9x7½x7½"	60	211.16	183.00	167.17

FILAMENT/TRANSISTOR TRANSFORMERS

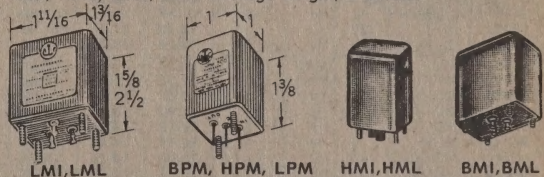
Type FT Channel Frame. Primary: 115 volts 50/60 Hz. Test Volts RMS: 1500. All units are low temperature rise, vacuum-sealed against humidity with impregnating materials to prevent corrosion and electrolysis. Approximate weight 2 lbs. FT13, FT14, FT15 & FT16 have taps on primary to modify nom. sec. V. ±6% +12%.



Stock No.	Type No.	Secondary Volts	Secondary Amps	Mtg. Ctrs.	1-4	5-9	10-24
3F295	FT2	6.3 VCT	1.2	2 3/16"	7.62	6.61	6.04
3F298	FT8	6.3 CT	8	3 9/16"	11.21	9.72	8.87
3F299	FT10	24 CT or 12	2 4	3 9/16"	12.89	11.18	10.21
2F702	FT13	26 VCT	.04	1¾"	11.02	9.55	8.73
2F703	FT14	26 VCT	.25	2 3/16"	10.39	9.01	8.22
2F822	FT15	48 VCT	1	3 9/16"	15.32	13.28	12.13

INTERSTAGE AND LINE FILTERS

Meets MIL-F-18327C specs. BMI and BML types are band-pass units. HMI and HML types are high-pass units. LMI types are low pass units. Filters with I in type number are interstage, input imp., 10,000 ohms, L in type number are line units. All housed in hermetically sealed cases, shielded to reduce hum pick-up. Base area, 1 3/16x1 3/16". Mtg. ctrs., ¾x1¼". Ht.: BMI, LMI, BML, 1⅜" HMI, HML, LML, 2½". Average weight, 8 ounces.



LMI,LML BPM, HPM, LPM HMI,HML BMI,BML

Stock No.	Type	Freq. Hz	1-4	5-9	10-24
3F477	BMI-60	60	47.49	41.16	37.60
3F558	BMI-100	100	51.37	44.52	40.68
3F478	BMI-400	400	47.49	41.16	37.60
3F479	BMI-1000	1000	47.49	41.16	37.60
5F1457	BTI-60	60	57.18	49.56	45.27
2F806	HMI-100	100	53.02	45.95	41.98
3F573	BML-1000	1000	47.99	41.59	38.00
3F481	LMI-200	200	49.71	43.08	39.35
3F574	LMI-400	400	49.71	43.08	39.35
3F575	LMI-500	500	49.71	43.08	39.35
3F576	LMI-800	800	49.71	43.08	39.35
3F577	LMI-1000	1000	49.71	43.08	39.35
3F581	LMI-5000	5000	49.71	43.08	39.35
3F484	HML-200	200	61.59	53.38	48.76
3F583	HML-300	300	61.59	53.38	48.76
2F809	LML-2500	2500	49.71	43.08	39.35
2F810	LML-3000	3000	49.71	43.08	39.35
3F590	LML-4000	4000	49.71	43.08	39.35

BPM, HPM, LPM MINIFILTERS

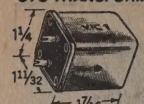
Same characteristics as larger units above, with slightly lower attenuation and operating levels. MIL-F-18327C. Input and output 10,000 ohms. BPM is band pass type; LPM, low pass; HPM, high pass. Size: 1x1x1⅜" except BPM, ¾x¾x1⅛".

5F1338	BPM-800	800	42.00	36.40	33.25
3F037	BPM-1000	1000	42.00	36.40	33.25
5F1343	BPM-8000	8000	42.00	36.40	33.25
5F1341	HPM-500	500	44.09	38.21	34.91
5F1342	HPM-4000	4000	44.09	38.21	34.91
5F1339	LPM-1000	1000	44.09	38.21	34.91
5F1340	LPM-5000	5000	44.09	38.21	34.91

Inductors

TRW
UTC TRANSFORMERS

VARIABLE INDUCTORS



For use in tuned audio circuits. Adjustment of set screw on side of case gives inductance change of +85% to −45% of mean value, with 600° rotation. Die-cast case, 1 11/32x1¼x1 7/16". 5½ oz.

Stock No.	Type No.	Maximum DC mA	Ind., Hys	1-4	5-9	10-24
4F526	VIC-2	60	.013	10.91	9.45	8.64
4F527	VIC-4	40	.034	10.91	9.45	8.64
3F406	VIC-7	25	.13	10.91	9.45	8.64
3F405	VIC-6	30	.084	10.91	9.45	8.64
3F408	VIC-9	18	.34	11.34	9.83	8.97
3F411	VIC-12	10	1.3	11.75	10.19	9.31
4F519	VIC-13	8	2.2	11.75	10.19	9.31
4F518	VIC-14	7	3.4	11.75	10.19	9.31
4F520	VIC-16	5	8.5	12.18	10.55	9.64
4F521	VIC-18	3.5	21	12.59	10.91	9.96
3F418	VIC-19	3	33	12.59	10.91	9.96

MINIDUCTORS (MIL-T-27C-TF5RX)

ML

MH, MM, MS, MW

MO

Hi Q in ultracompact form. Grade 5, hermetically sealed to MIL-T-27C. Temp. stability from ±1% to ±3%, −55° to +105°C. **MH:** Epoxy molded toroidal with max. Q at 100 kHz; 7/16" dia. x ¼". **MM:** Same as MH but max. Q at 30 kHz. **ML:** Hipermalloy cased, with maximum Q at 800 Hz or 1.5 kHz; 7/16x3 11/64x9/16". **MO:** Epoxy molded, laminated; max. Q at 600 or 1500 Hz; ¾x1 1/16x1 3/16". **MS:** Ultraminiature toroidal, max. Q at 20 kHz; .35" dia. x .23". **MW:** Toroidal, max. Q at 10 kHz; 23/32" dia. x 13/32".

Stock No.	Type No.	Inductance @ 0 mA	Max. DC mA	1-4	5-9	10-24
3F029	MH-1	0.6 MHy	90	11.75	10.19	9.31
3F039	MH-3	2.5 MHy	44	12.59	10.91	9.96
3F147	MH-4	6 MHy	28	12.59	10.91	9.96
3F148	MH-5	10 MHy	22	13.00	11.26	10.30
4F529	MH-6	15 MHy	18	13.00	11.26	10.31
3F312	MH-8	40 MHy	11	13.46	11.65	10.65
2F800	ML-0	0.15 Hy	12	12.59	10.91	9.96
3F183	ML-1	0.25 Hy	9	12.59	10.91	9.96
4F530	ML-2	0.4 Hy	7	12.59	10.91	9.96
4F531	ML-3	0.7 Hy	5	12.59	10.91	9.96
3F186	ML-4	1.4 Hy	3	12.59	10.91	9.96
3F187	ML-5	2.5 Hy	1	12.59	10.91	9.96
3F188	ML-6	4.0 Hy	0.7	12.59	10.91	9.96
3F189	ML-7	6.0 Hy	0.6	12.59	10.91	9.96
3F194	ML-8	10 Hy	0.5	12.59	10.91	9.96
4F532	ML-9	25 Hy	0.3	13.00	11.26	10.30
3F196	ML-10	60 Hy	0.2	14.72	12.75	11.65
3F197	MM-1	3 MHy	50	10.91	9.45	8.64
3F198	MM-2	5 MHy	40	10.91	9.45	8.64
4F536	MM-8	120 MHy	8	12.59	10.91	9.96
4F537	MO-.5	0.5 Hy	23	15.90	13.78	12.59
2F684	MO-2	2 Hy	8	16.48	14.28	13.04
2F682	MO-5	5 Hy	5	16.48	14.28	13.04
4F540	MO-20	20 Hy	2.7	16.48	14.28	13.04
2F688	MO-50	50 Hy	1.4	17.17	14.88	13.59
2F689	MO-100	100 Hy	1.1	18.25	15.82	14.44
4F541	MS-1	1 MHy	60	15.39	13.34	12.19
4F543	MS-5	5 MHy	28	15.75	13.64	12.47
4F544	MS-10	10 MHy	20	15.99	13.86	12.65
4F546	MS-50	50 MHy	9	17.19	14.90	13.61
4F547	MS-100	100 MHy	6	18.01	15.61	14.26
2F802	MW-.05	.05 Hy	25	10.52	9.12	8.33
2F803	MW-.10	.10 Hy	18	10.91	9.45	8.64
2F804	MW-.25	.25 Hy	11	10.91	9.45	8.64
2F690	MW-.5	.5 Hy	8	11.87	10.29	9.40
4F548	MW-2	2 Hy	4	16.18	14.02	12.81
4F549	MW-3	3 Hy	3.5	18.54	16.06	14.67
4F552	MW-5	5 Hy	3	22.66	19.64	17.94

HVC HERMETIC VARIDUCTORS

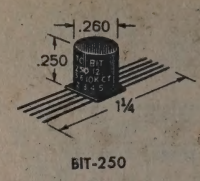
Variable inductors with higher "Q" and wider inductance ranges . . . plus hermetic sealing to MIL-T27B specs. Screw adjustment on top permits inductance changes from −70% to +200% of mean value. DC current shown is maxiumm recommended. All 1⅛x25/32"x 1 9/32". Weight, 2 ounces.

Stock No.	Type No.	Min. Hys.	Mean Hys.	Max. Hys.	DC Ma	1-4	5-9	10-24
3F534	HVC-1	.002	.006	.02	100			
3F535	HVC-2	.005	.015	.05	60			
3F536	HVC-3	.011	.040	.11	40	13.87	12.01	10.98
3F537	HVC-4	.03	.1	.3	30			
3F538	HVC-5	.07	.25	.7	20			
3F539	HVC-6	.2	.6	2	15			
3F540	HVC-7	.5	1.5	5	10			
3F541	HVC-8	1.1	4.0	11	7	14.72	12.75	11.65
3F542	HVC-9	3.0	10	30	5			
3F543	HVC-10	7.0	25	70	3.5	15.13	13.11	11.98
3F545	HVC-12	50	150	500	1.5	18.05	15.63	14.29

MINIATURE INDUCTORS

I-DI-T

I-DO-T



BIT-250

Plastic case; temperature to 85°C. 50 WVDC. Size: **I-DI-T** 25/64" dia. x 1 1/32", tinned insul. copper leads; **I-DI-T500,** .390" dia. x .406", gold plated Dumet leads; **I-DO-T,** 25/64" dia. x ½", tinned insul. copper leads. *Series. †Parallel. Test cond. 5V, 1KHz.

I-DI-T AND I-DO-T INDUCTORS

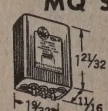
Stock No	Type No.	Inductance, Hys, Min.	At DC mA	1-4	5-9	10-24
4F498	I-DI-T308	2.5/0.9	2/4	4.95	4.29	3.91
4F499	I-DI-T326	4.5/1.2	2/4	4.86	4.21	3.85
4F516	I-DI-T327	0.9/0.5	2/6	4.48	3.88	3.55
4F517	I-DI-T328	0.1/0.08	4/10	4.48	3.88	3.55
4F484	I-DI-T504	0.1*/0.025†	4*/8†	5.88	5.10	4.66
4F485	I-DI-T508	0.9*/0.2†	2*/4†	6.07	5.26	4.80
4F486	I-DI-T512	2.5*/6†	2*/4†	6.07	5.26	4.80
4F487	I-DI-T516	4.5*/1.1†	2*/4†	6.45	5.58	5.10
4F488	I-DO-T150	0.075*/0.018†	10*/20†	5.14	4.45	4.07
4F489	I-DO-T128	0.3	4	4.48	3.88	3.55
4F490	I-DO-T127	1.25	2	4.48	3.88	3.55
4F491	I-DO-T108	3.5	2	4.48	3.88	3.55
4F492	I-DO-T126	6.0	2	4.86	4.21	3.85
4F493	I-DO-T149	20.0*/5.0†	1*/2†	5.88	5.10	4.66

BIT-250 INDUCTORS

Compatible with flat pack. MIL type TF5RX20ZZ. Ribbon style Kovar leads. Size, .27" x .27" x .27".

4F494	BIT-250-03	8.6*/2.4†	0	12.31	10.68	9.74
4F495	BIT-250-05	5.5/1.5	0/2	11.02	9.55	8.73
4F496	BIT-250-06	0.80/0.25	1/6	11.02	9.55	8.73
4F497	BIT-250-09	0.60*/0.15†	0	12.31	10.68	9.74

MQ SERIES HIGH Q TOROID INDUCTORS



Ideal for audio, carrier and supersonic fields. Laboratory adjusted to 1% tolerance. Inductance is virtually independent of frequency, temperature and vibration. Low hum pickup. Shielded case, hermetically sealed to meet MIL-T-27C.

Stock No.	Type	Hy	Ma.	Size	Oz.	1-4	5-9	10-24
3F504	MQA-8	.2	50	1 9/32x1 1/16x1 21/32"	4	15.82	13.71	12.53
3F505	MQA-10	.5	30	1 9/32x1 1/16x1 21/32"	4	16.72	14.49	13.23
3F506	MQA-11	.7	25	1 9/32x1 1/16x1 21/32"	4	17.19	14.90	13.61
3F507	MQA-12	1	20	1 9/32x1 1/16x1 21/32"	4	17.60	15.26	13.93
3F514	MQB-5	.5	60	2 5/16x1 3/16x2 13/16"	14	29.80	25.82	23.59
3F515	MQB-6	1	40	2 5/16x1 3/16x2 13/16"	14	30.00	26.00	23.75

TYPE LS HYBRID AND REPEAT COILS

High efficiency, low waveform distortion. Electrostatic shielding. 3⅛x2 5/8x3¼".

Stock No.	Type No.	Primary Impedance	Secondary Impedance	1-4	5-9	10-24
2F831	LS-68	600/150 split	2 split 600/150	46.85	40.61	37.10
3F549	LS-140	600/600 split	500/600 split	47.73	41.37	37.79
3F290	LS-141	3 sets of Bal. Wdgs. 500/600 CT		45.11	39.10	35.72

TVC HERMETIC VARIDUCTORS

Identical to HVC units at left but provide taps at 30% and 50% of total turns. Manufactured and guaranteed to MIL-T-27C by full environment testing. Ideal for oscillator circuits, impedance matching, and phase inversion where high Q and adjustable inductance are required. 1⅛x25/32x1 9/32". 2 oz.

Stock No.	Type No.	Min. Hys.	Mean Hys.	Max. Hys.	DC mA	1-4	5-9	10-24
3F163	TVC-1	.002	.006	.02	100	17.86	15.48	14.13
2F843	TVC-2	.005	.015	.05	60	17.86	15.48	14.13
2F844	TVC-3	.011	.040	.11	40	17.86	15.48	14.13
3F166	TVC-4	.03	.1	.3	30	17.86	15.48	14.13
3F167	TVC-5	.07	.25	.7	20	17.86	15.48	14.13
3F168	TVC-6	.2	.6	2	15	17.86	15.48	14.13
3F169	TVC-7	.5	1.5	5	10	17.66	15.48	14.13
2F845	TVC-8	1.1	4	11	7	17.66	15.48	14.13
2F846	TVC-9	3	10	30	5	17.66	15.48	14.13

14

Triad Transformers

1" mtg. ctrs., 1-$^{3}/_{32}$x$^{5}/_{8}$x$^{3}/_{4}$" D.

MINIATURE AUDIO—"TRIJETS"

Stock No.	Type	Application	Pri. Imp.	Sec. Imp.	Resp.	1-9	10-24	25-49	50-99	100-249	250-Up
5F1362	T-1X	Line to Grid	600/250/50	50,000	60-15,000	5.87	5.28	4.75	4.42	4.15	3.94
3F917	T-31X	Line to line	600/250/50	600/250/50	50-15,000	4.73	4.26	3.83	3.56	3.35	3.18
5F1365	T-34X	Line to line	500 CT	500/CT/125	50-20,000	3.43	3.09	2.78	2.59	2.43	2.31
5F1366	T-35X	Line to trans	600 CT	20000CT/500	50-20,000	4.27	3.84	3.46	3.22	3.03	2.88

TYPE SP "RED SPEC" TRANSISTOR TRANSFORMERS

Type SP. Nickel-alloy leads spaced on standard $^{1}/_{10}$" grid centers to fit PC boards. Base: .310x.410". Lead length, $^{3}/_{4}$". Meet MIL-T-27B specs. (*) output isolation trans. Wt., 1 oz.

INPUT Response: +2db, 230 Hz-15k Hz @25 mw., 100 Hz-50 k Hz @ 1 mw.

Stock No.	Type	MIL-T-27B Designation	Pri. Imp.	Sec. Imp.	Pwr. M.W.	1-9	10-24	25-49	50-99	100-249	250-Up
5F1367	SP-4	TF5SX16ZZ	200KCT	1,000CT	10	11.33	10.19	9.17	8.53	8.02	7.62
3F012	SP-5	TF5SX16ZZ	50KCT	1,000CT	25	10.75	9.68	8.71	8.10	7.61	7.23
3F017	SP-20	TF5SX13ZZ	10,000CT	1,200CT	50	9.42	8.48	7.63	7.09	6.66	6.33
3F018	SP-21	TF5SX13ZZ	10,000CT	2,000CT	50	9.47	8.52	7.67	7.13	6.70	6.37
2F450	SP-29	TF5SX13ZZ	10,000CT	500CT	50	9.17	8.25	7.43	6.91	6.49	6.17

OUTPUT Response: ±2 db. 250 Hz-50 k Hz @ 50 mw. 150 Hz-50 Hz @ 1 mw

5F1369	SP-42	TF5SX17ZZ	150 CT	12	50	7.87	7.08	6.37	5.92	5.56	5.28
5F1370	SP-50	TF5SX17ZZ	500 CT	600	50	8.23	7.41	6.67	6.20	5.83	5.54
2F451	SP-51	TF5SX17ZZ	900 CT	600	50	8.28	7.45	6.71	6.24	5.87	5.58
3F283	SP-52	TF5SX13ZZ	1.5 CT	600	50	8.62	7.76	6.98	6.49	6.10	5.79
3F292	SP-66	TF5SX13ZZ	10 KCT*	10KCT	50	9.17	8.25	7.43	6.91	6.49	6.17
2F452	SP-67	TF5SX17ZZ	600 CT*	600CT	50	8.15	7.34	6.61	6.15	5.78	5.49
2F453	SP-69	TF5SX17ZZ	600 *	600CT†	50	9.18	8.26	7.43	6.91	6.49	6.17
2F454	SP-70	TF5SX17ZZ	600 *	600	50	7.50	6.75	6.08	5.65	5.31	5.04

TYPE TY EPOXY MOLDED TOROIDAL TYPES

Type TY. Hermetically sealed. Single-hole mounting and peripheral terminals permit ready stacking. Meet MIL-T-27B, Grade 5, Class R specs. DC Source Volts: *12.6, #28. Av. Shpg wt., 1¼ lb.

Stock No.	Type	DCV from Rectifier	Max. DC Ma.	D.xH. (in.)	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
4F438	†TY-68S	250/125	65	1 $^{11}/_{32}$x1¾	.2	7.13	6.42	5.78	5.38	5.06	4.81
5F1371	†TY-74S	600/300	200	2x4⅛x3	1.07	13.97	12.57	11.31	10.52	9.89	9.39
3F633	*TY-78	250/125	100	1¾x1 $^{11}/_{16}$	.35	15.77	14.19	12.77	11.88	11.17	10.61
3F634	*TY-79	300/150	200	1¾x1	.35	16.73	15.06	13.55	12.60	11.84	11.25
3F636	*TY-81	375/187.5	200	2x1	.50	16.17	14.55	13.09	12.17	11.44	10.87
3F637	*TY-82	450/225	150	2x1	.50	16.48	14.83	13.35	12.42	11.67	11.09
3F638	*TY-83	500/250	250	2¾x1⅜	.85	23.88	21.49	19.34	17.99	16.91	16.06
3F639	*TY-84	600/300	200	2¾x1⅜	1.00	25.13	22.62	20.36	18.93	17.79	16.90
3F640	#TY-88	250/125	80	1 $^{5}/_{16}$x$^{9}/_{16}$	.25	14.98	13.48	12.13	11.28	10.60	10.07
2F455	#TY-89	300/150	100	1¾x1 $^{11}/_{16}$	.35	14.98	13.48	12.13	11.28	10.60	10.07

(†) Open type.

EC SERIES TOROIDS

EC SERIES. 2% inductance tolerance. Supplied in molded epoxy to meet MIL-T-27B. Size: 1 $^{5}/_{16}$ dia. x $^{23}/_{32}$" ht. *Open type; Size 1 $^{7}/_{16}$d x ¾" Shp. Wt. 2 oz.

Stk. No.	Type No.	Ind.	Approx. Ohms	DC-ma for 5% ind. drop	1-9	10-24	25-49	50-99	100-249	250-Up
4F015	EC-001A	1 mh	.40	520	6.17	5.55	4.99	4.64	4.36	4.14
4F036	EC-010A	10 mh	1.30	165	6.70	6.03	5.43	5.05	4.75	4.51
4F038	EC-020A	20 mh	1.85	116	6.77	6.09	5.48	5.09	4.78	4.54
4F039	EC-030A	30 mh	2.85	95	6.38	5.74	5.17	4.81	4.52	4.29
4F053	EC-100A	100 mh	13.00	52	7.47	6.72	6.05	5.63	5.29	5.03
4F054	EC-200A	200 mh	23.00	37	7.25	6.53	5.88	5.47	5.14	4.88
4F055	EC-250A	250 mh	33.00	33	7.35	6.62	5.96	5.54	5.21	4.95
5F1375	*EC-1000	1000 mh	134.00	16.5	5.23	4.71	4.24	3.94	3.70	3.52

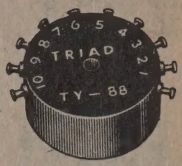
TYPE F FILAMENT TRANSFORMERS, SINGLE SECONDARY—Primary 115 volts, 60 Hertz

Stk. No.	Type	Secondary Volts	Secondary Amperes	Test Volts	Mtg. MW	Dim., In. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
3F720	F-1X	2.5CT	3	1500	2⅜	.....	.68	3.73	3.36	3.02	2.81	2.64	2.51
3F722	F-3X	2.5CT	10	3000	3⅛	.....	1.75	6.12	5.51	4.96	4.61	4.33	4.11
3F724	F-7X	5 CT	3	1500	2 $^{13}/_{16}$	2 $^{13}/_{16}$	1.25	4.42	3.98	3.58	3.33	3.13	2.97
3F958	F-13X	6.3	.6	1500	2	.....	.37	3.33	2.99	2.69	2.50	2.35	2.23
3F959	F-14X	6.3CT	1.2	2500	2⅜	.....	.75	3.63	3.27	2.94	2.73	2.57	2.44
5F1376	F-43X	6.3	4	1500	2 $^{13}/_{16}$	.....	1.25	4.97	4.47	4.02	3.74	3.52	3.34
3F960	F-16X	6.3CT	3	2500	2 $^{13}/_{16}$	.....	1.25	4.78	4.30	3.87	3.59	3.37	3.20
3F961	F-18X	6.3CT	6	1500	3 $^{9}/_{16}$	.....	2.25	7.13	6.42	5.78	5.38	5.06	4.81
3F775	F-18A	6.3CT	6	1500	2	1 $^{11}/_{16}$	2.50	8.40	7.56	6.80	6.32	5.94	5.64
2F456	F-55X	26.8CT	1.7	1500	3 $^{9}/_{16}$	.....	2.3	5.67	5.10	4.59	4.27	4.01	3.81
2F457	F-23U	10 CT	7	1500	2 $^{1}/_{4}$	2 $^{7}/_{16}$	3.9	10.33	9.29	8.36	7.77	7.30	6.94
2F532	F-45X	24 CT	1	1500	2 $^{13}/_{16}$	.....	1.3	4.50	4.05	3.65	3.39	3.19	3.03
5F1378	F-54X	35 CT	1.5	1500	3 $^{9}/_{16}$	.....	2.2	6.12	5.51	4.96	4.61	4.33	4.11
3F777	F-22A	6.3CT	20	2000	2½	3	7	15.83	14.25	12.83	11.93	11.21	10.65
3F778	F-25X	12.6CT	1.5	1500	2 $^{13}/_{16}$	.....	1.25	4.47	4.02	3.62	3.37	3.54	3.01
5F1379	F-44X	12.6CT	2	1500	2 $^{13}/_{16}$	.....	1.25	4.35	3.92	3.53	3.28	3.08	2.93
3F996	F-26X	12.6CT	2.5	1500	3⅛	.....	1.55	5.00	4.50	4.05	3.77	3.54	3.36
3F779	F-40X	26.8CT	1	1500	2 $^{13}/_{16}$	.....	1.25	4.47	4.02	3.62	3.37	3.17	3.01
3F726	F-41X	25.2CT	2	1500	3 $^{9}/_{16}$	.....	2.25	6.00	5.40	4.86	4.52	4.25	4.04
3F631	F-28U	7.5/6.3CT	25	3000	3	3 $^{1}/_{16}$	7.50	23.95	21.56	19.40	18.04	16.96	16.11
3F632	F-29U	12/11/10CT	11	3000	2¾	2 $^{9}/_{16}$	6.5	16.35	14.72	13.25	12.32	11.58	11.00

TYPE F MULTIPLE SECONDARY

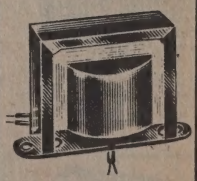
4F435	F-42A	12.6CT	2.5	1500	2¼	2	3.7	9.25	8.33	7.49	6.97	6.55	6.22
5F1380	F-32A	6.3CT	3	1500	2	2⅛	4	8.42	7.58	6.82	6.34	5.96	5.66
5F1381	F-34A	6.3CT	1.75	1500	2	1 $^{11}/_{16}$	2.5	10.15	9.14	8.23	7.65	7.19	6.83
5F1382	F-83A	12.6CT	5	1500	2½	2⅝	6	15.93	14.34	12.91	12.01	11.29	10.73

"Red Spec"



Epoxy Molded Toroidal

EC Series



Case X

Case U

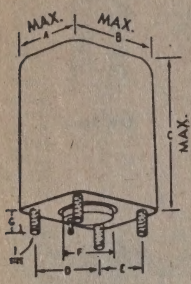
14

Triad Transformers

TYPE HS-HSM HERMETICALLY SEALED TRANSFORMERS

HS-HSM series transformers are designed to meet MIL-T-27B requirements. Equip. using these transformers need not be redesigned to submit for MIL. approval. These transformers are permanently marked with electrical and environmental data as specified in MIL-T-27B. All are "Climatite" treated. Avg. wt. 10 oz.

Size For HS & HSM								
Case	A	B	C	D	E	G	I	Wt. lbs.
AH	1 5/16	1 5/16	1 3/4	1 1/4		3/8	6-32	4 oz.
AJ	1 5/8	1 5/8	2 3/8	1 3/16	1 3/16	3/8	6-32	9 oz.
EA	1 13/16	1 15/16	2 3/4	1 3/8	1 1/4	3/8	6-32	1



TYPE HS TRANSFORMER 380/1500 HERTZ

Stk. No.	Type	MIL Type	Primary A.C. Volts	Fil. Volts	Fil. Amps	Case	1-9	10-24	25-49	50-99	100-249	250-Up
3F738	HS-436	TF4RX01AH	115	6.3CT	1	AH	12.68	11.41	10.27	9.55	8.98	8.53
3F741	HS-438	TF4RX01EA	105-115-125	24CT	1.5	EA	22.23	20.01	18.01	16.75	15.75	14.96
3F745	HS-443	TF4RX01YY	105-115-125	12.6CT,12.6	0.8	AJ-2	20.18	18.16	16.34	15.19	14.28	13.57
4F455	HS-444	TF4SX01FA	0-75.5-99.7-115-120	26CT	2	FA	33.82	30.44	27.39	25.47	23.94	22.74

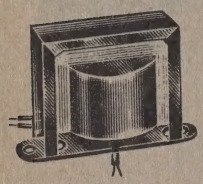
TYPE HS AND JAF AUDIO TRANSFORMERS

Stk. No.	Type	Mil. Type	Primary Imp.	Secondary Imp.	Freq. Resp.	1-9	10-24	25-49	50-99	100-249	250 Up
4F444	HS-52	TF1QX13YY	20K CT/5000	600/250/150-62.5	20-20,000	28.37	25.53	22.98	21.37	20.09	19.09
5F2170	HS-56V	TF1VX16YY	600K/250/150/62.5	600/250/150/62.5	10-30,000	32.60	29.34	26.41	24.56	23.09	21.94
5F2171	HS-66	TF1QX16YY	600K/250/150/62.5	600/250/150/62.5	10-30,000	27.75	24.98	22.48	20.91	19.66	18.68
4F446	JAF-33	TF1QX21YY	5000 CT	5000 CT.	60-15,000	17.80	16.02	14.42	13.41	12.61	11.98

TYPE R COMBINED PLATE AND FILAMENT TRANSFORMERS— Primary 115 Volts, 50-60 Hertz

All types are "Climatite" treated for protection against moisture and for elimination of lamination chatter. Hold temp. rise below 55°C. Only copper foil static shields, grounded to the case and core, are used. Leads are UL approved. All connection dated dates permanently marked on case.

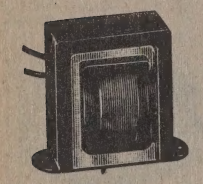
Stk. No.	Type No.	Plate Supply AC V	Plate Supply DC Ma	Rect. Fil. Volts	Rect. Fil. Amp	Other Fil. Volts	Other Fil. Amp.	Mtg. Dim.- MW	Mtg. Dim.- MD	1-9	10-24	25-49	50-99	100-249	250-Up
3F942	R-4A	500CT	40	.....	.....	6.3CT	2	1 3/4	1 7/8	8.28	7.45	6.71	6.24	5.87	5.58
3F943	R-5A	600CT	65	.....	.....	6.3CT	2.7	2	1 11/16	9.85	8.87	7.98	7.42	6.97	6.62
3F945	R-7A	600CT	50	5	2	6.3CT	2	2	1 11/16	9.85	8.87	7.98	7.42	6.97	6.62
3F949	R-11A	700CT	90	5	3	6.3CT	3.5	2 1/4	2 5/8	13.50	12.15	10.94	10.17	9.56	9.08
4F441	R-22A	320/380CT	70	.....	.....	6.3CT	.6	2	1 11/16	10.27	9.24	8.32	7.74	7.28	6.92



CASE X

TYPE TY OUTPUT AND DRIVER TRANSISTOR TRANSFORMERS—HIGH LEVEL

Stk. No.	Type No.	Pri. Match Imped	Pri Cur. MA.	Sec Match Imped.	Max. Level	Size	1-9	10-24	25-49	50-99	100-249	250-Up
2F949	TY-30X	100CT	100	8/4	2 W	1 3/16 x 2 1/16 x 1 1/4"	4.12	3.71	3.34	3.11	2.92	2.77
2F950	TY-31X	200CT	50	8/4	2 W	1 3/16 x 2 1/16 x 1 1/4"	3.57	3.21	2.89	2.69	2.53	2.40
5F2172	TY-45X	500CT	...	16/8/4	.2 W	1 3/16 x 1 5/8 x 1"	4.97	4.47	4.02	3.74	3.52	3.34
2F458	TY-48X	100CT	40	16/8/4	.5	1 3/16 x 1 5/8 x 1"	4.53	4.08	3.67	3.41	3.21	3.05
2F953	TY-61X	100	100	100CT	.5	1 5/8 x 2 13/16 x 1 1/2"	3.65	3.29	2.96	2.75	2.59	2.46
2F955	TY-64X	32CT	575	16/8/4	10 W	1 15/16 x 3 5/16 x 1 3/4"	5.75	5.18	4.66	4.33	4.07	3.87



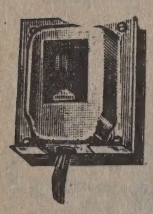
CASE Z

TYPE TY DC-TO-AC TRANSISTOR TRANSFORMERS

Stk. No.	Type	DCV Pri.	Secondary (115 VAC)	Dimensions (HWD, in.)	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
3F652	TY-75A	12	60cps 115W.	3 7/8 x 3 9/32 x 3 1/2	2 1/2"	2 3/8"	5	20.27	18.24	16.42	15.27	14.35	13.63
3F653	TY-76A	12	60cps 60W.	2 21/32 x 2 5/8	2"	1 11/16"	3	12.63	11.37	10.23	9.51	8.94	8.49

TYPE "C" SMOOTHING FILTER REACTORS

Stk. No.	Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-up
3F754	C-1X	15	20	1000	1000	1 3/4		.21	2.62	2.36	2.12	1.97	1.85	1.76
3F952	C-3X	10	50	500	1500	2 3/8	1 3/4	.75	3.08	2.77	2.49	2.32	2.18	2.07
4F430	C-4X	4	50	360	1500	2"	...	.35	2.63	2.37	2.13	1.98	1.86	1.77
5F2178	C-6X	5	65	330	1500	1 1/2	2 3/8	.6	2.97	2.67	2.40	2.23	2.09	1.99
3F757	C-7X	10	90	270	1000	2 13/16		1.3	4.07	3.66	3.29	3.06	2.88	2.74
4F432	C-27X	0.7	290	30	1500	2 3/8		.75	2.67	2.40	2.16	2.01	1.89	1.79
4F452	C-36X	.5	300	30	1500	2	....	.5	2.62	2.36	2.12	1.97	1.85	1.76
3F765	C-40X	.32	600	10	1500	2 13/16		1.3	3.65	3.29	2.96	2.75	2.59	2.46
3F734	C-47U	.3- 075	1A-2A	3-.75	1500	2 1/4	2 11/16	4.6	10.10	9.09	8.18	7.61	7.15	6.79
3F735	C-48U	.08-.02	2.5A-5A	.61-.155	1500	2 1/2	3 1/16	6.75	12.98	11.68	10.51	9.77	9.18	8.72
5F2176	C-58U	.01	8.0	.15	1500	3 1/8	2 1/2	5.5	11.97	10.77	9.69	9.01	8.47	8.05
5F2177	C-59U	.01	12.5	.10	1500	3 7/16	2 3/8	6.25	14.08	12.67	11.40	10.60	9.96	9.46



CASE A

PLUG-IN PC POWER TRANSFORMERS/115 V. 50-60 Hz. PRIMARY

Stk. No.	Type	Fig.	Out-Put	Series	Secondary Parallel	Secondary Dimensions	Wt. Oz.	1-9	10-24	25-49	50-99	100-249	250-Up
2F459	F-131P	B	1 1/2	8VCT@.188A	4V@.376A	1 1/8 x 1 25/64 x 1 5/32	3.5	4.57	4.11	3.69	3.43	3.22	3.06
2F460	F-132P	B	1 1/2w	15VCT@.100A	7.5V@.200A	1 1/8 x 1 25/64 x 1 5/32	3.5	4.75	4.28	3.85	3.58	3.37	3.20
2F461	F-133P	B	1 1/2W	30VCT@.050A	15V@.100A	1 1/8 x 1 25/64 x 1 5/32	3.5	4.90	4.41	3.97	3.69	3.47	3.29
2F462	F-134P	B	1 1/2W	54VCT@.028A	27V@.056A	1 1/8 x 1 25/64 x 1 5/32	3.5	5.18	4.66	4.19	3.89	3.66	3.48
2F463	F-135P	B	1 1/2W	76VCT@.020A	38V@.040A	1 1/8 x 1 25/64 x 1 5/32	3.5	5.50	4.95	4.46	4.15	3.90	3.71
2F464	F-136P	B	1 1/2W	116VCT@.013A	58V@.026A	1 1/2 x 1 25/64 x 1 5/32	3.5	6.03	5.43	4.89	4.55	4.28	4.07
2F465	F-142XP	A	4 1/2	15VCT@.300A	7.5V@.600A	1 25/64 x 2 3/8 x 1 1/4	7.5	4.47	4.02	3.62	3.37	3.17	3.01
2F466	F-143XP	A	4 1/2	30VCT@.150A	15V@.300A	1 25/64 x 2 3/8 x 1 1/4	7.5	4.63	4.17	3.75	3.49	3.28	3.12
2F467	F-144XP	A	4 1/2	54VCT@.084A	27V@.168A	1 25/64 x 2 3/8 x 1 1/4	7.5	4.73	4.26	3.83	3.56	3.35	3.18
2F468	F-146XP	A	4 1/2	116VCT@.033A	58V@.066A	1 25/64 x 2 3/8 x 1 1/4	7.5	5.20	4.68	4.21	3.92	3.68	3.49
2F469	F-147XP	A	4 1/2	40VCT@.112A	20V@.224A	1 25/64 x 2 3/8 x 1 1/4	7.5	4.95	4.46	4.01	3.73	3.51	3.33
2F470	F-151XP	A	7 1/2	8VCT@.940A	4.OV@1.880A	1 41/64 x 2 13/16 x 1 15/32	10.5	4.58	4.12	3.71	3.45	3.24	3.08
2F471	F-154XP	A	7 1/2	54VCT@.140A	27V@.280A	1 41/64 x 2 13/16 x 1 15/32	10.5	4.85	4.37	3.93	3.65	3.43	3.26
2F472	F-156XP	A	7 1/2	116VCT@.065A	58V@.130A	1 41/64 x 2 13/16 x 1 15/32	10.5	5.10	4.59	4.13	3.84	3.61	3.43

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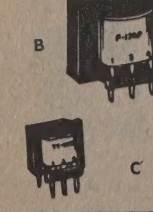

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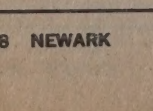


C

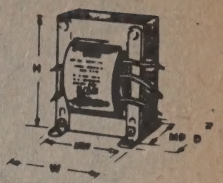
PLUG-IN PC AUDIO TRANSFORMERS+115V, 50-60Hz. PRIMARY

Stk. No.	Type	Fig.	Out put	Impedance Primary	Impedance Secondary	Pri. D. C. Unbalance	Dimensions	Wt. Oz.	1-9	10-24	25-49	50-99	100-249	250-Up
2F473	TY-141P	C	100mW	10,000CT	10,000CT	4 ma	5/8 x 1 3/16 x 1 9/32	1	5.08	4.57	4.11	3.82	3.59	3.41
2F474	TY-142P	C	100mW	10,000CT	2,000CT	4 ma	5/8 x 1 3/16 x 1 9/32	1	4.58	4.12	3.71	3.45	3.24	3.08
2F475	TY-143P	C	100mW	10,000CT	1,500CT	4 ma	5/8 x 1 3/16 x 1 9/32	1	4.47	4.02	3.62	3.37	3.17	3.01
2F476	TY-144P	C	100mW	15,000CT	15,000CT	4 ma	5/8 x 1 3/16 x 1 9/32	1	5.03	4.53	4.08	3.79	3.56	3.38
2F477	TY-145P	C	100mW	600CT	600CT	15 ma	5/8 x 1 3/16 x 1 9/32	1	3.80	3.42	3.08	2.86	2.69	2.56

Transformers

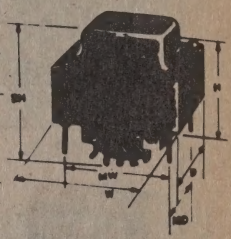
TYPE F UNIVERSAL RECTIFIER TRANSFORMERS—Primary 60 Hertz

Stk. No.	Type No.	Pri-Volts	Secondary AC Volts	Secondary Amps RMS	Rectifier Circuit HW Volts DC	Rectifier Circuit FWB Volts DC	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
3F984	F-47U	115	17-18	3	6-7	13-14	1⅝	2⅜	3.2	9.13	8.22	7.39	6.87	6.46	6.14
3F962	F-48U	115	17-18	6	6-7	13-14	2½	2 1/16	5.5	13.10	11.79	10.61	9.87	9.28	8.82
3F985	F-49U	115	36												
			36	3	13		3	3 1/16	9.75	21.73	19.56	17.60	16.37	15.39	14.62
3F963	F-60U	115	6.5-13-19.5-26	3	9	26 18	2¼	2 3/16	3.5	8.98	8.08	7.27	6.76	6.35	6.03
3F986	F-61U	115	24-27-30-33-36	3	13	26	2½	2 1/16	5.65	13.67	12.30	11.07	10.29	9.67	9.19
3F965	F-64U	115	7-8-9	7		5-6-7	2¼	2 3/16	3.5	10.28	9.25	8.33	7.75	7.29	6.93
3F990	F-65U	110-120	0-140												
3F987	F-67U	100-120	150-160 24-27-30	.75	60	115	2½	2 13/16	5.8	13.35	12.02	10.82	10.06	9.46	8.99
3F623	F-79U	115	33-36 24-26 28-30	8 15	13 11.4	26 22.8	3 3¼	3 1/16 4 1/16	10¾ 18½	27.15 39.33	24.44 35.39	21.99 31.85	20.45 29.62	19.22 27.84	18.26 26.45



TYPE F LOW VOLTAGE RECTIFIER TRANSFORMERS—50-60 Hertz

Stk. No.	Type	Pri-Volts	Secondary AC Voltage	Secondary AC Amps	Case Dim. H	W	D	Wt.	1-9	10-24	25-49	50-99	100-249	250-Up
3F620	F-90X	115 Tapped	10-20CT-40CT	.1	1⅝	2 13/16	1⅝	¾	4.42	3.98	3.58	3.33	3.13	2.97
3F621	F-91X	115 Tapped	10-20CT-40CT	.3	2 3/32	3 1/16	2	1½	5.45	4.91	4.42	4.11	3.86	3.67
3F622	F-92A	115 Tapped	10-20CT-40CT	.1	3 3/16	2 1/32	3	3¼	9.18	8.26	7.43	6.91	6.49	6.17
3F1350	F-93X	115 Tapped	10-20CT-40CT	.035	2 1/32	4	2¼	2.4	7.07	6.36	5.72	5.32	5.00	4.75
3F1351	F-94X	115 Tapped	10-20CT-40CT	.75	1⅜	2⅜	1⅜	.5	4.37	3.93	3.54	3.29	3.09	2.94



TYPE R TRANSFORMERS FOR PREAMPLIFIERS, VTVM, etc.—Primary 115 volts, 60 Hertz

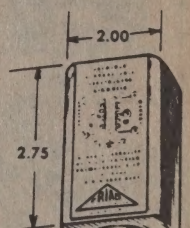
Stk. No.	Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Fil. Windings Volts-Amps.	Mtg. MW	Dim-in. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Over
2F534	R-2C	135	15	6.3V.-9A.		1¼	1	7.17	6.45	5.81	5.40	5.08	4.83
5F1352	R-23B	250 CT	22	6.3V. 12A.	1⅞	2⅜	2 3/16	8.30	7.47	6.72	6.25	5.88	5.59
3F932	R-3A	500 CT	20	6.3V. CT.2A.	1¾	1¾	1¾	8.30	7.47	6.72	6.25	5.88	5.59
3F933	R-29A	230 CT	40	6.3V. 1.5A	1¾	1⅝	1¾	7.30	6.57	5.91	5.49	5.16	4.90
3F934	R-30X	135	50	6.3V. 1.5A.	3⅛		1½	6.90	6.21	5.59	5.19	4.88	4.64
3F935	R-54X	115	15	6.3V. 6A.	2⅜		1	4.35	3.92	3.53	3.28	3.08	2.93

TRANSFORMERS FOR CATHODE RAY TUBES—Primary 115 Volts—50-60 Hertz

Stk. No.	Type	Plate Supply AC Volts	Plate Supply DC Ma	Filament Windings Volts and Amperes	HxWxD	1-9	10-24	25-49	50-99	100-249	250-Up
3F853	R-43C	1600	3	6.3/5/2.5V., 1A 6.3/5/2.5V., 3A	2⅜x3 1/16x2 1/16	15.60	14.04	12.64	11.76	11.05	10.49
4F264	R-41C	440-0-440-1250	125/5	6.3V.-6A, 2.5V-1.75A 2.5V-1.75A, 5.0V-3.0A	3¼ x4 3/16x3½	21.07	18.96	17.06	15.87	14.92	14.17

SOLID STATE RECTIFIER/PRI. 117 VAC., 50-60 Hz.—For Delco 50 & 100 W. Amps.

Stk. No.	Type	Sec. V.	Test V.	Mtg. MW	Dim. in. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
4F451	R-82B	70	1500	3¾	3	8¼	18.60	16.74	15.07	14.02	13.18	12.52
4F460	R-205A	60	1500	2¾	2 1/16	6.0	17.52	15.77	14.19	13.19	12.39	11.77



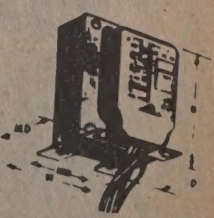
LOW VOLTAGE LOW CURRENT/primary 117 Volts, 50-60 Hz

Stock No.	Type	Secondary Volts	Secondary Amps	RMS Test Voltage	Dimensions H	W	D	Max. Unit Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
2F478	F112X	14 CT	0.25	1500	1⅜	2⅜	1⅜	.4	3.40	3.06	2.75	2.56	2.41	2.29
2F479	F113X	12	0.15	1500	1⅜	2⅜	1⅜	.4	3.23	2.91	2.62	2.44	2.29	2.18
2F480	F116X	24 CT	0.2	1500	1⅜	2⅜	1½	.45	4.43	3.99	3.59	3.34	3.14	2.98
2F481	F120X	26.8 CT	0.5	1500	1 15/16	3¼	2	1.3	4.13	3.72	3.35	3.12	2.93	2.78

TYPE "A" LOW-LEVEL OUTPUT TRANSFORMERS

Mtg. Centers: Type A-31X, 2"; Type A-51X, 1¾". Type A-53X, 2⅜".
Type A-12J and A-65J have split Secondary Winding.

Stock No.	Type No.	Application	Freq. Resp.	Pri. Imp.	Sec. Imp.	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
3F783	A-53X	Single or p.p. Plate to line	70-7,000	18000 CT	600/250/50	.6	4.68	4.21	3.79	3.52	3.31	3.14
F51354	A-11J	Line to Grid	30-15000	60,000	600/250/50	.35	12.17	10.95	9.86	9.17	8.62	8.19
5F1355	A-12J	Line to Grid	30-15000	60,000	600CT/150	.35	13.97	12.57	11.31	10.52	9.89	9.39
2F538	A-65J	Plate to line	30-15000	15,000	600CT/150	.35	12.53	11.28	10.15	9.44	8.87	8.43
5F1357	A-67J	Line to line	30-15000	600CT/150	600CT/150	.35	12.37	11.13	10.02	9.32	8.76	8.32



TYPE "N" ISOLATION TRANSFORMERS—50/60 HERTZ *Autoformer

Stock No.	Type No.	V. A. Output	Input Volts	Output Volts	Mtg. MW	Dim. MD	Wt. Lbs.	1-9	10-24	25-49	50-99	100-249	250-Up
4F433	N-5M*	250	230	115	2½	3	7.0	16.33	14.69	13.22	12.29	11.55	10.97
5F1358	N-1X	50	230	115	3⅛	.....	1.5	4.57	4.11	3.69	3.43	3.22	3.06
5F1360	N-9M	1250	230	115	3½	5⅛	24	66.22	59.59	53.63	49.88	46.89	44.55
3F750	N-51X	35	115	115	3⅛	.....	1.7	5.60	5.04	4.54	4.22	3.97	3.77
3F603	N-68X	50	230/115	115	3⅛	.....	1.7	6.15	5.54	4.99	4.64	4.36	4.14
3F751	N-53M	85	115	115	2¼	2⅝	4.7	13.65	12.29	11.06	10.29	9.67	9.19
3F604	N-54M	150	115	115	2½	3	7.0	16.63	14.97	13.47	12.53	11.78	11.19
2F541	N-55M	250	115	115	3	3⅞	11.0	29.63	26.31	23.68	22.02	20.69	19.66
2F542	N-57M	500	115	115	3½	5⅛	23.75	68.27	61.44	55.29	51.42	48.33	45.91
5F1361	N-66A	250	115-230	115	3	3⅝	11	19.25	17.33	15.59	14.49	13.62	12.94
3F605	N-67A	150	230/115	115	2½	3	7.0	14.43	12.99	11.69	10.87	10.22	9.71
3F786	N-74A	150	575/115	115	2½	3	7	14.35	12.92	11.63	10.82	10.17	9.66

SOLA ELECTRIC SB
DIVISION OF SOLA BASIC INDUSTRIES

Constant Voltage Transformers

CVS HARMONIC NEUTRALIZED TYPE TRANSFORMERS

- Use no filters
- No need for extra capacitors and noisy chokes
- Recommended for all AC applications where harmonics can affect operation
- Small and rugged

Contain less than 3% total rms harmonic content in the output. For all AC applications where harmonics can affect operation. Features built-in harmonic neutralizing circuits. No filters required. Regulation is ± 1% for an input range of 15% of nominal voltage. Input range: (*) 95-130/175-235/190-260. (**) 190-260/380-520. (‡) 95-130/190-260. (‡‡) 95-130.

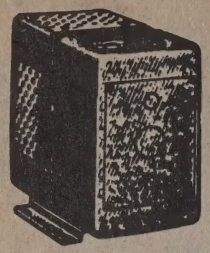


Fig. A.

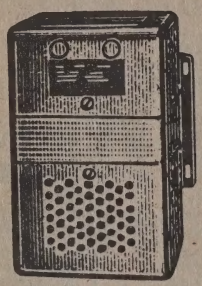


Fig. B.

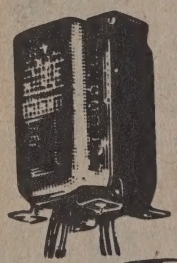


Fig. C

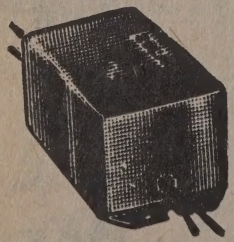
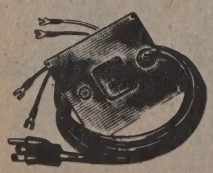


Fig. D.



Adapter Kits

60 HERTZ SINGLE PHASE

Stock No.	Type	V Out.	VA	Lbs.	Fig.	Adapt.	Size Inches	1-9	10-49	50-99
5F1108	23-13-030-2††		30	8	A	d	6 1/8 x 5 3/16 x 4	35.35	31.10	27.55
5F987	23-13-060-2††		60	10	A	d	6 15/16 x 5 3/16 x 4	42.00	36.95	32.75
5F1102	23-23-060-2**		60	10	A	d	6 15/16 x 5 3/16 x 4	45.90	40.40	35.80
5F988	23-22-112-2†	118	120	14	A	d	8 1/8 x 5 3/16 x 4	53.80	47.35	41.95
5F1103	23-22-112-2‡		120	14	A	d	8 1/8 x 5 3/16 x 4	57.20	50.35	44.60
5F943	23-22-125‡		250	28	A	b	9 5/8 x 7 7/16 x 5 3/8	73.30	64.50	57.20
5F1104	23-23-125**		250	29	A	b	9 5/8 x 7 7/16 x 5 3/8	77.80	68.45	60.70
5F944	23-22-150‡		500	45	A	c	12 7/16 x 6 7/16 x 9 1/16	112.85	99.30	88.60
5F1105	23-26-150**		500	46	A	c	12 7/16 x 6 7/16 x 9 1/16	120.60	106.15	94.10
5F467	23-25-175*		750	54	A	c	16 13/16 x 6 7/16 x 9	155.65	132.10	121.40
80W014	23-25-210*		1000	72	A	....	17 7/8 x 6 7/16 x 9	189.55	166.80	147.85
5F1106	23-26-210**		1000	72	A	....	17 7/8 x 6 7/16 x 9	189.50	166.75	147.80
80W005	23-25-215*		1500	128	B	....	9 5/16 x 9 1/32 x 10 11/16	255.45	224.80	199.25
80W009	23-25-220*	118/236	2000	140	B	....	19 7/8 x 9 1/32 x 10 11/16	329.00	289.55	256.65
80W011	23-26-220**		2000	148	B	....	19 7/8 x 9 1/32 x 10 11/16	330.00	291.00	257.00
80W010	23-25-230-3*		3000	194	B	....	21 7/8 x 9 1/32 x 10 11/16	457.40	402.50	356.80
80W012	23-26-230**		3000	196	B	....	21 7/8 x 9 1/32 x 10 11/16	457.40	402.50	356.80
80W013	23-25-250*		5000	335	B	....	20 13/16 x 9 1/32 x 10 11/16	714.50	628.75	557.30
80W022	23-26-250**		5000	342	B	....	20 13/16 x 9 1/32 x 10 11/16	714.50	628.75	557.30

50 HERTZ SINGLE PHASE

Stock No.	Type	V Out	VA	Lbs.	Fig.	Adapt	Size Inches	1-9	10-49	50-99
5F414	23-13-560-2††		60	11	A	d	7 1/4 x 5 13/16 x 4	48.00	42.25	37.45
5F415	23-23-560-2**		60	11	A	d	7 1/4 x 5 13/16 x 4	51.90	45.65	40.50
5F416	23-22-612‡	118	120	21	A	b	8 3/4 x 7 7/16 x 5 3/8	62.25	54.80	48.55
5F417	23-22-625‡		250	35	A	c	11 5/16 x 6 7/16 x 9	83.85	73.80	65.40
5F418	23-22-650‡		500	53	A	c	13 x 6 7/16 x 9	128.50	113.10	100.25
80W003	23-25-720*	118/236	2000	170	B	....	20 5/8 x 9 1/32 x 10 11/16	361.00	318.00	282.00

TYPE CVN NORMAL HARMONIC TYPE TRANSFORMERS

- Provide ½% regulation
- Recommended for electrical loads not affected by harmonics
- Contain an averate of 20% rms harmonic content
- Recommended where rectification is required

CVN type transformers provide the same ± 1% regulation as the sinusoidal series. Contain an average of 20% rms harmonic content and are especially recommended for electrical loads not affected by harmonics, such as solenoids, relays, filaments, and where rectification is required. (†) indicates 95-130. (*) indicates 95-130/175-235/190-260. (**) indicates an input voltage of 190-260/380-520. (***) indicates 95-130/190-260. (††) indicates 190-260.

60 HERTZ

Stock No.	Type	Output Volts	Cap VA	Dimensions Inches	Adapter Kit Code	Fig.	lbs.	1-9	10-49	50-99
5F989	20-10-015†	118	15	4 5/8 x 3 1/2 x 2 5/8	....	D	4	24.60	21.70	19.20
5F719	20-14-015†	118	15	2 11/32 x 4 5/16	....	C	3	22.20	19.50	17.30
5F953	20-14-030†	118	30	2 11/32 x 4 5/16	....	C	5	26.00	22.90	20.30
5F981	20-13-030-2†	118	30	5 7/8 x 5 3/16 x 4	d	A	7	30.30	26.60	23.60
5F982	20-13-060-2†	118	60	6 11/32 x 5 3/16 x 4	d	A	10	35.80	31.50	27.90
5F954	20-14-060†	118	60	3 1/8 x 4 13/16	....	C	8	30.00	26.40	23.40
5F955	20-14-112†	118	120	3 1/8 x 4 13/16	....	C	11	47.00	41.40	36.70
5F983	20-13-112-2†	118	120	7 3/8 x 5 3/16 x 4	d	A	12	47.00	41.50	36.70
5F471	20-21-112-2††	236	120	7 3/8 x 5 3/16 x 4	d	A	13	47.00	41.40	36.70
5F984	20-13-115†	118	150	8 3/4 x 7 7/16 x 5 3/8	b	A	22	57.00	50.00	44.50
5F472	20-22-125***	118	250	11 1/16 x 6 7/16 x 6 15/16	c	A	25	69.50	61.20	54.20
5F473	20-23-125**	118	250	11 1/8 x 6 7/16 x 6 15/16	c	A	25	70.30	61.80	54.80
5F474	20-22-150***	118	500	12 5/16 x 6 7/16 x 6 15/16	c	A	36	108.00	95.00	84.25
5F477	20-26-150**	118x 236	500	12 5/16 x 6 7/16 x 6 15/16	c	A	37	116.00	102.00	90.50
5F479	20-22-210***	118	1000	15 1/8 x 6 7/16 x 6 13/16	....	A	48	179.00	157.50	140.00
80W006	20-25-220	118	2000	20 x 9 1/32 x 10 11/16	....	B	128	295.00	260.00	230.00

50 HERTZ

Stock No.	Type	Output Volts	Cap VA	Dimensions Inches	Adapter Kit Code	Fig.	lbs.	1-9	10-49	50-99
5F266	20-10-515†	118	15	4 5/8 x 3 1/2 x 2 5/8	....	D	5	27.35	24.00	21.30
5F270	20-13-612†	118	120	8 3/4 x 7 7/16 x 5 3/8	b	A	22	59.90	52.60	46.62
5F271	20-13-615†	118	150	9 1/16 x 7 6/16 x 5 3/8	b	A	25	71.00	62.50	55.40

CORD/RECEPTACLE ADAPTER KITS

Used when input and output receptacle is preferred.

Stk. No.	Type	Circuit	Adapter Code	NET
5F997	999-019	3-wire	b	6.20
5F998	999-020	3-wire	c	6.20

Stk. No.	Type	Circuit	Adapter Code	NET
5F957	999-104	2-wire	d	6.20
5F958	999-105	3-wire	d	6.20

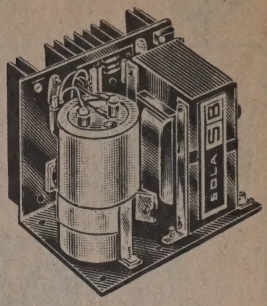
Power Supplies

SOLA ELECTRIC SB
DIVISION OF SOLA BASIC INDUSTRIES

•NEW OEM SERIES REGULATED DC POWER SUPPLIES

For computers, data-processing, process control, electronic measuring, telemetering and others. Designed for bench and rack use. Completely protected short circuit proof; automatic current limiting. Convection cooled. Complete serviceability. Remote sensing. Input range: 108-132 or 216-264 V, 50-400 Hz. Regulation: 0.05% line or load. Ripple RMS: 10 mv. Temp. Coefficient - 0.03% °C. Polarity - May be used positive or negative. Oper. temp: 0°C to +55°C. Storage temp: -20°C to +85°C. Recovery time less than 50 μsec, ½L to FL.

Stk. No.	Type	Output Volts	Output Amps	Height	Width	Depth	1-9	10-24	25-49
5F1129	83-05-260	4.8-5.5	6	4.94	4.94	6.00			
5F1130	83-12-250	11.5-12.5	5	4.94	4.94	6.00			
5F1131	83-15-240	14.5-15.5	4	4.94	4.94	6.00	69.50	66.00	62.50
5F1132	83-24-225	23-25	2.5	4.94	4.94	6.00			
5F1133	83-05-312	4.8-5.5	12	5.00	6.60	7.00			
5F1134	83-12-310	11.5-12.5	10	5.00	6.60	7.00			
5F1135	83-15-280	14.5-15.5	8	5.00	6.60	7.00	99.50	94.50	89.50
5F1136	83-24-260	23-25	6	5.00	6.60	7.00			
5F1137	83-48-230	46-50	3	5.00	6.60	7.00			

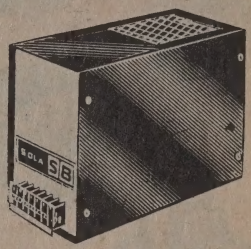


OEM SERIES

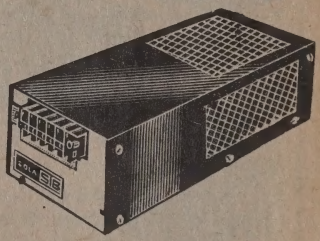
•NEW MODULAR DC POWER SUPPLIES

Will hold output voltage to ±1% or less for input variations as great as ±15% of the nominal input voltage. Rated input range is 100 to 130 volts, 60 Hz. The response time is 25 milliseconds. Actual variation is linear over a ±5% change in frequency from 60 cycles. Have long life. Highly reliable and efficient. Multiple operation to increase current and to increase voltage. Oper. temp.: 0°C to 50°C. The output voltage will change approx. 1% for every 40°C change in ambient temp. Isolation and short circuit protection. Polarity: May be used positive or negative.

Stk. No.	Type	DC Output Volts	DC Output Amps	Load Regulation Volts VA	½L-FL	¼L-FL	Height	Width	Depth	Wt.	1-4	5-9	10-24
5F1138	28-04-315	4	15	60	0.5	0.8	3.50	5.25	13.00	14			
5F1139	28-05-315	5.2	15	78	0.5	0.8	3.50	5.25	13.00	14			
5F1140	28-06-315	6.3	15	95	0.5	0.8	3.50	5.25	13.00	14			
5F1141	28-10-312	10	12	120	0.6	1.0	3.50	5.25	13.00	14			
5F1142	28-12-310	12	10	120	0.6	1.0	3.50	5.25	13.00	14	109.00	98.00	87.00
5F1143	28-15-280	15	8	120	0.8	1.3	3.50	5.25	13.00	14			
5F1144	28-18-267	18	6.7	120	0.8	1.3	3.50	5.25	13.00	14			
5F1145	28-24-250	24	5	120	1.0	1.7	3.50	5.25	13.00	14			
5F1146	28-28-243	28	4.3	120	1.2	2.0	3.50	5.25	13.00	14			
5F1147	28-48-225	48	2.5	120	2.0	3.4	3.50	5.25	13.00	14			
5F1148	28-04-325	4	25	100	0.5	0.8	6.90	4.94	9.75	19			
5F1149	28-05-325	5.2	25	130	0.5	0.8	6.90	4.94	9.75	19			
5F1150	28-06-325	6.3	25	155	0.5	0.8	6.90	4.94	9.75	19			
5F1151	28-10-318	10	18	180	0.6	1.0	6.90	4.94	9.75	19			
5F1152	28-12-315	12	15	180	0.6	1.0	6.90	4.94	9.75	19	129.00	116.00	103.00
5F1153	28-15-312	15	12	180	0.6	1.0	6.90	4.94	9.75	19			
5F1154	28-18-310	18	10	180	0.6	1.0	6.90	4.94	9.75	19			
5F1155	28-24-280	24	8	192	0.7	1.2	6.90	4.94	9.75	19			
5F1156	28-28-270	28	7	196	0.7	1.2	6.90	4.94	9.75	19			
5F1157	28-48-240	48	4.0	196	1.0	1.7	6.90	4.94	9.75	19			



MODULAR DC POWER SUPPLIES

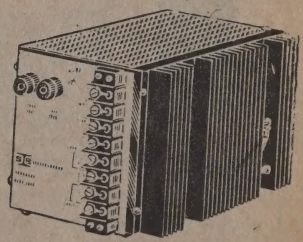


MODULAR DC POWER SUPPLIES

•NEW I-C REGULATED DC POWER SUPPLIES

For data-processing, process control, electronic measuring, and others. Completely protected short circuit proof; automatic current limiting. Convection cooled. Complete serviceability. Remote sensing. Regulation: 0.01% line or load. Ripple and noise: 0.01% Vrms. Input range: 120/240VAC ±10%, 47-420 Hz. Temp. coefficient: 0.01% °C. Polarity: May be used positive or negative. Oper. temp.: 0°C to +55°C. Automatic cutoff if heat sink temp. is exceeded. Storage temp.: -62° to +85°C. Recovery time less than 50 μsec ½L to FL.

Stk. No.	Type	Output Volts	Output Amps	Height	Width	Depth	1-9	10-24	25-49
5F1158	82-05-315	4.8-5.5	15	5.25	5.75	8.19			
5F1159	82-12-270	11.5-12.5	7	5.25	5.75	8.19			
5F1160	82-15-258	14.5-15.5	5.8	5.25	5.75	8.19	139.00	132.00	125.00
5F1161	82-24-240	23-25	4	5.25	5.75	8.19			
5F1162	82-05-325	4.8-5.5	25	6.12	6.50	11.00			
5F1163	82-12-312	11.5-12.5	12	6.12	6.50	11.00			
5F1164	82-15-296	14.5-15.5	9.6	6.12	6.50	11.00			
5F1165	82-24-260	23-25	6	6.12	6.50	11.00	189.00	179.50	170.00
5F1166	82-48-230	46-50	3	6.12	6.50	11.00			



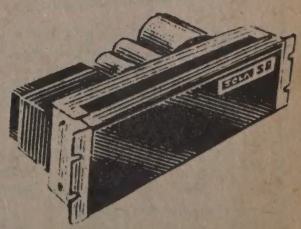
I-C REGULATED DC POWER SUPPLIES

14

FIXED CONSTANT VOLTAGE DC POWER SUPPLIES

Will withstand high transient overload without damage or output voltage drop. Output regulation ±1% or less over 100-130V input range. Total ripple content does not exceed one percent. Load regulation less than 4% from 20% to full load. Efficiency approx. 75%. Mounted on standard 19" rack panel. Input 100-130 60 hz. AC.

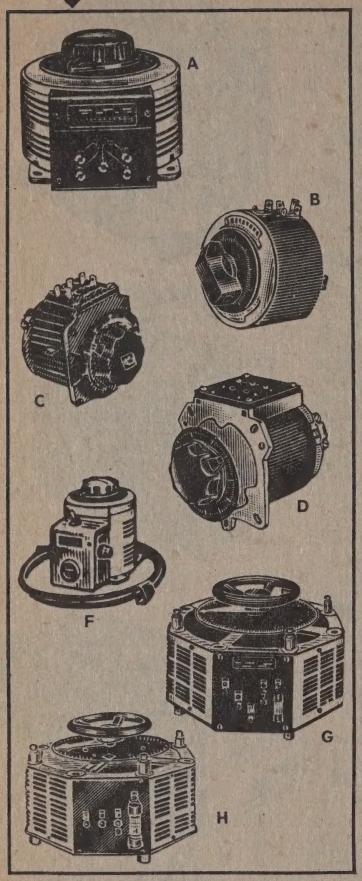
Stk. No.	Type	Volts	Amps	VA	LOAD REGULATION 20% FL	50% FL	PANEL HT.	Wt.	1-4	5-9	10-24
5F1114	281513-2	6	10	60	9	7	3½	27	132.50	119.25	106.00
5F1115	281514-2	12	5	60	7	5	3½	18	127.50	114.75	102.00
5F153	282124-1	12	10	120	9	5	5¼	31	133.00	119.75	106.50
5F924	281024-1	24	6	144	5	4	5¼	30	137.00	123.25	109.50
5F156	282126-1	24	10	240	6	4	5¼	48	149.00	134.00	119.25
80W001	282127-1	24	25	600	7	5	8¾	72	199.00	179.00	159.25
5F1118	28626-2	28	8	224	6	4	5¼	42	142.50	132.75	118.00
5F158	282128-1	28	15	420	7	5	7	55	165.00	148.50	132.00
5F925	281048	48	4	192	3.5	2.5	5¼	32	141.25	127.25	113.00
5F1119	281561-2	48	10	480	4	2	5¼	48	198.00	178.25	158.50
5F927	281150-1	150	2	300	2	1.5	5¼	48	144.50	130.00	115.00
5F929	281250	250	1	250	3	2	5¼	45	131.50	118.25	105.25



FIXED CONSTANT DC POWER SUPPLIES

Superior Variable Transformers

POWERSTAT VARIABLE TRANSFORMERS WITH POWERKOTE COILS



Continuously adjustable output voltage from AC line. Zero waveform distortion, good regulation, conservative ratings. All are for 50-60 Hz. (*60 Hz only.) Enclosed for plane-surface mtg. except 10B, 10B-40, 21, 22, and other types with suffix "U" are open types for panel mounting. Mfr's Types 21, 22, 126, 136B, 226, 236B, 1156D and 1256D are for both panel and surface mounting. Suffix "T" indicates terminals enclosed in metal box.

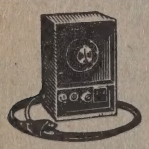
SINGLE-PHASE TYPES

Portable Types, 116B, 216B have 2-wire parallel blade input cord-plug sets and output receptacles. Type LW136B is a double-wound assembly with an isolated secondary winding. Type 22 incorporates a unique coil-winding technique designed to provide higher voltage ratings without increase in size or weight of transformer.

Stock No.	Type	Fig.	Input Volts	Volts	Output Amps	VA	Max. Size (DWH)	Wt. Lbs.	NET
5F800	10B	B	120	0-132	2.25	0.3	2 1/8 x 2 7/8 x 3 1/8"	2.4	13.40
5F754	10B-40	B	40	0-40	7.0	0.28	2 1/4 x 2 7/8 x 3 1/8"	3.3	16.50
5F1229	12	B	240	0-240	0.7	0.17	2 1/8 x 2 7/8 x 3 1/8"	2.5	20.50
5F809	21	C	120	0-140	4.5	0.63	3 3/8 x 3 3/4 x 4 1/2"	6	19.50
5F895	22	C	240	0-280	2.25	0.63	4 9/16 x 3 3/4 x 4 13/16"	6	29.00
5F801	116B	F	120	0-140	10.0	1.4	7 1/8 x 5 1/8 x 6 1/2"	12	35.00
5F857	3PN116B	F	120	0-140	10.0	1.4	7 1/8 x 5 1/8 x 6 1/2"	12	41.00
5F807	116BU	D	120	0-140	10.0	1.4	5 x 5 1/8 x 5 3/4"	11	26.00
5F743	*117BU	D	120	0-120	12.0	1.4	5 x 5 1/8 x 5 3/4"	11	28.00
5F766	126	A	120	0-140	15.0	2.1	6 3/4 x 6 1/4 x 5 3/8"	17	53.00
5F767	126U	C	120	0-140	15.0	2.1	4 1/4 x 6 x 6 3/4"	16	47.50
5F812	136B	A	120	0-140	22.0	3.1	8 7/8 x 7 3/4 x 6 1/8"	26	75.00
5F881	LW136B	A	120-240	0-30	25.0	0.75	9 x 7 3/4 x 6 5/8"	23	108.00
5F699	*3PN136B	F	120	0-140	22.0	3.1	10 1/4 x 7 3/4 x 6 1/8"	26 1/2	97.00
5F694	136BT	. . .	120	0-140	22.0	3.1	6 1/8 x 7 3/4 x 9 3/4"	26	82.00
6F158	136BU	C	120	0-140	22.0	3.1	4 5/16 x 7 3/4 x 8 11/16"	24	69.00
5F802	216B	F	240	0-280	3.5	0.98	7 1/8 x 5 1/8 x 6 1/2"	12	40.00
5F672	216BU	D	240	0-280	3.5	0.98	5 x 5 1/8 x 5 3/4"	11	31.00
6F159	*3PN217B	F	240	0-240	5.0	1.2	7 1/8 x 5 1/8 x 6 1/2"	12	48.50
5F856	*217BT	. . .	240	0-240	5.0	1.2	7 1/8 x 5 1/8 x 6 1/2"	12	41.00
5F685	*217BU	D	240	0-240	5.0	1.2	5 x 5 1/8 x 5 3/4"	11	33.00
5F768	226	A	240	0-280	7.5	2.1	6 3/4 x 6 1/4 x 5 3/8"	17	53.00
5F769	226U	C	240	0-280	7.5	2.1	4 1/4 x 6 x 6 3/4"	16	47.50
5F813	236B	A	120-240	0-280	10.0	2.8	8 7/8 x 7 3/4 x 6 1/8"	23 3/4	75.00
6F161	236BU	C	120-240	0-280	10.0	2.8	4 5/16 x 7 3/4 x 8 11/16"	23 1/4	69.00
5F1234	246	A	120-240	0-280	15.0	4.2	11 x 10 x 6 3/8"	38	120.00
5F808	1156D	H	120	0-140	50.0	7.0	15 5/8 x 13 7/8 x 9 3/8"	79	178.00
5F806	1256D	G	240	0-280	28.0	7.8	15 5/8 x 13 7/8 x 9 3/8"	79	178.00

TRANSFORMER REPLACEMENT BRUSHES

Stk. No.	Type	Series	NET	Stk. No.	Type	Series	NET
5F707	RB216B	216B	2.00	5F704	RB-21		2.00
5F711	RB-136	136	3.00	5F705	RB-116B	116B	2.00
5F712	RB-236	236	3.00	5F714	RB-1156B	1156D	4.50
5F703	RB-10B	10B	1.50	5F716	RB-1256B	1256D	4.50



ENCLOSED LABORATORY POWERSTAT VARIABLE TRANSFORMERS

Portable source of variable AC voltage up to 1.6 Kva capacity. Grounded NEMA cord-plug assembly, on-off switch, pilot light, and fuse. POWER-STAT variable transformer. Types N21, N116B, and N116BL feature POWERKOTE coils for greater overload resistance, higher current ratings. Resistant to fungus and other contaminating atmospheres.

Stock No.	Type	Input Volts	Input Hertz	Output Volts	Output Constant Current Load Max. Amp.	NET
5F1269	N10B	120	60	0-132	1.75	31.00
5F1271	N116B	120	50/60	0-140	10	51.00

14

"STABILINE" AUTOMATIC VOLTAGE REGULATORS

IES SERIES VOLTAGE REGULATOR

High accuracy. Solid-State design permits lighter weight and smaller size than tube types. 3% maximum distortion. 95% efficient. Operating range: 50 or 60 Hz 10%. Instantaneous correction speed. Output Voltage maintained within 100mV RMS band. Oper. Temp. Range: 0° to 50° C. Temp. Coefficient: .01%°C. Output voltage regulated through controlled firing of inverse parallel pair of SCR's connected in the shunt leg of an autotransformer. Provision for remote sensing. Overcurrent protection in SCR leg. Enclosed cabinet. All can be rack mounted except IES9115, IES9215.

Stock No.	Type	Max. Output Amps	Rated Output KVA	Shpg. Wt. Lbs.	Each
6F127	IES9101B	8.7	1.0	72	510.00
6F128	IES9103B	26.1	3.0	136	775.00
6F129	IES9106B	52.2	6.0	181	905.00

ELECTRO-MECHANICAL TRANSISTORIZED SERIES

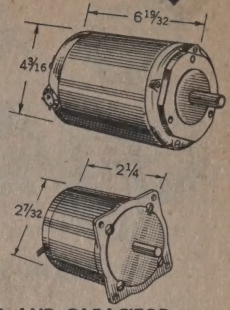
Type EMT. Motor driven detector circuit & auxiliary transformer. No critical adjustments. Operating sensitivity adjustable to within 1%. 50/60 hz AC. Cabinet mounting. 1 phase.

Stock No.	Type	Max. Output Amps	Rated Output KVA	Shpg. Wt. Lbs.	Each
6F106	EMT4102B	20.0	2.3	90	585.00
6F110	EMT4112B	114.0	13.0	135	680.00
80W015	EMT4115B	144.0	16.6	300	865.00

Superior Electric Slo-Syn Motors

SLO-SYN SYNCHRONOUS/STEPPING MOTORS

Slo-Syn synchronous motors are permanent magnet types (AC) having instant start, stop and reverse characteristics and a basic shaft speed of 72 rpm with 60 Hz applied. Units may be used as DC stepping motors and start at full-rated torque. Adaptable for use as a DC stepping motor or incremental positioning device that can be stepped 200 times per revolution of the motor shaft. Negligible overshoot; no ratchets or detents are used. Single-pole, three-position switch gives complete forward, reverse and "off" control because motor has only three leads. Starts or stops in less than 0.025 seconds or approximately 1.5 Hz. No need for mechanical or electrical braking; stops in less than 5° of motor shaft rotation. Starting and operating currents nearly identical; no excessive inrush current when motor is turned on. Lubricated-for-life, scaled ball-bearings. Models with X in type number are explosion-proof and are U/L approved for Class 1, Group D service. Special duty types are available. **Double end:** Have output shafts projecting from both ends. Types available in all catalogued torque ratings. Those with 50, 150, 250 and 400 oz.-in. ratings can also include planetary gear assembles if desired. **200 RPM:** Types TS25, TS50 and TS52 are similar to standard models, but operate a synchronous speed of 200 rpm and take 5° steps when used for DC stepping. **28.8 RPM:** Type LS50 runs at 28.8 rpm at 60 Hz without stepdown gearing. Makes 500 steps/rev as a DC stepping motor. Torque rating, 60 oz.-in. Stops within 25 msec.



MOTOR UNITS

Specifications at 50/60 Hz. one phase, 72 rpm at 60 Hz.

Stock No.	Superior Type	Torque (Oz.-in.)	Volts	Max. Amps.	Shpg. Lbs.	Net Each
06F134	SS25	25	120	0.1	1½	55.00
05F847	SS50	50	120	0.3	3½	48.00
24F1646	SS50-1268	80	120	0.3	3½	48.00
05F844	SS150	150	120	0.4	8	58.00
05F2180	SS250	250	120	0.6	8	79.00
05F2183	SS500	400	120	0.6	13¾	121.00
24F1647	SS400-1101	700	120	1.0	14	135.00
05F2182	X1000*	1000	120	3.0	33	236.00
05F2184	SS1800*	1800	120	4.0	50	320.00

*For 60 Hz operation only.

CORRESPONDING RESISTOR AND CAPACITOR

Resistor, Ohms	Stock No.	Net Each	Capacitor, uF	Stock No.	Net Each
500 ±5%, 5 W	5F821	2.50	0.75 ±6%, 330 VAC	5F825	4.25
400 ±5%, 25 W	5F850	2.50	2.25 ±6%, 330 VAC	5F848	6.00
400 ±5%, 25 W	5F850	2.50	2.25 ±6%, 330 VAC	5F848	6.00
250 ±5%, 25 W	5F845	2.50	3.75 ±6%, 330 VAC	5F846	4.75
150 ±5%, 50 W	5F822	3.25	6.5 ±6%, 330 VAC	5F826	6.00
150 ±5%, 50 W	5F822	3.25	6.5 ±6%, 330 VAC	5F826	6.00
150 ±5%, 50 W	5F822	3.25	6.5 ±6%, 330 VAC	5F826	6.00
65 ±5%, 160 W	5F823	5.00	30.0 ±5%, 330 VAC	5F827	24.00
40 ±5%, 280 W	5F824	9.00	60.0 ±6%, 330 VAC	5F828	45.00

TECHNICAL DATA

AC SYNCHRONOUS OPERATION—The a-c synchronous motor is the simplest to operate and to connect because it requires only a 3-position switch and the required resistor capacitor network. Stalling does not damage the motor or components. Torque can be increased by simply increasing the input voltage. No electrical or mechanical braking are needed because residual (power off) torque is always present. The holding torque may be increased with d-c voltage applied to one or both windings. Other advantages are: simple circuitry; bi-directional control; identical starting and running currents; instantaneous start/stop and reverse.

DC STEPPING OPERATION—Of the several considerations which must be taken into account when selecting a SLO-SYN stepping motor, the most important are: step angle, speed desired in steps per second, torque in ounce-inches, inertia in lb-in², and type of electronic drive. The standard step angle of SLO-SYN motors prefixed SS, HS or M is 1.8°, those prefixed LS have a 0.72° step angle; and motors prefixed TS have a 5° step angle.

Because torque decreases as speed (steps per second) increases, published speed vs. torque curves should be consulted when selecting SLO-SYN stepping motors. Each motor has a unique performance curve when used with a particular drive. Bifilar stepping motors contain twice the windings of a 3-lead synchronous motor. The necessary reduction in wire diameter results in a better L/R time constant and better performance. These motors are available with either 5 or 6 leads depending on model. Bifilar motors require simplified drive circuitry. Only bifilar motors can be used with SLO-SYN Translators and Preset Indexers.

The step accuracy of SS, TS and LS prefixed motors is ±5% non-accumulative. Most HS prefixed types have an accuracy of ±3% non-accumulative and M prefixed types have either ±3% of ±5% depending on model.

SLO-SYN M Series stepping motors are capable of speeds up to and in excess of 20,000 steps/second. All types have 6 leads, lower impedance windings and greater efficiency. In some models, overall length has been reduced ¼ inch.

DRIVES—SLO-SYN drives provide the commands for speed, direction and count. They consist basically of translators and preset indexers. Translators convert or "translate" pulses into steps. In a typical 4-step sequence, the motor will take one step for every pulse fed into the translator. Translators have no counting capability. The pulse source must provide the required number and rate of pulses to achieve the desired number of steps in the desired time.

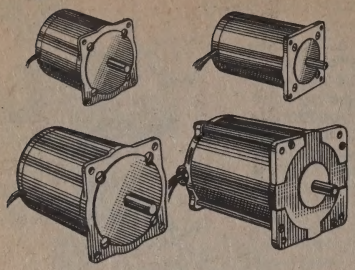
PRESET INDEXERS provide control of speed (steps/second), distance (number of steps) and direction (clockwise or counterclockwise). Single step "jog" and "free run" provide additional positioning capability on some models. In addition to some form of translator circuitry, a preset indexer incorporates counting and gating circuitry. The number of steps to be taken (distance) is set by dials on the control panel. After speed and direction controls have been set, activation of the "index" button will cause the motor to take the number of steps dialed on the decade switches.

SELECTION—To select the correct motor drive combination:

1. Determine the type of drive required.
2. Determine speed range and step angle desired.
3. Select the specific drive that provides the speed range needed.
4. Consult published speed vs. torque curves for motors used with the particular drive selected.
5. Select the motor which produces the necessary step angle and torque at the step rate required.

Superior Electric SLO-SYN Motors, Drives

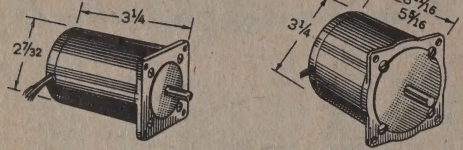
M SERIES STEPPING MOTORS



- Offer the Most Complete Range in Both Torque Ratings and Size.
- Step Accuracy Choice of Either ±3% or ±5%.

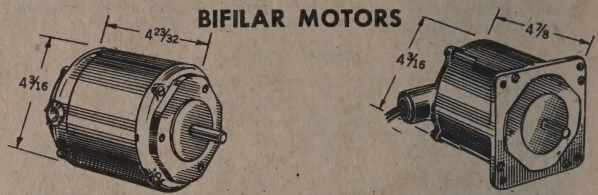
Shown in chart with M prefix. Example: MO61-FC02. Represent the most advanced permanent magnet stepping motor design available. Offer the most complete range in both torque ratings and size. Provide the highest torque per pound and torque to inertia ratios. Can be driven at rates above 20,000 steps per second with minimum of power output. Have Class B insulation and may be operated at ambients from −40°C to +65°C. Continuous duty temperature is 65°C. Stepping increment 1.8° using a 4-step input sequence. Step accuracy choice of either ±3% or ±5%. Eight-step input sequence gives 0.9° stepping increment. Chart page 465 gives off-the-shelf drives for motors listed. Custom drives can be designed and built by user if desired. For torque vs speed characteristics and complete ratings and specifications, request Superior Electric Catalog MSM1171. See facing page for ordering information.

PRECISION STEPPING MOTORS



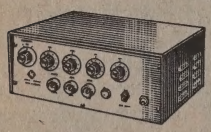
Shown in chart with HS prefix. Example: HS25. Designed for phase-switched d-c stepping. Make 200 steps of 1.8° per shaft revolution. Each step accurate within ±3% nonaccumulative. Can be used with SLO-SYN controls and drives or with custom drives which provide programmed acceleration designed and built by the user. With proper circuitry, may be operated at speeds greater than 1000 steps per second without missing steps. See facing page for ordering information.

BIFILAR MOTORS



Shown in chart with 4-number suffixes. Example: SS25-1001. Contain twice the windings of a 3-lead motor for better L/R time constant, better performance. Use simple drive circuitry or recommended SLO-SYN drives. Make 200 steps of 1.8° per shaft revolution except LS prefixed types which have 0.72° and TS prefixed types which have 5° step angle. X prefixed are explosion proof. Step accuracy ±5% non-accumulative. Have high torque at high stepping speeds. See facing page for ordering information.

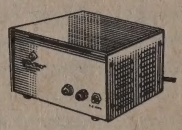
PRESET INDEXER SP1800B-5



Controls indexing operations where bifilar motors are used for positioning. Automatically provides the correct switching sequence needed to drive motors the required number of steps. Has provisions for actuating external equipment needed to perform related operations. Dials on control panel can be set to provide desired number of steps up to a 99,999 counting range. Operates in ambients from 0°C to +40°C. Input current 1.25 amps. Approx. shpg. wt. 19 lbs.

5F757. NET **820.00**

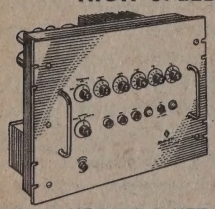
TRANSLATOR ST1800B



For pulse-to-pulse conversion of data to bifilar motors. Converts low-level signal pulses or square waves into the correct switching sequence needed to drive a SLO-SYN motor at the desired stepping rate. Input is 105-125 volts a-c, 1.5 amps. Signal input impedance is 500 ohms. Input may be triggered by pulse or square wave or by an external switch. Operates in ambients from 0°C to +40°C. Ideal for a wide range of programmed positioning and indexing functions. approx. shipping wt. 12 lbs.

5F795. NET **295.00**

HIGH SPEED PRESET INDEXERS

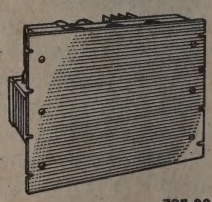


Used with precision (HS prefix) and M Series (M prefix) motors indexing and other positioning operations. On index command, unit drives the motor the prescribed number of steps and then actuates a relay which controls external equipment. Count can also be set computer or external decade switches. Ambients: 0°C to 40°C operating; −55°C to 85°C storage.

24F1532. HPR400R-5. NET **1240.00**
24F1533. HPI 153RT. NET **1620.00**
24F1534. HPI 155RT. NET **1480.00**

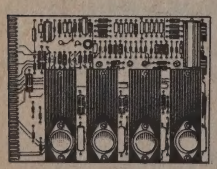
HIGH SPEED TRANSLATORS

Used with precision (HS prefix) and M Series (M prefix) motors to provide high stepping speeds. Acceleration and deceleration is adjustable. Each pulse received from a built-in oscillator or from an external source will cause the translator to advance the motor one step. Triggering pulses can be supplied by tape readers, computers, oscillators etc. Ambient: 0°C to 40°C; −55°C 85°C storage.



24F1535. HTR400. NET **785.00**
24F1536. HTR103RT. NET **1085.00**
5F2190. HTR105RT. NET **945.00**

TRANSLATOR MODULES



Plug-in printed circuit boards with logic capabilities for stepping SLO-SYN motors. STM1800 and STM1800C are basic translators capable of bi-directional operation of motor. Those suffixed V, i. e. STM1800V and STM-1800CV, are similar but have built-in oscillators to provide triggering signals. Potentiometers are supplied with V-suffixed models for adjusting the oscillator speed. Power Supply Transformer T5934-G2 (for STM-1800 and STM1800V). 8 amps.

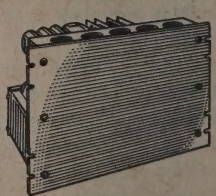
6F165. NET **32.00**

Power Supply Transformer T6382 (for STM1800C and STM1800CV).

6F166. 10 amps. **NET** **32.00**
5F750. STM1800. **NET** **68.00**
5F2187. STM1800C. **NET** **115.00**
5F751. STM1800V. **NET** **78.00**
5F2188. STM1800CV. **NET** **125.00**

BUFFERED TRANSLATORS

Drives M Series (M prefix) motors in response to commands from computer, digital control or other device which operates at a fixed pulse rate. Acceleration and deceleration not required from pulse source. Translator stores incoming pulses and feeds them to the motor, automatically accelerating and decelerating at a rate compatible with the response characteristics of the motor. Acceleration and deceleration rates are approximately 6000 steps/sec² for BTR103RT and 15,000 steps/sec² for BTR105RT. Motor is driven one step for each pulse received from control unit. BTR103RT has speed of 100 to 3000 steps/sec, BTR105RT has speed of 100 to 5000 steps/sec. Rack mounted only.



6F167. BTR103RT. **NET** **1285.00**
6F168. BTR105RT. **NET** **1145.00**

Superior ELECTRIC SLO-SYN Motors, Drives

MOTOR PRICE CHART AND DRIVE INDEX

Stock No.	Motor Type	Motor Specifications and Ratings: Step Accuracy	DCV	Amps per Winding	Holding Torque oz.-in.	Residual Torque oz.-in.	Shaft Diameter Inches	Motor Size LxW	Net Wt. Lbs.	Net Each	Translators Translator Modules Buffered Translators Type	Preset Indexers: Type	Preset Indexers: Count Range
											0 to 500 Steps/Sec.	0 to 500 Steps/Sec.	
5F796	HS25	±3%	5.4	1.5	70	4	.250	2 3/32 x 3 1/4	2	116.00			
5F797	HS50	±3%	3.0	4.0	175	6	.375	3 1 1/16 x 3 3/8	4 3/4	103.00			
5F798	HS50L	±3%	4.5	3.5	320	8	.375	5 3/16 x 3 3/8	7 1/2	141.00			
24F1537	LS50-1005*	±5%	3.0	4.0	75	8	.375	3 1 1/16 x 3 1/4	4 3/4	164.00			
24F1538	LS50-1006*	±5%	12.0	1.0	75	8	.375	3 1 1/16 x 3 1/4	4 3/4	164.00			
5F1219	SS25-1001	±5%	11.8	0.44	28	3	.250	3 1 1/16 x 3 3/8	1 1/4	87.00	ST1800B‡	SP1800B-5‡	0-99,999
24F1539	SS50-1008	±5%	8.0	0.85	70	5	.375	2 1/2 x 3 3/8	3	80.00	STM1800§‡		
24F1540	SS150-1010	±5%	10.0	1.25	250	15	.375	4 7/8 x 4 1/4	6 1/2	90.00	STM1800V§‡		
6F141	SS250-1027	±5%	4.6	3.1	300	25	.375	4 7/8 x 4 1/4	6 1/2	111.00			
6F142	SS400-1021	±5%	5.3	3.4	500	35	.500	6 3/4 x 4 3/4	12 1/4	153.00			
24F1541	SS1800-1007	±5%	11.5	3.9	3000	75	.625	8 5/8 x 6 1/2	45	352.00			
24F1542	TS25-1008**	±5%	5.4	1.5	40	4	.250	3 1/4 x 2 7/32	2	111.00			
6F138	TS50-1001**	±5%	3.0	4.0	65	60	.375	3 1 1/16 x 3 1/2	4 3/4	105.00			
24F1543	X250-1003	±5%	4.6	3.1	300	25	.375	4 7/8 x 4 3/16	6 1/2	150.00			
24F1544	X1500-1001	±5%	12.0	3.8	2500	100	.625	7 5/8 x 5 5/16	38	295.00			
											50 to 2000 Steps/Sec.	50 to 2000 Steps/Sec.	
5F796	HS25	±3%	5.4	1.5	70	4	.250	2 3/32 x 3 1/4	2	116.00			
5F797	HS50	±3%	3.0	4.0	175	6	.375	3 1 1/16 x 3 3/8	4 3/4	103.00	HTR400	HPR400R-5† (Rack Mtg.)	0-99,999
5F798	HS50L	±3%	4.5	3.5	320	8	.375	5 3/16 x 3 3/8	7 3/4	141.00			
24F1545	HS400B-1003	±3%	4.2	4.3	850	35	.500	.....	13 3/4	210.00			
											100 to 3000 Steps/Sec.	100 to 3000 Steps/Sec.	
05F2204	M112-FJ25	±5%	1.8	12.7	1125	30	.625	7.16x4.19	14 1/2	198.00	BTR103RT HTR103RT	HPI 153RT† (Rack Mtg.)	0-99,999
											100 to 5000 Steps/Sec.	100 to 5000 Steps/Sec.	
24F1546	M061-FC02§	±3%	5.1	1.0	53	5	.250	2.00x2.22	1 1/4	78.00			
5F2191	M061-FD02§	±5%	5.1	1.0	53	5	.250	2.00x2.22	1 1/4	66.00			
24F1547	M062-FC04	±3%	4.3	1.8	100	8	.250	3.00x2.22	2	95.00			
5F2193	M062-FD04	±5%	4.3	1.8	100	8	.250	3.00x2.22	2	83.00			
24F1548	M063-FC06	±3%	3.4	2.9	150	10	.250	4.00x2.22	2 3/4	108.00			
5F2195	M063-FD06	±5%	3.4	2.9	150	10	.250	4.00x2.22	2 3/4	96.00			
24F1549	M091-FC06§	±3%	2.9	3.05	150	5	.375	2.45x3.25	3 1/4	71.00			
5F2197	M091-FD06§	±5%	2.9	3.05	150	5	.375	2.45x3.25	3 1/4	59.00	BTR105RT HTR105RT	HPI 155RT† (Rack Mtg.)	0-99,999
24F1637	M092-FC09	±3%	2.5	4.6	300	10	.375	3.70x3.25	5 1/2	82.00			
5F2199	M092-FD09	±5%	2.5	4.6	300	10	.375	3.70x3.25	5 1/2	70.00			
24F1638	M093-FC14	±3%	2.2	7.0	450	15	.375	5.07x3.25	7 3/4	103.00			
5F2201	M093-FD14	±5%	2.2	7.0	450	15	.375	5.07x3.25	7 3/4	91.00			
24F1639	M111-FD16	±5%	1.7	8.0	625	15	.375	4.72x4.19	8	110.00			

Stock No.	Motor Type	Motor Specifications and Ratings: Step Accuracy	DCV	Amps per Winding	Holding Torque oz.-in.	Residual Torque oz.-in.	Shaft Diameter Inches	Motor Size LxW	Net Wt. Lbs.	Net Each	Translator Modules For M Series Motors—50 To 2000 Steps/Sec.: Type	B Power Supply (Amps)
											STM	7.8
24F1640	M061-FC08	±3%	1.3	3.9	53	5	.250	2.00x2.22	1 1/4	78.00		7.8
5F2192	M061-FD08	±5%	1.3	3.9	53	5	.250	2.00x2.22	1 1/4	66.00		7.8
24F1641	M062-FC09	±3%	1.7	4.7	100	8	.250	3.00x2.22	2	95.00		9.4
5F2194	M062-FD09	±5%	1.7	4.7	100	8	.250	3.00x2.22	2	83.00		9.4
24F1642	M063-FC09	±3%	2.2	4.6	150	10	.250	4.00x2.22	2 3/4	108.00		9.2
5F2196	M063-FD09	±5%	2.2	4.6	150	10	.250	4.00x2.22	2 3/4	96.00	STM1800C††	9.2
24F1643	M091-FC09	±3%	1.8	4.7	150	5	.375	2.45x3.25	3 1/4	71.00	STM1800CV††	9.2
5F2198	M091-FD09	±5%	1.8	4.7	150	5	.375	2.45x3.25	3 1/4	59.00		9.2
24F1644	M092-FC09	±3%	2.5	4.6	300	10	.375	3.70x3.25	5 1/2	82.00		9.2
5F2199	M092-FD09	±5%	2.5	4.6	300	10	.375	3.70x3.25	5 1/2	70.00		9.2
24F1645	M093-FC11	±3%	2.8	5.5	450	15	.375	5.07x3.25	7 3/4	103.00		10
5F2200	M093-FD11	±5%	2.8	5.5	450	15	.375	5.07x3.25	7 3/4	91.00		10
5F2202	M111-FD12	±5%	2.3	6.1	625	15	.375	4.72x4.19	8	110.00		10
5F2203	M112-FJ12	±5%	3.6	6.1	1125	30	.625	7.16x4.19	14 1/2	198.00		10

*—LS50-1005 and LS50-1006 have 0.72° stepping increment.

**—TS25-1008 and TS50-1001 have 5° stepping increment.

†—Cabinet available at $75.00 additional.

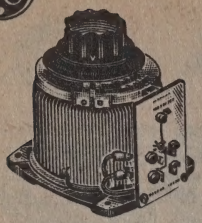
‡—Also requires series dropping resistor.

§—Translator Modules also require T5934-G2 power supply transformer at $32.00.

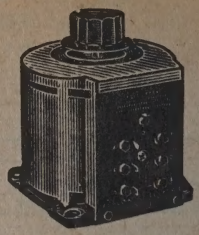
§§—Require modified drives. Consult factory.

††—Also requires T6382 power supply transformer at $32.00 and series dropping resistor.

Voltage Regulation & Control Devices



G-E "VOLT-PAC" VARIABLE TRANSFORMER



Provides continuously adjustable output voltage. Handles short duration current surges up to 10 times rated current. Maximum output currents applicable up to 100% voltage. Core consists of high grade strip wound silicon steel, plus molded phenolic winding form to insulate coil from form. Types for 50-60 Hz unless otherwise indicated. Cased units with enclosed terminal boards, plug and cord set units, motor operated units, multiple-core units, three phase units, and automatic control units are available through Newark.

120V INPUT—UNCASED, SINGLE CORE

All units provide 0-140V overvoltage output except (*) 0-132V, (†) no overvoltage, 0-120V only. (‡) when using overvoltage, 60 Hz only. "Max. amps": output into constant-Z load at or below 120V; at overvoltage "rated" current should not be exceeded. Uncased, with exposed terminals.

Stock No.	Type No.	Max. Amps.	Rated Amps.	Net Wt.	1-9	10-24	25-99
5F1000	9T92A1	3.2	2.5	2½	13.80	12.42	11.18
5F1002	9T92A5	5.8	4.5	4½	20.20	18.18	16.36
5F1003	9T92A7*‡	8.0	6.5	8	23.40	21.06	18.95
5F1005	9T92A9	11.5	10.0	9¾	26.60	23.94	21.55
5F1008	9T92A10†	14.5	11.5	9¾	28.60	25.74	23.17
5F1009	9T92Y27‡	19.0	15.0	17	47.80	43.02	38.72
5F1011	9T92Y28‡	21.7	18.0	17	59.40	53.46	48.11
5F1025	9T92Y37‡	34.0	30.0	30	117.00	105.30	94.77
5F1026	9T92Y38‡	37.0	37.0	30	138.00	124.20	111.78
5F1027	9T92Y49	55.0	50.0	60	172.00	154.80	139.32
5F1028	9T92Y50	60.0	60.0	60	260.00	234.00	210.60

240V INPUT—UNCASED SINGLE CORE

Similar to above. 0-280V overvoltage output except * 0-240V output only, (‡) when using overvoltage, 60 Hz only.

5F1015	9T92A13	5.0	4.0	10	31.80	28.62	25.76
5F1018	9T92A14*	6.8	5.0	10	34.00	30.60	27.54
5F1019	9T92Y29‡	10.1	7.0	16	47.80	43.02	38.72
5F1021	9T92Y30‡	11.0	8.5	16	59.40	53.46	48.11
5F1029	9T92Y39‡	14.0	14.0	30	113.00	101.70	91.53
5F1030	9T92Y40‡	16.0	16.0	30	130.00	117.00	105.30
5F1031	9T92Y51	33.0	30.0	60	174.00	156.60	140.94
5F1032	9T92Y52	35.0	35.0	60	260.00	234.00	210.60

120V INPUT—CASED, SINGLE CORE

Identical to units at left, except enclosed (terminals exposed). (‡) when using overvoltage 60 Hz only.

Stock No.	Type No.	Max. Amps.	Rated Amps.	Net Wt.	1-9	10-24	25-99
5F1004	9T92A7G2‡	8.0	6.5	8½	29.70	26.73	24.06
5F1006	9T92A9G2	11.5	10.0	10½	32.90	29.61	26.65
5F1010	9T92Y27G2‡	19.0	15.0	18¾	54.10	48.69	43.82
5F1012	9T92Y28G2‡	21.7	18.0	18¾	65.80	59.22	53.30
5F1033	9T92Y37G2‡	34.0	30.0	30	126.00	113.40	102.06

240V INPUT—UNCASED, TRIPLE CORE

Similar to units at left, but triple core for tandem or 3-phase operation. 0-280V output; uncased, exposed terminals.

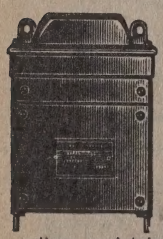
Stock No.	Type No.	Max. Amps.	Rated Amps.	Net Wt.	1	2-9	10-49
5F1034	9T92A19	8.0	6.5	24	83.07	78.46	73.84
5F1074	9T92A22	14.5	12.0	30	94.50	89.25	84.00
5F1035	9T92Y33	19.0	15.0	51	153.00	144.50	136.00
5F1036	9T92Y34	21.7	18.0	51	186.30	175.95	165.60

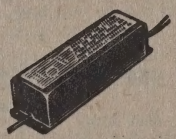
120V INPUT—SINGLE CORE PLUG-IN TYPE

Plug-in cord units for workbench applications. Cord has NEMA standard 3-blade plug. (*) 60 Hz only. (†) no overvoltage, 60 Hz only.

Stock No.	Type No.	Rated Amps.	Net Wt.	1-9	10-24	25-99
5F1037	9T92A91*	4.5	6	32.90	29.61	26.65
5F1038	9T92A86†	6.5	9	37.20	33.48	30.13
5F1040	9T92A87	10.0	11	41.40	37.26	33.53
5F1075	9T92Y88	15.0	17	67.90	61.11	55.00

AC VOLTAGE STABILIZERS





Static-magnetic transformer type units provide voltage maintained within ±1% while input fluctuates ±15%. Unfiltered output waveform is relatively flat-topped, 15-20% harmonic content; filtered types provide near-sinusoidal output, maximum harmonic content 3%. All units are for single-phase, 60 cycle AC only; stabilized output 118V except as noted. Completely enclosed, with enclosed terminals, vt units rated below 250 V-A have insulated cable leads.

Unfiltered Types. 118V Output

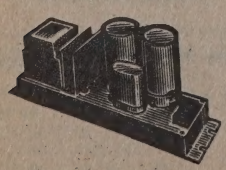
Stock No	Type	Rated V-A	Input Volts	Wt. Lbs.	1-9	10-49	50-99
5F1041	9T91Y4070	15	95-130	5	19.65	11.12	14.90
5F1042	9T91Y4090	30	95-130	6	22.51	19.60	17.06
5F1043	9T91Y4110	60	95-130	7	29.70	25.87	22.51
5F1044	9T91Y4130	120	95-130	15	40.86	35.59	30.97
5F1045	9T91Y4140	250	95-130	24	68.20	59.40	51.70
5F1047	9T91Y4150	500	95-130	37	107.26	93.42	81.31
5F1050	9T91Y4170	1000	95-130	55	164.30	143.10	124.55
5F1053	9T91Y4184	2000	190-260/380-520	95	324.26	282.42	245.81
Harmonic Filtered Types 118 V output							
5F1054	9T91Y7140	250	95-130	36	70.68	61.56	53.58
5F1055	9T91Y7150	500	95-130	43	110.36	96.12	83.66
5F1056	9T91Y7170	1000	95-130	80	169.26	147.12	128.31
80W017	9T91Y7173	1000	95-130/175-235/ 190-260	80	190.34	165.78	144.29
80W018	9T91Y7183	2000	95-130/175-235/ 190-260	150	345.34	300.78	261.79
80W019	9T91Y7193	3000	95-130/175-235/ 190-260	210	465.00	405.00	352.50
80W020	9T91Y7203	5000	95-130/175-235/ 190-260	350	717.34	624.78	543.79

Cord/Receptacle Types. Standard 2-blade plug and cord input, socket output. 118V output. Unfiltered Type.

Stock No.	Type	Rated V-A	Volts Input	Wt. Lbs.	1-9	10-49	50-99
5F1058	9T91Y4090G19	30	95-130	7	18.41	25.36	22.09
5F1059	9T91Y4110G19	60	95-130	7	32.43	28.24	24.58

Write Newark for information on the complete Line of GE Voltage Regulation & Control Devices

REGULATED DC POWER SUPPLIES



Furnish fixed DC output voltage within ± 1% tolerance while input AC voltage varies ± 15%. All units feature rugged magnetic and semiconductor circuitry and are designed for chassis or standard 19" rack mounting. Short-circuit current is limited to approximately twice the rated value. Can be installed with either polarity grounded. Input voltage range: 97-130VAC, 60 Hz. 40°C ambient. Output ripple level 1% rms max. Efficiency 70-85% for rated output levels.

Stock No.	Type	Output V	Output A	Wt. lbs.	1-4	5-9	10-24
5F1063	9T66Y51	12	5.0	16	156.80	137.20	123.20
5F1064	9T66Y53	12	15.0	25	190.40	166.60	149.60
5F1076	9T66Y978	12	20	35	207.20	181.30	162.80
5F1065	9T66Y987	24	2.5	16	135.52	118.58	106.48
5F1066	9T66Y988	24	6.0	25	160.16	140.14	125.84
5F1067	9T66Y989	24	10.0	28	185.92	162.68	146.08
80W016	9T66Y990	24	20.0	45	243.04	212.66	190.96
80W021	9T66Y991	24	50.0	105	428.96	375.34	337.04
5F1069	9T66Y83	28	8.0	25	178.08	155.82	139.92
5F1070	9T66Y93	48	4.0	25	148.96	130.34	117.04

Variable Transformers

STACO

STACO VARIABLE TRANSFORMERS

Offer precise voltage control for industrial and laboratory applications. Proprietary process bonds commutator to core assembly for secure, stable surface, free of distortion under severe overload. Excellent regulation, no wave shape distortion. For 50-60 Hz except *60 Hz only with over-voltage output. Type numbers without suffix are open types for panel mounting. Types with suffice (CT) are enclosed types including terminals, for plane-service mounting.

SINGLE PHASE TYPES

Portable types, prefix "2PF" for models with 2-wire cord, plug and receptacle or "3PN" with 3-wire grounded cord, plug and receptacle, are housed in rugged case and include switch, fuse, and pilot light.

Stock No.	Type	Fig.	Input Volts	Output Volts	Output Amps	KVA	Size	Wt. Lbs.	Net Each
5F301	171	A	120	*0-120/132	1.75	.23	2-13/16 x 2-1/16	3	12.50
5F302	251	A	120	*0-120/132	2.5	.33	2-13/16 x 2-9/16	3½	13.60
5F329	2PF171	B	120	*0-132	1.75	.23	3-7/8 x 3-7/8 x 3½	3½	25.00
5F303	371	E	120	*0-120/140	3.75	.53	3-3/4 x 3-3/4 x 3-1/4	5	19.00
5F304	501	E	120	0-120/140	5.0	.70	3-3/4 x 3-3/4 x 3-5/16	6	19.50
5F306	1010	F	120	0-120/140	10.0	1.4	5-1/16 x 5 x 4-3/16	12	26.00
5F1312	1010CT	G	120	0-120/140	10.0	1.4	5x6-7/8 x 5-5/8	12	34.00
5F312	2PF1010	C	120	0-120/140	10.0	1.4	5x6-7/8 x 5-5/8	12	35.00
5F326	3PN1010	C	120	0-120/140	10.0	1.4	5x6-7/8 x 5-5/8	12	41.00
5F308	1510	H	120	0-120/140	15.0	2.1	4-3/8 x 6-1/8 x 6-5/8	20	50.00
5F330	2510	H	120	0-120/140	25.0	3.5	4-1/8 x 8-3/16 x 7-5/8	23	69.00
5F1319	2510CT	J	120	0-120/140	25.0	3.5	4-1/8 x 9-5/8 x 7-5/8	23	82.00
5F309	1020	F	240	0-240/280	3.5	.98	5-5/16 x 5 x 4-3/16	12	31.00
5F310	1520	H	240	0-240/280	9.5	2.7	4-13/16 x 6-1/8 x 6-5/8	20	50.00
5F1320	2520	H	240	0-240/280	10.0	2.8	4-1/8 x 8-3/16 x 7-7/8	23	69.00
5F1321	2520CT	J	240	0-240/280	10.0	2.8	4-1/8 x 9-5/8 x 7-5/8	23	82.00
5F3451	221	A	120	*0-120/132	2.25	0.30	2-13/16 x 2-3/16	3	13.25
5F333	3PN171	B	120	*0-132	1.75	.23	3-7/8 x 3-7/8 x 3½	3½	30.00
5F328	3PN501	B	120	0-120/140	5.0	.7	5-3/8 x 6-1/16 x 5-5/8	9	38.00
5F307	1210	F	120	*0-120	12.0	1.4	5-1/16 x 5 x 4-3/16	12	28.00
5F1300	2PF1210	C	120	*0-120	12.0	1.4	5x6-7/8 x 5-5/8	12	41.00
5F1301	3PN1210	C	120	*0-120	12.0	1.4	5x6-7/8 x 5-5/8	12	45.50
5F1317	1510CT	J	120	0-120/140	15.0	2.1	5-7/8 x 6-3/8 x 9	20	58.00
5F1302	2PF1510	D	120	0-120/140	15.0	2.1	5-7/8 x 6-3/8 x 9	22	67.00
5F1303	3PN1510	D	120	0-120/140	15.0	2.1	5-7/8 x 6-3/8 x 9	22	67.00
5F1304	2PF2210	D	120	0-140	22.0	3.1	5-5/8 x 7-5/8 x 10-3/4	23	97.00
5F313	3PN2210	D	120	0-140	22.0	3.1	5-5/8 x 7-5/8 x 10-3/4	23	97.00
5F334	5010	K	120	0-140	50.0	7.0	6½ x 12½ x 12½	60	169.00
5F335	5010CT	..	120	0-140	50.0	7.0	6½ x 15-5/8 x 14	70	192.00
5F1314	1020CT	G	120	0-240/280	3.5	.98	5x6-7/8 x 5-5/8	12	38.00
5F314	2PF1020	C	240	0-240/280	3.5	.98	5x6-7/8 x 5-5/8	12	40.00
5F1305	3PN1020	C	240	0-240/280	3.5	.98	5x6-7/8 x 5-5/8	12	47.50
5F1315	1220	F	240	*0-240	5.0	1.2	5-5/16 x 5 x 4-3/16	12	33.00
5F1316	1220CT	G	240	*0-240	5.0	1.2	5x6-7/8 x 5-5/8	12	41.00
5F1306	2PF1220	C	240	*0-240	5.0	1.2	5x6-7/8 x 5-5/8	12	46.50
5F1307	3PN1220	C	240	0-240	5.0	1.2	5x6-7/8 x 5-5/8	12	47.50
5F1318	1520CT	J	240	0-240/280	9.5	2.7	5-7/8 x 6-3/8 x 9	20	58.00
5F1308	2PF1520	D	240	0-240/280	9.5	2.7	5-7/8 x 6-3/8 x 9	22	67.00
5F1309	3PN1520	D	240	0-240/280	9.5	2.7	5-7/8 x 6-3/8 x 9	22	67.00
5F1310	2PF2520	D	240	0-280	10.0	2.8	5-5/8 x 7-5/8 x 10-3/4	23	97.00
5F1311	3PN2520	D	240	0-280	10.0	2.8	5-5/8 x 7-5/8 x 10-3/4	23	97.00
5F336	5020	K	240	0-240/280	28.0	7.8	6½ x 12½ x 12½	60	169.00

STACO DELUXE VARIABLE AUTOTRANSFORMERS

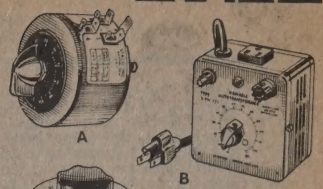
Designed to meet U/L and CSA standards of safety. Main features are: laminated silicon steel cores ensuring low core loss and low excitation current; continuous voltage control over a wide range; negligible waveform distortion; rugged mechanical construction; neon pilot lights; permanently etched legends; tamper-proof and mar-resistant ventilated case; NEMA approved standard 6-ft. cord and receptacle; moderate voltage drop under load; efficiency as high as 98%; and regulation better than 5% can be attained. Units are protected from overload damage by a thermal circuit breaker. A three-position switch enables selection of "line voltage" or "over voltage" (e.g., 0-120/140 V on 120 V input) from the off position. Convenience outlet (10 or 15 amps) is energized from the moment line cord is plugged in. Optional voltmeter, ammeter and wattmeter; use suffix "V" for 0-150 VAC voltmeter, suffix "A" for dual range 0-2 and 0-10 amps full scale ammeter, suffix "W" for dual range 0-300 and 0-500 full scale wattmeter. Metered units are supplied with isolated AC and DC outputs rated for 10% of the total output rating of the unit available at banana jacks in the front panel. (*)60 Hz. only with over-voltage output.

Stock No.	Type	Fig.	Input Volts	Output Volts	Output Amps	Isolated AC/DC Output mA	Size	Wt. Lbs.	Net Each
5F337	E371	L	120	*0-120/140	3.75	....	6½ x 11¼ x 5	15	40.00
5F317	E501V	M	120	0-120/140	5.0	500	6½ x 17⅝ x 5⅞	20	76.00
5F1322	E501VA	..	120	0-120/140	5.0	500	10x15-1/16 x 5⅞	25	126.00
5F319	E501VAW	O	120	0-120/140	5.0	500	10x15-1/16 x 5⅞	28	198.00
5F320	E1010	L	120	0-120/140	10.0	....	6½ x 11 13/16 x 5⅞	20	74.50
5F1323	E1010V	M	120	0-120/140	10.0	1000	6 1/16 x 17⅝ x 5⅞	27	95.00
5F322	E1010VA	..	120	0-120/140	10.0	1000	10x15-1/16 x 5⅞	33	150.00
5F323	E1010VAW	O	120	0-120/140	10.0	1000	10x15-1/16 x 5⅞	35	220.50
5F338	E1020	L	240	0-280	3.5	....	6½ x 11 13/16 x 5⅞	20	75.50
5F339	E1210	L	120	0-120	12.0	....	6½ x 11 13/16 x 5⅞	20	75.00
5F340	E1710	L	120	0-140	17.0	....	10x15-1/16 x 6¼	35	122.00
5F341	E1720	L	240	0-280	10.0	....	10x15-1/16 x 6¼	35	122.00

STACO DELUXE ISOLATED VARIABLE TRANSFORMERS

Ideal in testing transformerless receivers and in general experimentation. All units are U/L and CSA approved; come with ventilated case, 0-150V voltmeter having 2% accuracy, circuit breaker, pilot light, banana jacks, on-off switch, 6-ft. crd with NEMA standard three-prong plug and matching receptacle. Output completely isolated from input power.

Stock No.	Type	Fig.	Input Volts	Output Volts	Output AC Amps	Output DC Amps	Size	Wt. Lbs.	Net Each
5F324	EJ401V	M	120	0-140	4.0	4.0	10x 15 1/32 x 5⅞	30	121.00
5F325	EJ901V	M	120	0-140	9.0	9.0	10x16 5/32 x 7½	43	170.50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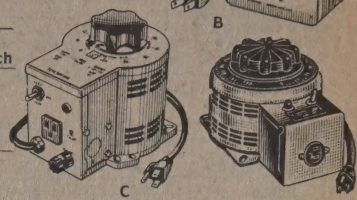
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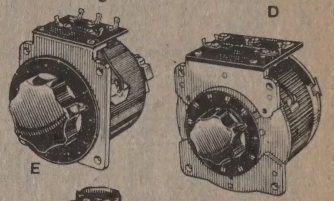
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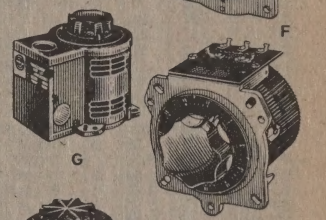
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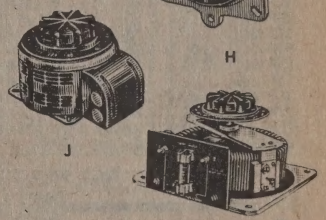
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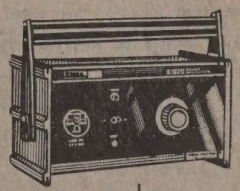
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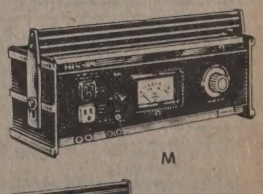
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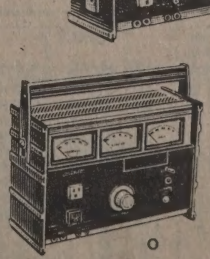
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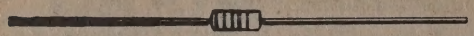
QUANTITY PRICES AVAILABLE ON REQUEST

14

Nytronics Fixed and Variable Inductors

DECI-DUCTOR



Subminiature inductor. Designed to meet all the environmental specifications of MIL-C-15305C, Grade 1, Class B. Inductance tolerance: ±10% over entire range. Dielectric strength: 700 volts RMS at sea level. Operating temp.: —55°C to +125°C. 10 Hz to 2000 hz @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes Shock: 50G, 11 MS. Density characteristics: volume 0.002 cubic inches. Weight 0.35 grams. Dimensions: 0.100" diameter by 0.250" length. Inductance range: 0.10μH to 1000μH. One hundred fit in one-square inch space. Epoxy-molded reliability and uniformity.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.10-1.0	.91	.72	.64	.59	.52	.49
1.2-27	1.01	.80	.69	.64	.59	.54
33-100	1.06	.84	.73	.67	.62	.59
120-1000	1.10	.88	.76	.69	.65	.61

Stk. No.	Type DD-	μH	QMin @ MC		Stk No.	Type DD-	μH	QMin @ MC	
35F1845	0.10	.10	40	25	35F1870	12.0	.12.0	45	2.5
35F1846	0.12	.12	40	25	35F1871	15.0	.15.0	47	2.5
35F1847	0.15	.15	38	25	35F1872	18.0	.18.0	50	2.5
35F1848	0.18	.18	38	25	35F1873	22.0	.22.0	50	2.5
35F1849	0.22	.22	35	25	35F1874	27.0	.27.0	50	2.5
35F1850	0.27	.27	35	25	35F1875	33.0	.33.0	50	2.5
35F1851	0.33	.33	32	25	35F1876	39.0	.39.0	50	2.5
35F1852	0.39	.39	32	25	35F1877	47.0	.47.0	50	2.5
35F1853	0.47	.47	32	25	35F1878	56.0	.56.0	50	2.5
35F1854	0.56	.56	32	25	35F1879	68.0	.68.0	52	2.5
35F1855	0.68	.68	33	25	35F1880	82.0	.82.0	52	2.5
35F1856	0.82	.82	30	25	35F1881	100	100	50	2.5
35F1857	1.00	1.00	30	25	35F1882	120	120	28	0.79
35F1858	1.20	1.20	30	7.9	35F1883	150	150	28	0.79
35F1859	1.50	1.50	32	7.9	35F1884	180	180	28	0.79
35F1860	1.80	1.80	35	7.9	35F1885	220	220	26	0.79
35F1861	2.20	2.20	35	7.9	35F1886	270	270	26	0.79
35F1862	2.70	2.70	37	7.9	35F1887	330	330	26	0.79
35F1863	3.30	3.30	45	7.9	35F1888	390	390	25	0.79
35F1864	3.90	3.90	45	7.9	35F1889	470	470	27	0.79
35F1865	4.70	4.70	45	7.9	35F1890	560	560	27	0.79
35F1866	5.60	5.60	52	7.9	35F1891	680	680	28	0.79
35F1867	6.80	6.80	52	7.9	35F1892	820	820	28	0.79
35F1868	8.20	8.20	60	7.9	35F1893	1000	1000	28	0.79
35F1869	10.0	10.0	60	7.9					

WEE WEE-DUCTOR

This shielded inductor has great inductance-to-size ratio and meets the stringent requirements of MIL-C-15305C, Grade 1, Class B. The smallest shielded inductor for high density circuits. μH range: 0.10 to 10.000. Unique T lead construction used on all values from 1200μH to 10,000μH provides excellent reliability in ranges where fine wire sizes are used. Dimensions: 0.133" diameter x 0.335" length. Operating temperature: —55°C to +125°C. Dielectric strength: 700 volts RMS at sea level. Inductance tolerance: ±10%. Density characteristics: volume, 0.0041 cubic inches: weight 0.50 grams max. To solve special problems in density circuit application.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.1-.68	1.71	1.36	1.25	1.13	1.03	.90
1.0-12	1.82	1.48	1.36	1.25	1.13	1.03
15-1000	2.11	1.72	1.53	1.42	1.25	1.13

Stk.No.	Type WEE-WEE	μH	QMIN @ MC		Stk.No.	Type WEE-WEE	μH	QMIN @MC	
35F1894	0.10	.10	42	25	35F1910	47	47	42	2.5
35F1895	0.15	.15	42	25	35F1911	68	68	46	2.5
35F1896	0.22	.22	42	25	35F1912	100	100	43	2.5
35F1897	0.33	.33	42	25	35F1913	150	150	49	0.79
35F1898	0.47	.47	41	25	35F1914	220	220	53	0.79
35F1899	0.68	.68	36	25	35F1915	330	330	57	0.79
35F1900	1.0	1.0	42	25	35F1916	470	470	50	0.79
35F1901	1.5	1.5	38	7.9	35F1917	680	680	56	0.79
35F1902	2.2	2.2	36	7.9	35F1918	1000	1000	49	0.79
35F1903	3.3	3.3	38	7.9	35F1919	1500	1500	55	0.25
35F1904	4.7	4.7	42	7.9	35F1920	2200	2200	55	0.25
35F1905	6.8	6.8	45	7.9	35F1921	3300	3300	55	0.25
35F1906	10	10	51	7.9	35F1922	4700	4700	55	0.25
35F1907	15	15	45	2.5	35F1923	6800	6800	50	0.25
35F1908	22	22	42	2.5	35F1924	10000	10000	50	0.25
35F1909	33	33	46	2.5					

SUPER WEE-DUCTOR

Ultra reliable molded shielded miniature inductor. Unique T design eliminates fine wire considerations. An R.F. inductor Specially designed to meet the demanding requirements of MIL-C-15305C, Grade 1, Class B. Inductance range: 0.1μH to 100,000μH. Inductance tolerance: ±10% over the entire inductance range. Dielectric strength: 700 volts at sea level. Operating temperature: —55°C to +125°C. Density characteristics: volume, 0.0076 cubic inches; weight, 0.75 grams maximum; Shielding: at 1000 Hz two units assembled side by side exhibit less than 3% coupling. Maximum current: based on temperature rise not to exceed 35°C at 90°C ambient. Size: 0.157" dia. x 0.395" L.

SWD—INDUSTRIAL TYPES

PRICE LOCATOR

μ H Range	1-24	25-49	50-99	100-249	250-499	500-999
.1-15	1.36	1.03	.90	.80	.73	.68
18-8200	1.59	1.13	1.03	.90	.85	.80
10000-100000	1.71	1.48	1.36	1.30	1.19	1.13

Stk.No.	Type SWD-	μH	QMin @ MC		Stk.No.	Type SWD	μH	QMin @ MC	
35F1925	0.10	.10	50	25	35F1961	100	100	52	2.5
35F1926	0.12	.12	51	25	35F1962	120	120	57	.79
35F1927	0.15	.15	51	25	35F1963	150	150	56	.79
35F1928	0.18	.18	50	25	35F1964	180	180	60	.79
35F1929	0.22	.22	49	25	35F1965	220	220	58	.79
35F1930	0.27	.27	47	25	35F1966	270	270	60	.79
35F1931	0.33	.33	46	25	35F1967	330	330	54	.79
35F1932	0.39	.39	44	25	35F1968	390	390	67	.79
35F1933	0.47	.47	44	25	33F1969	470	470	60	.79
35F1934	0.56	.56	43	25	35F1970	560	560	60	.79
35F1935	0.68	.68	42	25	35F1971	680	680	60	.79
35F1936	0.82	.82	40	25	35F1972	820	820	57	.79
35F1937	1.0	1.0	47	25	35F1973	1000	1000	65	.79
35F1938	1.2	1.2	46	7.9	35F1974	1200	1200	45	.25
35F1939	1.5	1.5	45	7.9	35F1975	1500	1500	49	.25
35F1940	1.8	1.8	43	7.9	35F1976	1800	1800	47	.25
35F1941	2.2	2.2	45	7.9	35F1977	2200	2200	50	.25
35F1942	2.7	2.7	46	7.9	35F1978	2700	2700	47	.25
35F1943	3.3	3.3	44	7.9	35F1979	3300	3300	43	.25
35F1944	3.9	3.9	44	7.9	35F1980	3900	3900	43	.25
35F1945	4.7	4.7	44	7.9	35F1981	4700	4700	44	.25
35F1946	5.6	5.6	47	7.9	35F1982	5600	5600	45	.25
35F1947	6.8	6.8	50	7.9	35F1983	6800	6800	43	.25
35F1948	8.2	8.2	50	7.9	35F1984	8200	8200	42	.25
35F1949	10	10	49	7.9	35F1985	10000	10000	39	.25
35F1950	12	12	55	2.5	35F1986	12000	12000	31	.079
35F1951	15	15	44	2.5	35F1987	15000	15000	31	.079
35F1952	18	18	45	2.5	35F1988	18000	18000	31	.079
35F1953	22	22	46	2.5	35F1989	22000	22000	27	.079
35F1954	27	27	49	2.5	35F1990	27000	27000	27	.079
35F1955	33	33	45	2.5	35F1991	33000	33000	27	.079
35F1956	39	39	53	2.5	35F1992	39000	39000	27	.079
35F1957	47	47	52	2.5	35F1993	47000	47000	23	.079
35F1958	56	56	49	2.5	35F1994	56000	56000	23	.079
35F1959	68	68	51	2.5	35F1995	68000	68000	23	.079
35F1960	82	82	45	2.5	35F1996	82000	82000	21	.079
					35F1997	100000	100000	18	.079

MS90537—MILITARY TYPES

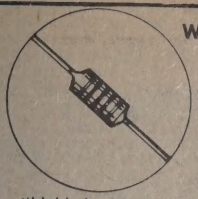
PRICE LOCATOR

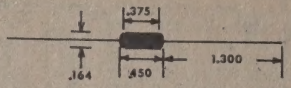
μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.10-15	1.35	1.09	.94	.86	.80	.75
18-8200	1.61	1.29	1.12	1.01	.93	.88
10000-100000	2.47	1.98	1.72	1.56	1.45	1.35

Stk. No.	Type 90537-	pH	Q Min @ MC		Stk. No.	Type 90537-	pH	Q Min @ MC	
35F1998	1	0.10	50	25	35F2016	37	100	52	2.5
35F1999	3	0.15	51	25	35F2017	39	150	56	.79
35F2000	5	0.22	49	25	35F2018	41	220	58	.79
35F2001	7	0.33	46	25	35F2019	43	330	54	.79
35F2002	9	0.47	44	25	35F2020	45	470	60	.79
35F2003	11	0.68	42	25	35F2021	47	680	60	.79
35F2004	13	1.0	47	25	35F2022	49	1000	65	.79
35F2005	15	1.5	45	7.9	35F2023	51	1500	49	.25
35F2006	17	2.2	45	7.9	35F2024	53	2200	50	.25
35F2007	19	3.3	44	7.9	35F2025	55	3300	43	.25
35F2008	21	4.7	44	7.9	35F2026	57	4700	44	.25
35F2009	23	6.8	50	7.9	35F2027	59	6800	43	.25
35F2010	25	10	49	7.9	35F2028	61	10000	39	.25
35F2011	27	15	44	2.5	35F2029	63	15000	31	.079
35F2012	29	22	46	2.5	35F2030	65	22000	27	.079
35F2013	31	33	45	2.5	35F2031	67	33000	27	.079
35F2014	33	47	52	2.5	35F2032	69	47000	23	.079
35F2015	35	68	51	2.5	35F2033	71	68000	23	.079
					35F2034	73	100000	18	.079

Note—Unlisted military values listed in the SWD industrial types above are available on special order.

WEE-DUCTORS





Shielded with high inductance-to-size ratio. Meets environmental requirements of MIL-C-15305C, Grade 1 Class B. Inductance Tolerance; 0.1 to 220 μH ±10%; 27 μH to 1000 ±5%; 1200 μH to 56,000 μH ±10%; 68,000 μH to 180,000 μH ±20%. Dielectric strength; 700 volts RMS. Operating temp; -55°C to +125°C. Density characteristics; volume, 0.0087 cubic inches; weight, 0.75 gram maximum. Shielding; less than 3% coupling with 2 units measured at 1000 cycles.

PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.10-0.82	.83	.67	.59	.53	.48	.45
1.0-15	.91	.74	.64	.58	.53	.49
18-1000	1.11	.88	.77	.70	.65	.61
1200-4700	1.25	1.01	.86	.79	.74	.68
5600-56,000	1.49	1.19	1.04	.95	.87	.81
68,000-180,000	2.28	1.83	1.59	1.45	1.33	1.24

Stk. No.	Type WEE-	μH	Q min @ MC		Stk. No.	Type WEE-	μH	Q min @ MC	
35F2175	0.10	0.10	63	25	35F2192	68	68	40	2.5
35F2176	0.15	0.15	59	25	35F2193	100	100	63	.79
35F2177	0.22	0.22	56	25	35F2194	150	150	63	.79
35F2178	0.33	0.33	48	25	35F2195	220	220	57	.79
35F2179	0.47	0.47	48	25	35F2196	330	330	50	.79
35F2180	0.68	0.68	45	25	35F2197	470	470	66	.79
35F2181	1.0	1.0	42	7.9	35F2198	680	680	71	.79
35F2182	1.5	1.5	41	7.9	35F2199	1000	1000	62	.79
35F2183	2.2	2.2	42	7.9	35F2200	1500	1500	51	.250
35F2184	3.3	3.3	40	7.9	35F2201	2200	2200	50	.250
35F2185	4.7	4.7	40	7.9	35F2203	4700	4700	48	.250
35F2186	6.8	6.8	40	7.9	35F2205	10000	10000	36	.079
35F2187	10	10	46	2.5	35F2207	22000	22000	32	.079
35F2188	15	15	47	2.5	35F2209	47000	47000	25	.079
35F2189	22	22	47	2.5	35F2211	100000	100000	20	.079
35F2190	33	33	43	2.5	35F2212	150000	150000	20	.060
35F2191	47	47	46	2.5	....	....	....	...	...

WEE V-L SUBMINIATURE VARIABLE SHIELDED INDUCTORS

Designed for close inductance adjustments in high density circuits. Magnetically shielded. Adjustable range; ±10% for all values shown except 0.10μH and 0.12μH which are ±5%. Designed to MIL-C-15305C, Grade 1, class B. Epoxy molded 0.300" dia. x 0.400" length. Oper. temp. -55°C to +125°C. P.C. board mtg. is facilitated by 0.200 grid spacing.

PRICE LOCATOR

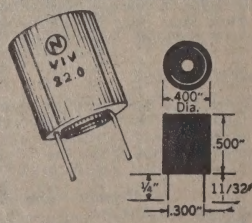
μH Range	1-24	25-49	50-99	100-249	250-499	500-999
0.10-1.0	6.16	4.94	4.28	3.90	3.60	3.35
1.2-10,000	5.13	4.11	3.57	3.24	2.99	2.79
12,000-100,000	7.33	5.87	5.09	4.64	4.28	3.99

Stk. No.	WEE V-L	μH	MC	Q Nom	Stk. No.	WEE V-L	μH	MC	Q Nom.
35F2064	0.10	.10	25	70	35F2098	68	68	2.5	105
35F2066	0.15	.15	25	70	35F2100	100	100	2.5	95
35F2070	0.33	.33	25	80	35F2101	120	120	0.790	95
35F2071	0.39	.39	25	80	35F2102	150	150	0.790	90
35F2072	0.47	.47	25	80	35F2104	220	220	0.790	95
35F2074	0.68	.68	25	80	35F2106	330	330	0.790	100
35F2075	0.82	.82	25	85	35F2107	390	390	0.790	100
35F2076	1.00	1.00	25	85	35F2108	470	470	0.790	100
35F2077	1.2	1.2	7.9	90	35F2110	680	680	0.790	100
35F2078	1.5	1.5	7.9	100	35F2111	820	820	0.790	90
35F2079	1.8	1.8	7.9	115	35F2112	1000	1000	0.790	90
35F2080	2.2	2.2	7.9	110	35F2114	1500	1500	0.250	90
35F2081	2.7	2.7	7.9	110	35F2115	1800	1800	0.250	100
35F2082	3.3	3.3	7.9	90	35F2116	2200	2200	0.250	100
35F2083	3.9	3.9	7.9	90	35F2117	2700	2700	0.250	95
35F2084	4.7	4.7	7.9	95	35F2120	4700	4700	0.250	85
35F2085	5.6	5.6	7.9	95	35F2121	5600	5600	0.250	85
35F2586	6.8	6.8	7.9	85	35F2122	6800	6800	0.250	75
35F2087	8.2	8.2	7.9	95	35F2123	8200	8200	0.250	80
35F2088	10	10	7.9	90	35F2124	10000	10000	0.250	70
35F2089	12	12	2.5	120	35F2125	12000	12000	0.079	70
35F2090	15	15	2.5	120	35F2128	22000	22000	0.079	70
35F2092	22	22	2.5	125	35F2129	27000	27000	0.079	70
35F2093	27	27	2.5	115	35F2130	33000	33000	0.079	70
35F2094	33	33	2.5	120	35F2132	47000	47000	0.079	70
35F2095	39	39	2.5	120	35F2133	56000	56000	0.079	70
35F2096	47	47	2.5	110	35F2136	100000	100000	0.079	60
35F2097	56	56	2.5	115	....	....	....	....	...

Type B-469. Alignment tool for above WEE V L.
35F2214. NET ..... .50

"VIV" MINIATURE VARIABLE INDUCTORS

Reliable and stable over extreme temperature variations. Vertical to facilitate mounting on printed circuit boards. 0.40" dia. x 0.50" L. Range; 0.10 to 4700 μH. encapsulated in epoxy resin. Temp; -55°C to +125°C. Tunable range; 0.33 to 4700 μH, ±20%; 0.15 to 0.22 μH, ±15%. Meets MIL-C-15305A specs.



PRICE LOCATOR

μH Range	1-24	25-49	50-99	100-249	250-499	500-999
.1-15	3.52	2.81	2.45	2.23	2.06	1.92
22-4700	3.76	3.00	2.61	2.38	2.21	2.06

Stk. No.	VIV.	μH	Q @mhz		Stk. No.	VIV.	μH	Q @ mhz	
35F2035	0.10	.10	85	25	35F2048	15.0	15.0	65	2.5
35F2036	0.15	.15	100	25	35F2049	22.0	22.0	55	2.5
35F2037	0.22	.22	100	25	35F2050	33.0	33.0	54	2.5
35F2038	0.33	.33	100	25	35F2051	47.0	47.0	51	2.5
35F2039	0.47	.47	100	25	35F2052	68.0	68.0	55	2.5
35F2040	0.68	.68	100	25	35F2053	100	100	50	2.5
35F2041	1.00	1.00	90	25	35F2057	470	470	45	.79
35F2042	1.50	1.50	70	7.9	35F2058	680	680	42	.79
35F2043	2.20	2.20	73	7.9	35F2059	1000	1000	40	.79
35F2044	3.30	3.30	80	7.9	35F2061	2200	2200	44	.25
35F2045	4.70	4.70	75	7.9	35F2062	3300	3300	46	.25
35F2046	6.80	6.80	80	7.9	35F2063	4700	4700	48	.25
35F2047	10.0	10.0	82	7.9	....	....	....	....	...

Type B-305. Aligning tool for VIV variable inductors.
35F2213. NET ..... .50

MAKE NEWARK YOUR DEPENDABLE SOURCE
FOR ALL ELECTRONIC PARTS AND EQUIPMENT

J. W. Miller Chokes

FREQUENCY SELECTIVE R.F. CHOKES

Maximum efficiency and highest impedance at specific operating frequencies. Designed to cover the major amateur, industrial and citizens bands and will also operate efficiently at frequencies approximating the recommended frequencies.

Stk. No.	Type	uh	Freq. Mhz.	1-99	Bulk Packed 100-249	250-499	500-Up
59F255	RFC-14	84	7-20	1.88	1.25	.94	.78
59F256	RFC-21	38.5	15-30	1.55	1.04	.78	.65
59F258	RFC-50	8.2	30-90	1.15	.76	.57	.48
59F259	RFC-144	1.72	75-180	.80	.53	.40	.33

SUB-MINIATURE RF CHOKES

Iron core R.F. chokes designed to meet demand for high reliability, ultra-miniature components. Ideally suited to network and filter design, delay lines, and computer applications. Coils are impregnated with a moisture resistant lacquer; can be fungus-proofed per JAN-T-152 using varnish per MIL-V-173A. Can be encapsulated in epoxy resin to conform to Grade 1, Class B of MIL-C-15305. Rated: 50 mA. Shpg. wt.: 2 oz.

Stock No.	Type	Induct. *	Min. Q @ F	1-99	100-249	250-499	500-Up
59F212	70F106AI	1.0 uH	41 @ 25 MHz	.72	.48	.36	.30
59F213	70F126AI	1.2 uH	45 @ 7.9 MHz	1.03	.69	.52	.43
59F214	70F156AI	1.5 uH	42 @ 7.9 MHz				
59F217	70F276AI	2.7 uH	34 @ 7.9 MHz				
59F218	70F336AI	3.3 uH	40 @ 7.9 MHz	.72	.48	.36	.30
59F219	70F396AI	3.9 uH	35 @ 7.9 MHz				
59F220	70F476AI	4.7 uH	43 @ 7.9 MHz				
59F221	70F566AI	5.6 uH	41 @ 7.9 MHz				
59F222	70F686AI	6.8 uH	40 @ 7.9 MHz				
59F224	70F105AI	10 uH	36 @ 7.9 MHz	.84	.56	.42	.35
59F226	70F155AI	15 uH	52 @ 2.5 MHz				
59F228	70F225AI	22 uH	51 @ 2.5 MHz				
59F230	70F335AI	33 uH	50 @ 2.5 MHz				
59F231	70F395AI	39 uH	48 @ 2.5 MHz				
59F232	70F475AI	47 uH	44 @ 2.5 MHz				
59F233	70F565AI	56 uH	45 @ 2.5 MHz				
59F234	70F685AI	68 uH	42 @ 2.5 MHz				
59F235	70F825AI	82 uH	41 @ 2.5 MHz	.84	.56	.42	.35
59F236	70F104AI	100 uH	25 @ 2.5 MHz				
59F237	70F154AI	150 uH	47 @ 790 KHz				
59F238	70F224AI	220 uH	46 @ 790 KHz				
59F239	70F334AI	330 uH	41 @ 790 KHz				
59F240	70F474AI	470 uH	35 @ 790 KHz				
59F241	70F684AI	680 uH	37 @ 790 KHz				
59F242	70F824AI	820 uH	33 @ 790 KHz	.90	.60	.45	.38
59F243	70F103AI	1.0 mh	30 @ 790 KHz				
59F244	70F153AI	1.5 mh	40 @ 250 KHz				
59F245	70F223AI	2.2 mh	40 @ 250 KHz	.96	.64	.48	.40
59F246	70F333AI	3.3 mh	52 @ 250 KHz	.99	.66	.50	.41
59F247	70F473AI	4.7 mh	49 @ 250 KHz	.99	.66	.50	.41
59F248	70F683AI	6.8 mh	51 @ 250 KHz	.99	.66	.50	.41
59F249	70F823AI	8.2 mh	48 @ 250 KHz	1.20	.80	.60	.50
59F250	70F102AI	10.0 mh	41 @ 250 KHz	1.20	.80	.60	.50
59F058	70F252AF	25 mh	59 @ 79 KHz	1.29	.86	.65	.54
59F060	70F332AF	33 mh	61 @ 79 KHz	1.32	.88	.66	.55

(*)0.1 to 1.0 μH $\pm$20%, 1.1 to 15 μH $\pm$10% over 15 μH $\pm$5%.

HEAVY DUTY HASH CHOKES

A series of relatively high inductance, high current hash filter chokes. Molded powdered iron form. Av. ship. wt. 2 oz.

Stock No.	Type	Uh 20%	Ohms Max.	Amps	Dimensions	1-99	100-249	250-499	500-Up
15F2250	5218	3.35	.010	13	17/32X15/16	1.85	1.23	.92	.77
15F2251	5219	4.9	.016	8	1/2X1 1/4	1.85	1.23	.92	.77
15F2252	5220	8.8	.021	5	1/2X1 1/4	1.50	1.00	.75	.63
15F2253	5230	4.0	.012	5	5/16X29/32	1.26	.84	.63	.53
15F2254	5240	40.	.082	2	9/16X1 1/4	1.32	.88	.66	.55
15F2255	5248	68.	.054	5	17/32X1 1/4	1.50	1.00	.75	.63
15F2256	5250	100.	.216	2	5/16X1 1/4	1.50	1.00	.75	.63
15F2257	5252	125.	.08	3.5	1/2X1 1/4	1.71	1.14	.86	.71
15F2258	5254	250.	.17	2.5	7/16X1 1/4	1.71	1.14	.86	.71
15F2259	5256	500.	.26	2	9/16X1 1/4	1.71	1.14	.86	.71

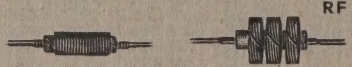
MIL-SPEC MOLDED R.F. CHOKES

Small hermetically sealed, R.F. chokes wound on iron or phenolic cores. Conform to MIL-C15305 Class 7. Designed for uses which require high quality, dependable performance and small sized chokes. Avg. shpg. wt.: 2 oz.

Stock No.	Type No.	MS Type	DC Res. Max.	mA Rtg. Max.	1-99	100-249	250-499	500-Up
15F2260	9310-00	18130-1	.03	2450	.60	.40	.30	.25
15F2261	9310-02	18130-2	.055	1900	.60	.40	.30	.25
15F2262	9310-04	18130-3	.09	1400	.60	.40	.30	.25
15F2263	9310-06	18130-4	.12	1225	.60	.40	.30	.25
15F2264	9310-07	18130-5	.135	1220	.60	.40	.30	.25
15F2265	9310-08	18130-6	.15	1100	.60	.40	.30	.25
59F100	9310-10	18130-7	.22	900	.60	.40	.30	.25
59F101	9310-12	18130-8	.29	830	.60	.40	.30	.25
15F2266	9310-14	18130-9	.42	650	.60	.40	.30	.25
15F2267	9310-16	18130-10	.50	600	.60	.40	.30	.25
15F2268	9310-18	18130-11	.65	525	.60	.40	.30	.25
15F2269	9310-20	18130-12	.95	435	.60	.40	.30	.25
15F2270	9310-22	18130-13	1.20	385	.60	.40	.30	.25
15F2271	9310-24	18130-14	2.00	300	.60	.40	.30	.25
15F2272	9310-26	18130-15	2.30	280	.60	.40	.30	.25
15F2273	9310-28	18130-16	2.60	260	.60	.40	.30	.25
15F2274	9310-30	18130-17	.32	750	.66	.44	.33	.28
15F2275	9310-32	18130-18	.50	600	.66	.44	.33	.28
15F2276	9310-34	18130-19	.60	545	.66	.44	.33	.28
15F2277	9310-36	18130-20	.90	445	.66	.44	.33	.28
15F2278	9310-38	18130-21	1.10	404	.66	.44	.33	.28
15F2279	9310-40	18130-22	1.40	370	.66	.44	.33	.28
59F102	9310-42	18130-23	2.25	280	.66	.44	.33	.28
59F103	9310-44	18130-24	2.50	265	.66	.44	.33	.28
59F104	9310-46		2.50	265	.75	.50	.38	.31
15F2280	9310-48	18130-25	2.60	260	.75	.50	.38	.31
15F2281	9310-50		2.80	255	.75	.50	.38	.31
15F2282	9310-52	18130-26	3.00	250	.75	.50	.38	.31

Mold Size: .156$\pm$.010 dia. .375$\pm$.010 lgth. Leads: AWG #22 TCW; 1.437$\pm$.188 lgth. Power Rating: .25 Watt max. at 90° C.

RF CHOKES WITH AXIAL LEADS



Iron Core Form - Single Layer Solenoid

Solenoid or 3-pi universal windings. Impregnated with moisture, fungus-resistant varnish. Operation up to UHF. Tol. $\pm$5% exc. Sgl. Layer Phen. .1- 1uH-20%, 1.1- 10uH-10%. Dimensions: Phenolic form—3/16" dia, 3/4" L. Iron core from 7/32" long; Ferrite core chokes 1/4" dia. 7/8" long. Avg. Ship. wt.: 2 oz.

Stock No.	Type	Induct.	Ohms Max.	mA	1-99	100-249	250-499	500-Up
59F282	4622	10 uH	.11	1500	.75	.50	.38	.31
59F283	4624	15 uH	.17	1000	.75	.50	.38	.31
59F284	4626	24 uH	.34	800	.78	.52	.39	.33
59F285	4628	39 uH	.65	600	.78	.52	.39	.33
59F286	4629	55 uH	1.0	500				
59F287	4630	62 uH	1.2	475				
59F288	4631	82 uH	1.9	450	.84	.56	.42	.35
59F289	4632	100 uH	3.0	400				
Phenolic Form—3 Section Pi Winding								
59F292	4642	.10mH	5.4	160	.84	.56	.42	.35
59F293	4644	0.15mH	6.5	160	.84	.56	.42	.35
59F294	4646	0.24mH	8.5	160	.89	.59	.44	.37
59F296	4649	0.55mH	13.0	160	.95	.64	.48	.40
59F298	4651	0.75mH	16.0	160	.95	.64	.48	.40
59F299	4652	1.0 mH	19.0	160	.95	.64	.48	.40
Iron Core Form—3 Section Pi Windings								
59F302	4662	1.0 mH	8.6	160	.98	.66	.49	.41
59F303	4664	1.5 mH	11	160	1.02	.68	.51	.43
59F304	4666	2.4 mH	15	160	1.12	.74	.56	.47
59F305	4668	3.9 mH	20	160	1.58	1.05	.79	.66
59F309	4672	10.0 mH	50	100	1.72	1.14	.86	.72

Phenolic Form—Single Layer Solenoid

Stock No.	Type	Induct. uH	Ohms Max.	mA	1-99	100-249	250-499	500-Up
59F264	4580	0.1	.017	3000	1.05	.70	.53	.44
59F266	4584	0.22	.020	2800	.79	.53	.40	.33
59F267	4586	0.33	.024	2600	.66	.44	.33	.28
59F268	4588	0.47	.034	2500	.73	.48	.36	.30
59F269	4590	0.68	.036	2400	.66	.44	.33	.28
59F272	4602	1.0	.050	2000	.66	.44	.33	.28
59F273	4604	1.5	.093	1800	.66	.44	.33	.28
59F274	4606	2.4	.190	1500	.66	.44	.33	.28
59F275	4608	3.9	.450	1000	.66	.44	.33	.28
59F276	4609	5.5	.670	850	.66	.44	.33	.28
59F277	4610	6.2	.830	700				
59F278	4611	8.2	1.20	600	.69	.46	.35	.29
59F279	4612	10.0	1.50	500				
Ferrite Core RF Chokes-3 Section PI Windings								
59F312	6302	2.5mH	9.0	160	1.24	.83	.62	.52
59F313	6304	5.0mH	14	160	1.43	.96	.72	.60
59F314	6306	10.0mH	31	100	1.59	1.06	.80	.66
59F315	6308	25.0mH	82	65	1.59	1.06	.80	.66
59F316	6310	50.0mH	127	65	1.91	1.27	.95	.80

J. W. Miller-Coils-Chokes

SHIELDED SUBMINIATURE ADJUSTABLE RF COILS

Small Q changes. Tuning adj. accessible from top or bottom. Magnetic and electrostatic shielding. PC terminals, base and shield, ½" sq. x ⅜" H. 2 oz.

Stock No.	Type No.	Inductance uh (*mh)	Res. Max.	Max. Ma.	1-99	100-249	250-499	500-Up
15F2311	9050	1.5- 3.0	.66	80	2.70	1.80	1.35	1.13
15F2312	9051	3.0- 7.0	.85	125	2.70	1.80	1.35	1.13
15F2313	9052	7.0- 14.0	1.38	80	2.74	1.82	1.37	1.14
15F2314	9053	14.0- 28.0	2.10	80	2.74	1.82	1.37	1.14
15F2315	9054	28.0- 60.0	3.00	100	2.77	1.85	1.39	1.16
15F2316	9055	60.0-120.0	4.00	100	2.77	1.85	1.39	1.16
12F2317	9056	120.0-280.0	5.75	80	2.77	1.85	1.39	1.16
12F2318	9057	280.0-650.0	12.00	80	3.41	2.27	1.70	1.42
15F2319	9058	650.0- 1.3*	15.0	100	2.84	1.90	1.42	1.19
15F2320	9059	*1.3- 3.0*	23.0	100	2.84	1.90	1.42	1.19
15F2321	9059-1	1.8- 2.2	10.0	141	3.01	2.01	1.51	1.26
12F2322	9060	*3.0- 10.0*	76.0	30	4.08	2.72	2.04	1.70
15F2323	9061	*8.0- 20.0*	110.0	30	3.13	2.09	1.57	1.31
15F2324	9062	*15.0- 40.0*	150.0	30	3.13	2.09	1.57	1.31
15F2325	9063	*20.0- 60.0*	175.0	25	3.24	2.16	1.62	1.35

ADJUSTABLE WIDE RANGE TAPPED INDUCTORS

Large inductance change. Excellent Q. Tap at one third the total turns. Size: ⅞" max. dia. x 2¼" long. Mounting hole: 5/16". Weight: 3 oz.

Stock No.	Type No.	Inductance mh (*uh)	Res. Max.	Max. Ma.	1-99	100-249	250-499	500-Up
15F2326	9011	40.* - .240	2.04	250	2.79	1.86	1.40	1.16
12F2327	9012	.180- .800	4.08	250	2.16	1.44	1.08	.90
15F2328	9013	.570- 2.80	8.52	250	2.52	1.68	1.26	1.05
15F2329	9014	2.10 - 8.00	15.4	250	4.46	2.98	2.23	1.86
15F2330	9015	6.00 - 16.0	33.6	200	3.46	2.30	1.73	1.44
15F2331	9016	12.0 - 40.0	91.2	125	3.97	2.65	1.99	1.66
15F2332	9017	30.0 -105.0	148.0	75	3.15	2.10	1.58	1.31
15F2333	9018	78.0 -240.0	264.0	75	3.78	2.52	1.89	1.58
15F2334	9019	180.0 -750.0	620.0	50	5.11	3.41	2.56	2.13

MOLDED COILS

FIXED COILS

Freq. Range: 50 MHz-450 MHz. Lead Lgth: 3/16", 1/32" Max. Lgth: .38". Max. Width: .23".

Stock No.	Type No.	Ind. uH	Min. Q	DC Amps	Wire Size	1-99	100-249	250-499	500-Up
15F2283	75F238mpc	.023	110	1	22				
15F2284	75F328mpc	.032	110	1	22				
15F2285	75F518mpc	.051	110	1	22				
12F2286	75F117mpc	.110	110	1	22				
15F2287	75F157mpc	.150	110	1	22	.72	.48	.36	.30
15F2288	75F277mpc	.270	110	.5	26				
15F2289	75F397mpc	.390	110	.5	26				
15F2290	75F477mpc	.470	110	.5	26				
15F2291	75F597mpc	.590	110	.5	26				

Series 48A— ADJUSTABLE COILS

Freq. Range: 30 MHz. -250 MHz. Min. Q: 100. DC Current: 2 A. #20 AWG. Coil OD: .310".

Stock No.	Type	Inductance Range µH	No. of Turns	1-99	100-249	250-499	500-Up
15F2292	48A518mpc	.046-.055	1½				
15F2293	48A778mpc	.071-.082	2½				
15F2294	48A117mpc	.099-.122	3½				
15F2295	48A147mpc	.118-.157	4½				
15F2296	48A187mpc	.150-.207	5½	1.53	1.02	.77	.64
15F2297	48A227mpc	.181-.278	6½				
15F2298	48A257mpc	.209-.283	7½				
15F2299	48A287mpc	.241-.316	8½				
15F2300	48A317mpc	.270-.351	9½				

Series 49A — ADJUSTABLE COILS

Freq. Range: 10 MHz-250 MHz. #22 AWG. Coil OD: .285". DC current 1.5 A. Min. Q 100, *70.

Stock No.	Type No.	Inductance µH	No. of Turns	1-99	100-249	250-499	500-Up
15F2301	49A678mpc	.060-.074	2⅓				
15F2302	49A127mpc	.116-.132	3⅓				
15F2303	49A167mpc	.134-.194	4⅓				
15F2304	49A217mpc	.170-.258	5⅓				
15F2305	49A347mpc	.250-.415	7⅓	1.53	1.02	.77	.64
15F2306	49A537mpc*	.393-.657	10⅓				
15F2307	49A757mpc*	.600-.900	14⅓				
15F2308	49A997mpc*	.810-1.160	18⅓				
15F2309	49A126mpc*	.960-1.340	21⅓				
15F2310	49A146mpc*	1.180-1.530	24⅓				

VERTICAL MOUNTED PC VELVETORK ADJUSTABLE RF COILS

COILS WOUND ON FORM NO. 23A013

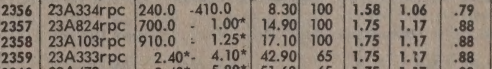
Polyester impregnated Alpha-Cellulose tubing. Internally bonded resilient ribs. Adjustable from either end. Size: ⅜" dia. x ¾" long. (form only, over collar). Both thread and torque control.

Stock No.	Type No.	Inductance uH(mh)	Max Res.	Max. Ma.	1-99	100-249	250-499	500-Up
15F2335	23A107rpc	.095- .125	.02	4100	1.39	.92	.69	.58
15F2336	23A157rpc	.130- .170	.02	1600	1.39	.92	.69	.58
15F2337	23A227rpc	.185- .265	.02	1600	1.39	.92	.69	.58
15F2338	23A337rpc	.285- .410	.03	1000	1.39	.92	.69	.58
15F2339	23A477rpc	.420- .580	.03	2500	1.39	.92	.69	.58
15F2340	23A687rpc	.540- .850	.03	1600	1.54	1.02	.77	.64
15F2341	23A827rpc	.640- 1.000	.03	1600	1.39	.92	.69	.58
15F2342	23A106rpc	.760- 1.25	.04	1600	1.39	.92	.69	.58
15F2343	23A156rpc	1.20 - 1.87	.06	1000	1.39	.92	.69	.58
15F2344	23A226rpc	1.65 - 2.75	.14	400	1.49	.99	.74	.62
15F2345	23A336rpc	2.40 - 4.10	.17	400	1.49	.99	.74	.62
15F2346	23A476rpc	3.40 - 5.80	.24	400	1.49	.99	.74	.62
15F2347	23A686rpc	4.60 - 8.50	.39	250	1.49	.99	.74	.62
15F2348	23A826rpc	5.60 -10.0	.64	160	1.49	.99	.74	.62
15F2349	23A105rpc	7.10 -12.5	.77	160	1.49	.99	.74	.62
15F2350	23A155rpc	10.0 -18.7	1.68	100	1.58	1.06	.79	.66

Stock No.	Type No.	Inductance uH(mh)	Max. Res.	Max. Ma.	1-99	100-249	250-499	500-Up
15F2351	23A225rpc	14.8 - 27.5	1.91	100	1.58	1.06	.79	.66
15F2352	23A335rpc	22.0 - 41.0	2.34	100	1.58	1.06	.79	.66
15F2353	23A475rpc	31.0 - 58.0	2.72	100	1.58	1.06	.79	.66
15F2354	23A685rpc	43.5 - 85.0	3.30	100	1.58	1.06	.79	.66
15F2355	23A224rpc	160.0 -275.0	6.70	100	1.71	1.14	.86	.71
15F2356	23A334rpc	240.0 -410.0	8.30	100	1.58	1.06	.79	.66
15F2357	23A824rpc	700.0 - 1.00*	14.90	100	1.75	1.17	.88	.73
15F2358	23A103rpc	910.0 - 1.25*	17.10	100	1.75	1.17	.88	.73
15F2359	23A333rpc	2.40*- 4.10*	42.90	65	1.75	1.17	.88	.73
15F2360	23A473rpc	3.40*- 5.80*	51.60	65	1.75	1.17	.88	.73
15F2361	23A683rpc	5.15*- 8.50*	63.60	65	1.75	1.17	.88	.73
15F2362	23A823rpc	7.40*- 10.00*	75.60	65	2.13	1.42	1.07	.89
15F2363	23A102rpc	9.80*- 12.50*	87.30	65	1.75	1.17	.88	.73
15F2364	23A332rpc	18.20*- 41.00*	244.0	33	2.26	1.50	1.13	.94
15F2365	23A682rpc	40.00*- 85.00*	378.0	33	1.82	1.21	.91	.76

ADJUSTABLE CERAMIC FORMS AND RF COILS

Permeability tuned coils wound on silicone impregnated ceramic forms. Forms alone supplied with cores suitable for freq. range of 1-20 Mhz. For other ranges add suffix to type number (Y) 50-1000 Khz (W) 30-300 Mhz.



Standard RF Coils and Forms (⅜" Dia., 1 1/16" Long)

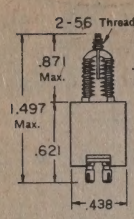
Stk. No.	Type	Ind. µH	1-99	100-249	Bulk Packed 250-499	Bulk Packed 500-Up
59F337	4400-2	Form only	2.15	1.43	1.07	.90
59F338	4403	.990- 1.50	3.07	2.05	1.54	1.28
59F339	4404	1.60 - 3.10	3.42	2.28	1.71	1.43
59F340	4405	3.30 - 6.50	3.00	2.00	1.50	1.25
59F341	4406	7.30 - 14.0	3.14	2.10	1.57	1.31
59F342	4407	16.0 - 29.0	3.33	2.22	1.67	1.39
59F343	4408	33.0 - 66.0	3.45	2.30	1.73	1.44
59F344	4409	74.0 - 124.0	3.52	2.35	1.76	1.47
59F345	4410	138 - 238.0	3.65	2.44	1.83	1.52
59F346	4411	270 - 451.0	3.45	2.30	1.73	1.44
59F347	4412	495 - 760.0	3.20	2.14	1.60	1.34
59F348	4413	825 -1300.0	3.24	2.16	1.62	1.35
59F349	4414	1400 -2000.0	3.98	2.66	1.99	1.66

Miniature Adjustable RF Coils (¼" Dia., ⅞" Long)

Stk. No.	Type	Ind. µH	1-99	100-249	Bulk Packed 250-499	Bulk Packed 500-Up
59F352	4500-2	Form only	1.52	1.02	.76	.64
59F358	4506	9.90 - 15.0	2.81	1.87	1.40	1.17
59F360	4508	26.0 - 33.0	2.78	1.85	1.39	1.16
59F362	4511	66.0 -114.0	3.01	2.00	1.50	1.25
59F363	4512	120. -190	3.04	2.03	1.52	1.27
59F364	4513	209 -314	3.08	2.06	1.54	1.29
59F365	4514	350 -475	3.12	2.08	1.56	1.30
Subminiature Adjustable RF Coils (3/16" Dia., ⅝" Long)						
59F319	4300-2	Form only	1.43	.96	.72	.60
59F322	4303	.440- .620	2.23	1.49	1.12	.93
59F325	4306	1.60 - 2.40	2.60	1.74	1.30	1.09
59F326	4307	2.70 - 4.20	2.60	1.74	1.30	1.09
59F327	4308	4.70 - 6.80	2.48	1.65	1.24	1.03
59F328	4309	7.80 - 11.0	2.51	1.67	1.25	1.05

Coils and Coil Forms

COIL FORMS



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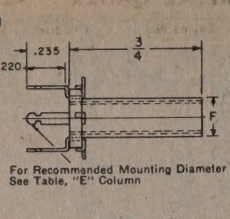

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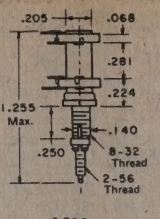

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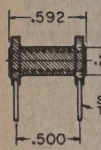


3104

Cambion coil forms are available in vertical or horizontal styles; for PC or stud mounting; made from ceramic, molded polypropylene or diallyl; and in unitized shielded housings. **Series 533** is a shielded assembly; **Series 531** is a vertical phenolic form; **Series 503** is a vertical ceramic form; **Series 534** is polypropylene vertical PC mount form (except type 3104, horizontal diallyl PC mount).

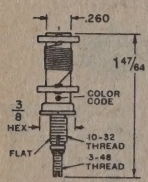
TO ORDER: First suffix of Type No. indicates frequency range; second suffix refers to no. of terminals and collars (or on shielded forms, to terminal board type).

Suffix No. 1			Suffix No. 2		
Dash No.	Slug Color	Frequency Range, MHz	Dash No.	Terminal/ Collar Location	Term. Bd. (shielded forms)
01	Yellow	0.2-1.5	01	2 ring terminals	2
02	Red	1-20	02	2 collars, 2 term. ea.	3
03	Green	20-50	03	2 collars, 1 term. ea.	4
04	White	50-200	04	1 top collar, 2 term.	5
05*	Black	100 up	05	1 bot. collar, 2 term.	6
06	Purple	2-50			
07	Blue	40-300			

*For shielded forms (series 533 and 534) dash no. 5 not avail.

Stock No.	Series	Type	Description	Above Bd.	Each 10-up
40F3521	533	1150-02-03-00	¼ -28 stud	.871″	1.54
13F3085	533	1155-01-03-00	⅜-32 stud	1.242″	1.61
40F3536	533	1160-04-01-00	12-28 stud	.617″	1.36
13F3086	533	1187-06-04-00	PC mount	.606″	1.24
40F3556	533	2191-03-03-00	PC mount	.585″	1.14
13F3087	533	3652-02-00-00	PC 4-pin	.480″	1.27
13F3088	531	2170-03-03-00	.219″ dia. PC mt.	.750″	.36
13F3089	531	2170-02-03-00	.219″ dia. PC mt.	.750″	.36
13F3090	531	2173-03-02-00	.285″ dia. PC mt.	.750″	.36
40F3623	531	2173-03-03-00	.285″ dia. PC mt.	.750″	.36
40F3102	530	1532-02-01-00	8-32 stud mt.	.593″	.68
40F1651	530	1532-02-02-00	8-32 stud mt.	.593″	.87
40F1648	530	1532-03-01-00	8-32 stud mt.	.593″	.87
40F3204	530	1532-03-02-00	8-32 stud mt.	.593″	.87
40F3101	530	1532-04-01-00	8-32 stud mt.	.593″	.87
40F1649	530	1532-05-01-00	8-32 stud mt.	.593″	.87
40F1650	530	1532-07-01-00	8-32 stud mt.	.593″	.87
40F3144	530	1534-02-01-00	¼ -28 stud mt.	1.060″	.83
40F3372	530	1534-03-02-00	¼ -28 stud mt.	1.060″	1.10
40F3126	530	1536-02-01-00	10-32 stud mt.	.858″	.72
40F3128	530	1536-03-01-00	10-32 stud mt.	.858″	.72
40F3300	530	1536-03-02-00	10-32 stud mt.	.858″	.92
40F3125	530	1536-04-01-00	10-32 stud mt.	.858″	.72
40F3590	530	2175-01-03-00	.260″ dia. PC mt.	.625″	.42
13F3091	530	2175-02-01-00	.260″ dia. PC mt.	.625″	.40
40F3581	530	2175-03-03-00	.260″ dia. PC mt.	.625″	.42
40F3593	530	2175-04-03-00	.260″ dia. PC mt.	.625″	.42
13F3092	530	2175-07-03-00	.260″ dia. PC mt.	.625″	.42
40F3181	534	3104-02-00-00	Horiz. PC mt.	.375″	1.13
40F3182	534	3104-03-00-00	Horiz. PC mt.	.375″	1.13
40F3183	534	3104-04-00-00	Horiz. PC mt.	.375″	1.13
13F3093	534	3104-05-00-00	Horiz. PC mt.	.375″	1.13
40F1661	534	3104-07-00-00	Horiz. PC mt.	.375″	1.13
40F3186	534	3623-03-00-00	Polyp. vert. PC	.340″	1.13
40F3187	534	3623-04-00-00	Polyp. vert. PC	.340″	1.13
13F3094	534	3623-05-00-00	Polyp. vert. PC	.340″	1.13
40F3188	534	3624-01-00-00	Polyp. vert. PC	.495″	1.15
40F3189	534	3624-02-00-00	Polyp. vert. PC	.495″	1.15
40F3190	534	3624-03-00-00	Polyp. vert. PC	.495″	1.15
40F3191	534	3624-04-00-00	Polyp. vert. PC	.495″	1.15
13F3095	534	3624-05-00-00	Polyp. vert. PC	.495″	1.15
40F1666	534	3624-06-00-00	Polyp. vert. PC	.495″	1.15
40F1667	534	3624-07-00-00	Polyp. vert. PC	.495″	1.15

WOUND COILS



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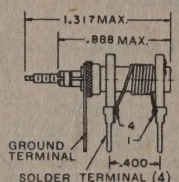

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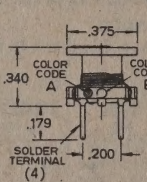

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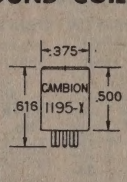

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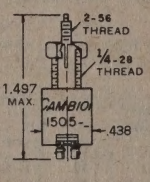

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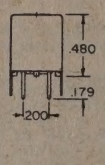

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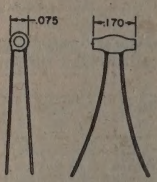

1054

Variable inductance coils wound on ceramic, molded polypropylene or shielded forms. Types shown are the most widely used values; other inductance values are available. **Types 1053** and **1054** are fixed micro-miniature, epoxy-encapsulated coils. **Types 1050** and **1052** are epoxy-encapsulated micro-min. **1199** is shielded micro-miniature. (*) indicates open winding; (S) shielded.

Stock No.	Series	Type	Induct. Range μH	Description	Net
13F3096	556	2060-05-00-00 *	16-30	Ceramic-Vertical	2.33
13F3097	556	2060-06-00-00 *	28-63		2.51
40F5061	556	2060-07-00-00 *	61-122		2.62
40F5062	556	2060-08-00-00 *	120-243		2.86
40F1607	556	3338-05-00-00 *	.27-.40		3.10
13F3098	556	3370-03-00-00 *	.15-.20	Ceramic-Horiz. (PC)	3.10
13F3099	556	3370-06-00-00 *	.40-.60		2.86
40F1612	556	3370-10-00-00 *	1.80-3.0		2.86
40F5125	556	3642-01-00-00 *	.090-.110	Ceramic-Vertical	2.99
40F1621	556	3642-09-00-00 *	.400-.540		2.99
13F3100	556	7105-05-00-00 *	.198-.242	Polyprop.-Vertical	2.23
13F3101	556	7105-07-00-00 *	.297-.363		2.23
13F3102	556	1194-04-00-00 (S)	IF TRF-PC 455 10.7 MHz		5.20
13F3103	556	1195-04-00-00 (S)	IF TRF-PC 455 kHz		4.85
40F4978	556	1505-01-00-00 (S)	.55-1.0	Shielded 2-56 stud	4.35
40F4979	556	1505-02-00-00 (S)	.90-1.75		4.35
40F4981	556	1505-04-00-00 (S)	3.20-8.30		4.35
40F4984	556	1505-07-00-00 (S)	30.0-73.0		4.25
13F3104	556	1505-10-00-00 (S)	400-1000		4.25
13F3105	556	1507-01-00-00 (S)	.11-.165	Shielded 12-28 stud	4.25
13F3106	556	1507-02-00-00 (S)	.160-.28		4.25
40F4995	556	1507-03-00-00 (S)	.27-.55		4.25
40F4996	556	1507-04-00-00 (S)	.5-1.1		4.25
40F4997	556	1507-05-00-00 (S)	.9-2.0		4.25
13F3107	556	1507-06-00-00 (S)	1.6-3.6		4.25
13F3108	556	1507-07-00-00 (S)	3.5-8.0		4.25
13F3109	558	3387-17-00-00 (S)	37.6-56.5	PC mount	3.70
13F3110	558	3387-20-00-00 (S)	120-180		3.70

Stock No.	Series	Type	Induct. Range μH	Description	Net
13F3111	558	3387-24-00-00 (S)	542-820	PC mount	3.70
13F3112	558	7107-01-00-00 (S)	.090-.110		2.25
13F3113	558	7107-05-00-00 (S)	.198-.242		2.25
13F3114	558	7107-06-00-00 (S)	.243-.297		2.25
13F3115	558	7107-07-00-00 (S)	.297-.263		2.25
13F3116	558	7107-13-00-00 (S)	.900-1.10		2.25
13F3117	558	7107-15-00-00 (S)	1.35-1.65		2.25
13F3118	558	7107-17-00-00 (S)	1.98-2.42		2.25
40F1629	558	7107-19-00-00 (S)	2.97-3.63		2.25
40F1630	558	7107-23-00-00 (S)	6.12-7.48		2.25
40F1631	558	7107-25-00-00 (S)	9.0-11.0		2.25
13F3119	555	1053-03-00-00	.15	Micro-min. Fixed	4.60
13F3120	555	1053-19-00-00	3.3		4.60
13F3121	555	1053-23-00-00	6.8		4.60
13F3122	555	1054-03-00-00	.15	Micro-min. Fixed	2.62
13F3123	555	1054-11-00-00	.68		2.62
13F3124	555	1054-21-00-00	4.7		2.62
13F3125	555	1054-27-00-00	15.0		2.62
13F3126	556	1050-05-00-00	1.6-3.9	Variable	2.62
13F3127	556	1052-01-00-00	.06-.13	Micro-min. Adjust.	4.85
13F3128	556	1052-02-00-00	.13-.32		4.85
13F3129	556	1052-06-00-00	3.5-10.0		4.85
13F3130	558	1199-03-00-00	.18-.27	Micro-min. Variable	2.90
13F3131	558	1199-07-00-00	.82-1.2		2.90
13F3132	558	1199-09-00-00	1.8-2.7		2.90
13F3133	558	1199-11-00-00	3.9-5.6		3.05
13F3134	558	1199-13-00-00	8.2-12.0		3.05

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DIALCO

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LED'S AND DISPLAYS

SHORT CYLINDRICAL/RED LENS

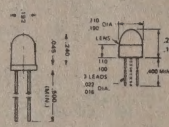
Stk. No.	Type	Voltage	1-9	10-24	25-99	100-249	250-499
25F1429	507-4756-3331-500	3.6 VDC	1.75	1.63	1.50	1.38	1.27
25F1430	507-4757-3331-500	5.0 VDC	1.75	1.63	1.50	1.38	1.27
25F1431	507-4758-3331-500	6.0 VDC	1.75	1.75	1.50	1.38	1.27
25F1432	507-4759-3331-500	10.0 VDC	1.75	1.75	1.50	1.38	1.27
25F1433	507-4760-3331-500	14.0 VDC	1.75	1.75	1.50	1.38	1.27
25F1434	507-4761-3331-500	28.0 VDC	1.93	1.79	1.66	1.52	1.40

SHORT STOVEPIPE/RED LENS

Stk. No.	Type	Voltage	1-9	10-24	25-99	100-249	250-499
25F1423	507-4756-3731-500	3.6 VDC	1.75	1.63	1.50	1.38	1.27
25F1424	507-4757-3731-500	5.0 VDC	1.75	1.63	1.50	1.38	1.27
25F1425	507-4758-3731-500	6.0 VDC	1.75	1.63	1.50	1.38	1.27
25F1426	507-4759-3731-500	10.0 VDC	1.75	1.63	1.50	1.38	1.27
25F1427	507-4760-3731-500	14.0 VDC	1.75	1.63	1.50	1.38	1.27
25F1428	507-4761-3731-500	28.0 VDC	1.93	1.79	1.66	1.52	1.40

GALLIUM ARSENIDE PHOSPHIDE LAMPS

Flat on one side of base provides antirotation and indicates cathode lead. IC compatible. Vibration/Shock resistant. Life span measured in years. Wide viewing angle. Forward DC Current: 50 mA. Reverse Voltage: 3V. Power Dissipation: 120 mW. Oper. Temp: −55° to 100°C. Relative Humidity @ 65°C: 98%. Intensity: 2.0 mcd @ 20 mA except 67, 68—1.0 mcd @ 20 mA.

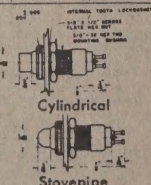


9165, 66 9167, 68

Stk. No.	Type	Color	1-99	100-999
25F1420	521-9165	Red Diffused	.50	.37
25F1457	521-9166	Clear Diffused	.60	.45
25F1421	521-9167	Red Diffused	.74	.55
25F1422	521-9168	Clear Diffused	.74	.55

INDICATOR LIGHTS

Ultra-miniature LED indicator light. IC compatible. Shock/vibration resistant. Transient free switching. Oper. Temp: −55° to 60°C. Max. Current: 20mA. Aluminum mounting bushing and flange ring, black anodized finish. Brass, white nickel finish mounting nut. Phosphor bronze, white nickel finish lockwasher. Low carbon steel, solder plated terminals.



Cylindrical

Stovepipe

SHORT CYLINDRICAL/RED LENS

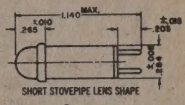
Stk. No.	Type	Voltage	1-9	10-24	25-99	100-249	250-499
25F1459	249-7867-3331-504	3.6 V	2.52	2.34	2.17	2.00	1.84
25F1435	249-7868-3331-504	5.0 V	2.52	2.34	2.17	2.00	1.84
25F1458	249-7869-3331-504	6.0 V	2.52	2.34	2.17	2.00	1.84
25F1454	249-7870-3331-504	10 V	2.52	2.34	2.17	2.00	1.84
25F1455	249-7871-3331-504	14 V	2.52	2.34	2.17	2.00	1.84
25F1436	249-7872-3331-504	28 V	2.73	2.54	2.36	2.17	2.00

SHORT STOVEPIPE/RED LENS

Stk. No.	Type	Voltage	1-9	10-24	25-99	100-249	250-499
25F1456	249-7867-3731-504	3.6 V	2.52	2.34	2.17	2.00	1.84
25F1437	249-7868-3731-504	5.0 V	2.52	2.34	2.17	2.00	1.84
25F1448	249-7869-3731-504	6.0 V	2.52	2.34	2.17	2.00	1.84
25F1449	249-7870-3731-504	10 V	2.52	2.34	2.17	2.00	1.84
25F1450	249-7871-3731-504	14 V	2.52	2.34	2.17	2.00	1.84
25F1438	249-7872-3731-504	28 V	2.73	2.54	2.36	2.17	2.00

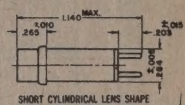
DATALAMP CARTRIDGES

Ultra-miniature LED indicator cartridge. Direct replacement for incandescent lamp cartridges using DC power supply. Compatible with IC's. Low power required. Max. current: 20mA. Life span measured in years. Shock, vibration proof. Oper. Temp: −55° to +60°C. Transient free switching. Internal fresnel ring pattern lens design assures maximum brightness. Polarity marked on housing. Terminal base keyed. Aluminum housing, black anodized. SS pins offset in insulated header. Plastic lens permanently attached to housing.



SHORT STOVEPIPE LENS SHAPE

Stovepipe

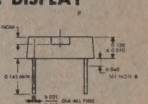


SHORT CYLINDRICAL LENS SHAPE

Cylindrical

5x7 DOT MATRIX ALPHA-NUMERIC DISPLAY

5x7 array with X-Y and decimal mounted on 14 pin dual-in-line substrate. 0.3" character. Compatible with USASCII, EBCDIC codes. Rev. Volt: 3V. Peak Forward Current, each diode: 100mA. Cont. F.C., each diode: 20mA, Total 400mA. Power: 750mW.

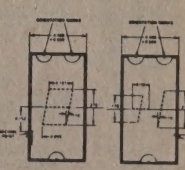


745-0005

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499
25F1443	745-0005	19.75	16.75	14.65	13.00	11.80

LED READOUTS

Gallium arsenide phosphide readouts. .270" high characters. High brightness. Low power requirements. Standard 14 pin DIP. Single-plane wide angle visibility. Compatible with most TTL and DTL circuits. Each unit visually checked for uniformity of elements. Available in two types. 7 segment basic module and 5 segment + 1 module.

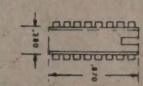


745-0006 745-0004

Stk. No.	Type	Description	1-9	10-24	25-99	100-249	250-499
25F1442	745-0004	+ 1 module	11.90	10.00	8.90	6.00	6.00
25F1444	745-0006	Basic module	12.50	9.50	9.00	7.50	7.00

BCD TO SEVEN SEGMENT DECODER DRIVERS

BCD inputs compatible with DTL, TTL devices. Lamp test, intensity control, ripple blanking. 1549- drives LED's and incandescent lamps up to 15V with 30mA sinking capability. 1554 drives LED's only.



Stk. No.	Type	1-9	10-24	25-99	100-249	250-499
25F1446	704-1549	4.80	4.24	3.72	3.24	2.80
25F1445	704-1554	4.80	4.24	3.72	3.24	2.80

SOCKETS FOR 745 SERIES DISPLAY/READOUTS

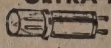
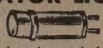
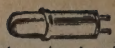
Use with 745-0004, 0005, 0006 LED readouts.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499
25F1447	501-0701-009	1.14	1.05	.95	.83	.76

15

DIALCO® Datalites

ULTRA-MINIATURE INDICATOR LIGHTS

A  B  C  D

Ideal for data-processing equipment, computers and automation applications. All units fully insulated. Conforms to applicable military specifications. Lamp Cartridges consist of unbased military specifications. Lamp Cartridges consist of unbased A1B Neon Lamps or T-1¾ wire-lead Incandescent Lamps, mounted in aluminum sleeves and caped with plastic lenses. Connections are brought out as stainless steel pins mounted in nylon insulation and offset to provide polarization. Datalites with permanent NE-2 Series Neon Glow Lamps are designed for use where lamp replacement is not necessary. Legends can be hot-stamped on the flat front surfaces of the cylindrical lenses.

(FIGS. A-B) NEON GLOW

The A1B Neon Glow Lamp has formed tip and double length electrodes; 1/25 watt; starting voltage of 65 AC and 90 DC. Use 100K ohm resistor for 105 to 125 volts. Overall size of lamp cartridge: 1²⁹⁄₆₄"x²¹⁄₆₄". Av. Shpg. Wt., 1 oz.

FIG. A STOVEPIPE TRANSPARENT NEON CARTRIDGE

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1100	507-3835-0931-600	Red	1.11	.98	.89	.72	.66	.57
25F1101	507-3835-0933-600	Amber						
25F1102	507-3835-0935-600	White						
25F1103	507-3835-0936-600	Lt. Yel.						
25F1104	507-3835-0937-600	Clear						

As above, but with AIC High Brightness Lamp.

25F1229	507-3836-0931-600	Red	1.11	.98	.89	.72	.66	.57
25F1230	507-3836-0933-600	Amber						
25F1231	507-3836-0935-600	White						
25F1232	507-3836-0936-600	Lt. Yel.						
25F1233	507-3836-0937-600	Clear						

FIG. B. LONG CYLINDRICAL NEON GLOW LAMP CARTRIDGES

25F1105	507-3835-1531-600	Red	1.11	.98	.89	.72	.66	.57
25F1106	507-3835-1533-600	Amber						
25F1107	507-3835-1535-600	White						
25F1108	507-3835-1536-600	Lt. Yel.						
25F1109	507-3835-1537-600	Clear						

As above, but with AIC High Brightness Lamp.

25F1234	507-3836-1531-600	Red	1.11	.98	.89	.72	.66	.57
25F1235	507-3836-1533-600	Amber						
25F1236	507-3836-1535-600	White						
25F1237	507-3836-1536-600	Lt. Yel.						
25F1238	507-3836-1537-600	Clear						

FIG. D STOVEPIPE INCANDESCENT LAMP CARTRIDGES (TRANSLUCENT)

6-Volt, 0.2 Amp.

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1110	507-3906-0971-600	Red	1.45	1.29	1.18	1.00	.91	.79
25F1111	507-3906-0972-600	Green						
25F1112	507-3906-0973-600	Amber						
25F1113	507-3906-0974-600	Blue						
25F1114	507-3906-0975-600	White						
25F1115	507-3906-0976-600	Lt. Yel.						

6.3-Volt, 0.2-Amp LONG LIFE

25F1239	507-3909-0971-600	Red	1.53	1.35	1.23	1.04	.97	.83
25F1240	507-3909-0972-600	Green						
25F1241	507-3909-0973-600	Amber						
25F1242	507-3909-0974-600	Blue						
25F1243	507-3909-0975-600	White						
25F1244	507-3909-0976-600	Lt. Yel.						

14-Volts, 0.08-Amp.

25F1116	507-3913-0971-600	Red	1.52	1.34	1.22	1.04	.96	.82
25F1117	507-3913-0972-600	Green						
25F1118	507-3913-0973-600	Amber						
25F1119	507-3913-0974-600	Blue						
25F1120	507-3913-0975-600	White						
25F1121	507-3913-0976-600	Lt. Yel.						

As above, but with Long Life Bulb of approximately 50,000 hours.

25F1245	507-3914-0971-600	Red	1.62	1.43	1.31	1.11	1.02	.88
25F1246	507-3914-0972-600	Green						
25F1247	507-3914-0973-600	Amber						
25F1248	507-3914-0974-600	Blue						
25F1249	507-3914-0975-600	White						
25F1250	507-3914-0976-600	Lt. Yel.						

28-Volt, 0.04-Amp.

25F1122	507-3917-0971-600	Red	1.40	1.23	1.12	.96	.86	.73
25F1123	507-3917-0972-600	Green						
25F1124	507-3917-0973-600	Amber						
25F1125	507-3917-0974-600	Blue						
25F1126	507-3917-0975-600	White						
25F1127	507-3917-0976-600	Lt. Yel.						

(FIGS. A—C) LAMP CARTRIDGES

For Twin Lamp & Single Lamp Holder

A1B Neon Lamps or T-1¾ wire-lead incandescent Lamps, in alum. sleeves with plastic lenses. Connections—stainless steel pins in nylon insul. and offset to provide polarization.

FIG. C. SHORT CYLINDRICAL INCANDESCENT LAMP CARTRIDGES

6-Volt, 0.2-Amp. — TRANSLUCENT

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1128	507-3906-1471-600	Red	1.45	1.29	1.18	1.00	.91	.79
25F1129	507-3906-1472-600	Green						
25F1130	507-3906-1473-600	Amber						
25F1131	507-3906-1474-600	Blue						
25F1132	507-3906-1475-600	White						
25F1133	507-3906-1476-600	Lt. Yel.						

10-Volt .014 Ma — TRANSPARENT

45F500	507-3910-1431-600	Red	2.08	1.83	1.68	1.43	1.30	1.12
45F501	507-3910-1432-600	Green						
45F502	507-3910-1433-600	Amber						
45F503	507-3910-1436-600	Lt. Yel.						

14-Volt, 0.08-Amp. — TRANSLUCENT

25F1134	507-3913-1471-600	Red	1.52	1.34	1.22	1.04	.96	.82
25F1135	507-3913-1472-600	Green						
25F1136	507-3913-1473-600	Amber						
25F1137	507-3913-1474-600	Blue						
25F1138	507-3913-1475-600	White						
25F1139	507-3913-1476-600	Lt. Yel.						

28-Volt, 0.04-Amp. —TRANSLUCENT

25F1140	507-3917-1471-600	Red	1.40	1.23	1.12	.96	.86	.73
25F1141	507-3917-1472-600	Green						
25F1142	507-3917-1473-600	Amber						
25F1143	507-3917-1474-600	Blue						
25F1144	507-3917-1475-600	White						
25F1145	507-3917-1476-600	Lt. Yel.						

NEON CARTRIDGES

Has BUILT-IN RESISTOR (1/10) watt). For the 507-4537, the resistance value is 56,000 ohms for use on 105-125 volts AC or DC. For the 507-4538 (High Brightness), the resistance value is 22,000 ohms for use on 110-125 volts AC.

Type 507-4537. With built-in 56K resistor for 105-125 ohms volts, AC or DC. *Colorless.

0931-937 Stovepipe-Fig. A		#1531-1537 Long Cyl.- Fig. B		
Stock No.	Type 507-4537	Stock No.	Type 507-4537	Lens Color
25F1180	-0931-640	25F1185	-1531-640	Red
25F1181	-0933-640	25F1186	-1533-640	Amber
25F1182	-0935-640	25F1187	-1535-640	White
25F1183	-0936-640	25F1188	-1536-640	Lt. Yel.
25F1184	-0937-640	25F1189	-1537-640	Clear*

Type 507-4538. With built-in 22K resistor for 110-125 volts AC.

0931-0937, Stovepipe-Fig. A		#1531-1537 Long Cyl.- Fig. B		
Stock No.	Type 507-4538	Stock No.	Type 507-4538	Lens Color
25F1190	-0931-610	25F1195	-1531-610	Red
25F1191	-0933-610	25F1196	-1533-610	Amber
25F1192	-0935-610	25F1197	-1535-610	White
25F1193	-0936-610	25F1198	-1536-610	Lt. Yel.
25F1194	-0937-610	25F1199	-1537-610	Clear*

1-9	10-24	25-99	100-249	250-499	500-999
1.50	1.32	1.22	1.04	.95	.81

FLAT INCANDESCENT DATALAMP CARTRIDGES

Not for use with Datalamp or Data Twin assembly. Use only with separate 515-0050 or 515-0012 Datalamp Cartridge Connector and 515-0051 Speed Clip.

28-Volt, .04-Amp.

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1093	507-3917-0371-600	Red	1.40	1.23	1.12	.96	.86	.73
25F1094	507-3917-0372-600	Green						
25F1095	507-3917-0373-600	Amber						
25F1096	507-3917-0375-600	White						

Sub-Miniature Lights

DIALCO

DATALITES WITH PERMANENT NEON LAMPS

Lamps are built-in—not replaceable. Units mount in 3/8" clearance hole.

Built-in: a rugged, long-life NE-2E Neon Glow Lamp with formed tip and double length electrodes—1/25 watt, starting voltage of 65 AC and 90 DC. (*) With built in resistor of 100,000 ohms for 105-125 V. service. Resistors to Mil-R-11 spec.

Lightweight construction of aluminum, black anodized finish. Plastic lense give wide angle visibility. 2 insulated terminals of low carbon steel, solder plating. With mounting hardware.

Conform to military specifications (Mil-L-3661)

Stovepipe: Without Built-In Resistor

(125/64"x1/2" Overall: 1½ Oz. Shpg. Wt.)

Stock No.	Type 249—	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1146	7840-0931-504	Red						
25F1147	7840-0933-504	Amber						
25F1148	7840-0935-504	White	1.53	1.43	1.34	1.08	1.00	.90
25F1149	7840-0936-504	Lt. Yellow						
25F1150	7840-0937-504	Clear						

(*) With Built-In 100-K Resistor

(153/64"x1/2" Overall; 2 Oz. Shpg. Wt.)

Stock No.	Type 249—	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1151	7841-0931-574	Red						
25F1152	7841-0933-574	Amber						
25F1153	7841-0935-574	White	1.88	1.76	1.65	1.47	1.35	1.23
25F1154	7841-0936-574	Lt. Yellow						
25F1155	7841-0937-574	Clear						

Short Cylindrical; Without Built-In Resistor

(125/64"x1/2" Overall; 1½ Oz. Shpg. Wt.)

Stock No.	Type 249—	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1156	7840-1431-504	Red						
25F1157	7840-1433-504	Amber						
25F1158	7840-1435-504	White	1.53	1.43	1.34	1.08	1.00	.90
25F1159	7840-1436-504	Lt. Yellow						
25F1160	7840-1437-504	Clear						

(*) With Built-In 100-K Resistor

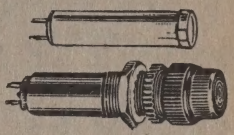
153/64"x1/2" Overall; 2 oz. Shpg. Wt.

Stock No.	Type 249—	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1161	7841-1431-574	Red						
25F1162	7841-1433-574	Amber						
25F1163	7841-1435-574	White	1.88	1.76	1.65	1.47	1.35	1.23
25F1164	7841-1436-574	Lt. Yellow						
25F1165	7841-1437-574	Clear						

GREEN or BLUE LENSES are not recommended for use with Neon lamps.

SERIES 250 INCANDESCENT DATALITE ASSEMBLY

Complete indicator assembly. Takes the lamp cartridge illustrated, available in voltages from 6V to 120V Polycarbonate lens with matted back. Cartridge fits into assembly leaving slots to permit easy removal. Unit designed for insertion from the rear of the panel in a 3/8" clearance hole. Comes with screw-on "Data Cap" for high light transmission. Transparent lenses available in 6 colors. Terminals phosphor bronze, gold plated. Max. dim., 2.022"L. x .515" dia.



COMPLETE ASSEMBLIES

Stock No.	Solder Cup Terminals 250-7558	Cap Color	1-9	10-24	25-99	100-249	250-499	500-999
60F1216	3331-504	Red						
60F1217	3332-504	Green						
60F1218	3333-504	Amber	2.12	1.87	1.73	1.48	1.34	1.18
60F1219	3334-504	Blue						
60F1220	3335-504	White						
60F1221	3337-504	Clear						

Stock No.	Turret Terminals 250-8758-	Cap Color	1-9	10-24	25-99	100-249	250-499	500-999
60F1222	3331-504	Red						
60F1223	3332-504	Green						
60F1224	3333-504	Amber	2.12	1.87	1.73	1.48	1.34	1.18
60F1225	3334-504	Blue						
60F1226	3335-504	White						
60F1227	3337-504	Clear						

CLEAR LENS DATALAMP CARTRIDGE FOR ABOVE

Stk. No.	Type 507-	V	1-9	10-24	25-99	100-249	250-499	500-999
60F1228	5819-0747-600	6						
60F1229	5820-0747-600	12	1.74	1.54	1.42	1.23	1.12	.99
60F1230	5821-0747-600	28						

Stk. No.	Type 507-	Volts	1-9	10-24	25-99	100-249	250-499	500-999
60F1231	5822-0747-600	48						
60F1232	5823-0747-600	60	1.74	1.54	1.42	1.23	1.12	.99
60F1233	5824-0747-600	120						

SPRING CLIP

Effective when conventional mounting is not practical. For all Dialco Plug-in Neon and Incandescent Lamp Cartridges. Self-retaining. Of tubular heat treated spring steel. For use with above cartridges.

515-0051

Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
25F1253	515-0051	.12	.11	.10	.08	.07	.06

CARTRIDGE CONNECTORS FOR ABOVE CARTRIDGES

Type 515-0050. Molded phenolic; solder lug terminals are of beryllium copper, cadmium plated, with elongated slots.

515-0050

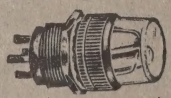
Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
25F1251	515-0050	.24	.22	.21	.19	.18	.16

Type 515-0012. Sleeve of aluminum with black anodized finish. Insulation of black molded phenolic. Spider cup terminals of phosphor bronze, gold plated.

515-0012

Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
25F1252	515-0012	.77	.67	.58	.48	.42	.36

TWIN LAMP ASSEMBLY



No. 253-6939-1437-504. Compact dual unit housing 2 Dialco lamp cartridges. Mounts in 3/4" clearance hole. Conform to mil specs. Permits independent operation of each lamp—indicates 4 possible conditions, or lamps can be parallel wired. Cartridges replace from front. Clear plastic lens. Less cartridge. 153/64x7/8". 3 ozs.

Stock No.	Type 253-6939	1-9	10-24	25-99	100-249	250-499	500-999
25F1166	1437-504	4.22	3.75	3.49	2.99	2.79	2.46

No. 253-6939-1435-504. Dual unit housing 2 Dialco Lamp Cartridges. Similar to 253-6939-1437, above. White lens. 153/64x7/8"

Stock No.	Type 253-6939	1-9	10-24	25-99	100-249	250-499	500-999
25F1254	1435-504	4.22	3.75	3.49	2.99	2.79	2.46

SINGLE LAMP HOLDER

Compact. Two terminals insulated, marked, and offset for correct polarity when replacing lamps in DC circuits. Shown, lamp holder less cartridge. 113/16x1/2" overall, less lamp. 13/8" long with lamp. Mounting hardware. 2 oz. *with turret terminals.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
25F1167	508-7538-504	1.54	1.35	1.23	1.04	.93	.82
25F1291	508-8738-504*						

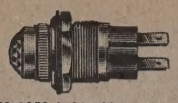
SINGLE LAMP HOLDER

Similar to 508-7538-504 but is 5/64" longer to accommodate the new Neon Cartridges 4537 & 4538. *with turret terminals.

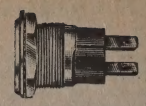
Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
25F1209	508-7545-504	1.54	1.35	1.23	1.04	.93	.82
25F1292	508-8745-504*						

15

DIALCO Indicator Lights



82-1059-0431-102
Complete Assembly



81-1059-01-102
Base Assembly

Type 81
Faceted

Type 135
Cylindrical
(Translucent)

Type 52
Stove Pipe
(Internally Fluted
Transparent)

Type 95
Stove Pipe
(Smooth Face
Translucent)

ASSEMBLIES FOR PSB BULBS—BASE HOUSING

Accommodates T-2 incandescent bulb with telephone slide base (PSB Type) in a range of voltages from 6 to 120 volts. (See Chicago Miniature listing below). Uses any of the 4 styles of high temperature Lexan in different colors listed. Phenolic housing, white nickel finish. Rated 75 watts, 125 volts. Solder terminals. Electrical contact can be made with AMP connector 42198-2. Mounting is 11/16" clearance hole. 127/32" long.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
60F1550	81-1059-01-102	.90	.80	.76	.68	.63	.58

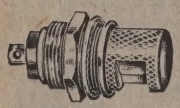
LENSES FOR HOUSING ABOVE

Color	Transluc. Cyl. Stock No.	Transluc. Cyl. Type	Transpar. Fluted Stock No.	Transpar. Fluted Type	Transluc. Smooth Stock No.	Transluc. Smooth Type
Red	60F1551	135-3271	60F1558	52-3191	60F1565	95-3171
Green	60F1552	135-3272	60F1559	52-3192	60F1566	95-3172
Amber	60F1553	135-3273	60F1560	52-3193	60F1567	95-3173
Blue	60F1554	135-3274	60F1561	52-3194	60F1568	95-3174
White	60F1555	135-3275	60F1562	52-3195	60F1569	95-3175
Yellow	60F1556	135-3276	60F1563	52-3196	60F1570	95-3176
Clear	.....	.....	60F1564	52-3197	.....	.....

PRICES	1-9	10-24	25-99	100-249	250-499	500-999
	.29	.25	.23	.21	.20	.19

SERIES 81—TRANSPARENT FACETED LENSES

Color	Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
Red	60F1572	81-0431-100						
Green	60F1573	81-0432-100						
Amber	60F1574	81-0433-100						
Blue	60F1575	81-0434-100	.36	.32	.31	.26	.24	.22
White	60F1576	81-0435-100						
Yellow	60F1577	81-0436-100						
Clear	60F1578	81-0437-100						



1 TERMINAL LIGHT SHIELD ASSEMBLY SUB-MINIATURE FOR DIALS, INSTRUMENTS, CONTROL PANELS

Mtg. hole 15/32" d. Opening is 1/4"x3/16". Same features as the 2-terminal assemblies except for use on grounded circuits and with either soldering or binding screw terminal. Molded phenolic insulation material of military specification grade. Meets MIL-SPEC. MIL-L-7806A. Uses T-1¾ lamp. Black nickel finish. Overall size, approx. 1¼"x½". unscrews for bulb replacement. With lockwasher and nut, Less lamp. Shpg. wt., 1½ ozs. 201 suffix indicates black nickel. 301, chrome. *indicates solder terminal, **screw terminal.

Stk. No.	Mfg. No.	1-9	10-24	25-99	100-249	250-499	500-999
25F910A*	4-1930-2900-201	2.09	1.83	1.69	1.47	1.37	1.21
25F911A**	4-1830-2900-201	2.43	2.12	1.96	1.72	1.59	1.40
25F911B**	4-1830-2900-301	2.43	2.12	1.96	1.72	1.59	1.40
25F910B*	4-1930-2900-301	2.09	1.83	1.69	1.47	1.37	1.21

SERIES 270 For Plastic Plate Edge Lighting

For Mil-P-7788 plastic plate panels. Emits light through red filter into the plastic panel. Meets Mil-L-7806. Mounts in 15/32" clearance hole. Complete unit, hardware, supplied. Less T-1¾ lamp. Available with light emitting top in various colors. ½" x 17/16". Shpg. wt. 1½ oz.

Edge Lighting Assemblies—Solder Terminal

Stk. No.	Type No.	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F967	270-1930-0111-702	Red	.99	.88	.79	.68	.63	.57
25F969	270-1930-0121-702	Green	1.18	1.05	.94	.80	.74	.66
25F971	270-1930-0131-702	Amber	1.18	1.05	.94	.80	.74	.66
25F973	270-1930-0171-702	Clear	.99	.88	.79	.68	.63	.57

C7A (NE-2D) NEON SUB-MINIATURES MS25257

Uses T-2 Neon Glow Lamp. 62K Resistor is built in for use on 105-125 volts AC or DC. Stovepipe lens is plastic with 180° lens spread. Shank of lens holder is crimped in 3 places to secure the lamp. Lens holder unscrews from front of panel for easy replacement of lamp. An anti-rotation notch on face of flange prevents rotation of unit while mounting nut is being tightened. Mounting bushing is aluminum with black anodize finish. Steel internal tooth lockwasher and hex mounting nut are cadmium plated and coated with iridite. Terminals are brass, hot-tinned, with elongated slots. Less lamp. Size 1½x⅝". Shpg. wt. 2 oz.

Stock No.	Type No.	Mil. Std. Dwg. No.	Lens Color
25F1200	137-8836-0933-552	MS25257-2	Aviat. Yel. Ident. Red
25F1201	137-8836-0931-552	MS25257-4	Clear
25F1202	137-8836-0937-552	MS25257-6	

Prices	1-9	10-24	25-99	100-249	250-499	500-999
	2.56	2.23	2.02	1.74	1.61	1.44

Series 137-8864 Holders. For bright light when used with NE 2J (C9A) lamp, built-in 22K Res. on 110-125 VAC (*) 33K Res. for long life. Black anodize finish, aluminum bushing, steel hardware used for front mounting in 15/32" clearance hole. Less lamp.

Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F504	137-8864-09-512	2.24	1.96	1.78	1.53	1.42	1.28
45F505	137-8864-09-532*	2.24	1.96	1.78	1.53	1.42	1.28

Lenses to be used with Series 137-8864 Holders

Stk. No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F506	137-0931	Red						
45F507	137-0933	Amber	.32	.28	.24	.21	.19	.16
45F508	137-0935	White						
45F509	137-0937	Clear						

Series 181-8864, 181-8836 Holders. For use on 105-125VAC or DC with built-in 62K Res., except (*) 110-125VAC with built-in 22K Res. Same as 137-8836 series except with retained "O' ring seal, water-tight construction. Less lamp.

Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F510	181-8836-09-553	2.54	2.23	2.08	1.82	1.64	1.48
45F511	181-8864-09-513*	2.54	2.23	2.08	1.82	1.64	1.48

Lenses to be used with Series 181-8864, 181-8836 Holders

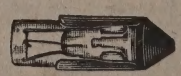
Stk. No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F512	181-0931-003	Red						
45F513	181-0933-003	Amber	.57	.50	.46	.41	.38	.35
45F514	181-0935-003	White						
45F515	181-0937-003	Clear						

CHICAGO MINIATURE LAMP WORKS

TELEPHONE SLIDE BASE LAMPS

- 5,000 Hour Life
- 1.688" Long—½" Diameter

Stock No.	Type	Volts	Amps	End. Foot Candles	10-90	100-990	1000-Up
27F084	24C	24	.06 -.085	875			
27F085	24E	24	.032-.038	600			
27F087	24X	24	.032-.038	600	.73	.44	.38
27F088	30B	30	.09 -.11	1050			
27F090	48D	48	.017-.025	100			
27F091	55C	55	.045-.06	1025	.73	.44	.38



Special Units for Use with DIALCO Housing 81-1059-01-102

- 5,000 Hour Life
- 1.075" Long—¼" Diameter

Stock No.	Type	Volts	Amps	End. Foot Candles	10-90	100-990	1000-Up
27F075	6PSB	6	.140	800			
27F076	12PSB	12	.170	2500			
27F077	24PSB	24	.073	2200			
27F078	28PSB	28	.040	2000	.57	.46	.41
27F079	48PSB	48	.053	1500			
27F080	60PSB	60	.050	2600			
27F081	120PSB	120	.025	1500			

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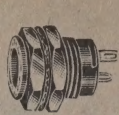
Sub-Miniature & Indicator Lights

DIALCO®

INDICATOR LIGHTS—TWO TERMINAL—FULLY INSULATED

Stovepipe Lens

Front Mounting


Front or Back Mounting

Cylindrical Lens

Convex Lens

Meet MIL requirements. Phenolic insulated. Lens cap assembly unscrews from front of panel for easy replacement of lamp. Two terminals (soldering) provided for electrical connections. Anti-rotation (locked) construction provides secure locking of socket terminal assembly and center terminal. Stovepipe and cylindrical lenses molded of high heat plastic. Avg. size ½x1¼". Light source T-1¾ midget flange base lamp; voltage range: 1.35 to 28. Order holder and lens separately to obtain necessary parts for self-assembly of complete unit. Less lamp.

HOLDERS

Front mounting in $^{17}/_{32}$"

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999	IM-2499
25F1615	101-5030-09-201	1.28	1.12	1.01	.87	.81	.73	.66

Front or back mounting in $^{15}/_{32}$" clearance hole.

Stk. No	Type	1-9	10-24	25-99	100-249	250-499	500-999	IM-2499
25F1228	101-3830-09-201	1.28	1.12	1.01	.87	.81	.73	.66

STOVEPIPE LENS CAP

Color	TRANSLUCENT Stk. No.	TRANSLUCENT Mfg. No.	TRANSPARENT Stk. No.	TRANSPARENT Mfg. No.
Red	25F1269	101-0971	25F1588	101-0931
Green	25F1270	101-0972	25F1589	101-0932
Amber	25F1271	101-0973	25F1590	101-0933
Blue	25F1272	101-0974	25F1591	101-0934
White	25F1273	101-0975	25F1592	101-0935
Yellow	25F1274	101-0976	25F1593	101-0936
Clear	.....	.....	45F516	101-0937

	1-9	10-24	25-99	100-249	250-499	500-999	IM-2999
Prices	.32	.28	.24	.21	.19	.16	.15

FLAT CYLINDRICAL LENS CAP

Color	TRANSLUCENT Stk. No.	TRANSLUCENT Mfg. No.	TRANSPARENT Stk. No.	TRANSPARENT Mfg. No.
Red	25F1616	140-1471	25F1622	140-1431
Green	25F1617	140-1472	25F1623	140-1432
Amber	25F1618	140-1473	25F1624	140-1433
Blue	25F1619	140-1474	25F1625	140-1434
White	25F1620	140-1475	25F1626	140-1435
Yellow	25F1621	140-1476	25F1627	140-1436
Clear	.....	.....	25F1628	140-1437

	1-9	10-24	35-99	100-249	250-499	500-999	IM-2999
Prices	.32	.28	.25	.21	.19	.16	.15

CONVEX LENS CAP DIMMING TYPES

Frosted back finish except (*) translucent unfrosted.

Color	Semi-blackout Stock No.	Semi-blackout Type No.	Complete Blackout Stock No.	Complete Blackout Type No.
Red	45F520	109-0111-200	45F525	108-0111-200
Green	45F521	109-0112-200	45F526	108-0112-200
Amber	45F522	109-0113-200	45F527	108-0113-200
Blue	45F523	109-0114-200	.....	.....
White*	45F524	109-0135-200	.....	.....

	1-9	10-24	25-99	100-249	250-499	500-999
Prices	1.52	1.34	1.25	1.10	1.04	.92

INDANDESCENT SUB-MINIATURES MS 25226

Similar to MS25257 except it uses T-1¾ incandescent lamps of 1.35 to 28 v. Front panel mounting in $^{15}/_{32}$" clearance hole. Overall unit size: $^{13}/_{32}$x$^{5}/_{8}$". Shipping weight, 1½ oz. less lamp.

Lens Color	Stock No.	Type No.	Mil. Std. Dwg. No.
Aviat. Yel.	25F1203	162-8430-0933-502	MS25256-2
Aviat. Green	25F1204	162-8430-0932-502	MS25256-4
Ident. Red	25F1205	162-8430-0931-502	MS25256-6
Aviat. White	25F1206	162-8430-0937-502	MS25256-8
Transl. White	25F1207	162-8430-0975-502	MS25256-10
Aviation Blue	25F1208	162-8430-0934-502	MS25256-12

	1-9	10-24	25-99	100-249	250-499	500-999
Prices	1.53	1.34	1.22	1.05	.98	.89

SERIES 81-HOLDERS
11/16" MTG. CLEARANCE HOLE ENCLOSED INDICATOR

Takes T-3¼ incandescent lamp. Has no resistor, for use on 2-55 VAC or VDC. Meets Mil. specs., mounts in $^{11}/_{16}$" clearance hole in panels up to ⅜" thick. Soldered or (*) screw terminals. 2½" long, except (**) low voltage enclosed 2½" long, black nickel finish. Less lamp. Order holder and lens separately to obtain complete unit.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F528	81-0410-01-201	1.11	.99	.94	.84	.77	.71
45F529	81-1310-01-201»	1.73	1.09	1.03	.91	.84	.78
45F530	81-9110-01-102**	.77	.74	.70	.58	.55	.50

SERIES 81-LENS ASSEMBLIES

Screw in lenses. Convex lenses back frosted except (*).

BLACK NICKEL FINISH

Lens Color	CONVEX LENS Stk. No.	CONVEX LENS Type No.	FACETED LENS Stk. No.	FACETED LENS Type No.
Red	25F1569	81-0111-200	45F531	81-0431-200
Green	25F1570	81-0112-200	45F532	81-0432-200
Amber	25F1571	81-0113-200	45F533	81-0433-200
Blue	25F1572	81-0114-200	45F534	81-0434-200
White*	25F1573	81-0135-200	45F535	81-0435-200
Lt. Yel.	25F1574	81-0116-200	45F536	81-0436-200
Clear	25F1575	81-0117-200	45F537	81-0437-200

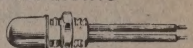
	1-9	10-24	25-99	100-249	250-499	500-999
Prices	.48	.42	.40	.35	.32	.29

WHITE NICKEL FINISH

Lens Color	CONVEX LENS Stk. No.	CONVEX LENS Type No.	FACETED LENS Stk. No.	FACETED LENS Type No.
Red	25F1555	81-0111-100	25F1562	81-2131-100
Green	25F1556	81-0112-100	25F1563	81-2132-100
Amber	25F1557	81-0113-100	25F1564	81-2133-100
Blue	25F1558	81-0114-100	25F1565	81-2134-100
White*	25F1559	81-0135-100	25F1566	81-2135-100
Lt. Yel.	25F1560	81-0116-100	25F1567	81-2136-100
Clear	25F1561	81-0117-100	25F1568	81-2137-100

	1-9	10-24	25-99	100-249	250-499	500-999
Convex	.36	.32	.31	.26	.24	.22
Faceted	.25	.23	.22	.19	.18	.16

SUB-SUB MINIATURE INDICATOR LIGHTS



MS25446. High reliability T-1 filament lamp in high impact plastic cap. Molded to mounting bushing. Dustproof, moistureproof. Anti-rotation construction. Flexible 6" Type E wire leads. .193" panel mounting hole clearance. Lens cap dia.: $^{7}/_{32}$" long. Lamp rating: 5.0 volt at .06 amps 60,000 hr. of life. 6.3 volts .07 amps, 6000 hrs. Sealed unit, non-replaceable lamp.

Lens Color	Stock No.	Type No.	Mil. Spec.
Red	25F1295	252-9951-0971	25446-4
Green	25F1294	253-9951-0972	25446-3
Amber	25F1297	253-9951-0973	25446-6
Blue	25F1293	253-9951-0974	25446-2
White	25F1296	253-9951-0975	25446-5
Clear	25F1298	253-9951-0937	25446-7

1-9	10-24	25-99	100-249	250-499	500-999
3.26	3.05	2.84	2.53	2.38	2.21

WATER-TIGHT 2-TERMINAL SUB-MINIATURE LIGHTS

Holder

Lens Cap

(Also see other Dialco pages for large oil-tight indicator lights) With retained "O" ring seal. Front mounting in $^{15}/_{32}$" clearance hole. Takes T-1¾ midget flange base incandescents (MS-25237). From 1.35 to 28 volts. Lugs of brass and hot-tinned. Lockwasher, hex-nut supplied. Overall size, ⅝"x1$^{13}/_{16}$" long. Less lamp. Wt., 2 oz.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
25F1637	177-8430-09-503	1.34	1.18	1.09	.95	.88	.81

LENS CAP FOR ABOVE HOLDERS

Lens Color	Stk. No.	Transparent	Stk. No.	Translucent
Red	25F1638	177-0931-003	45F694	177-0971-003
Green	25F1639	177-0932-003	45F695	177-0972-003
Amber	25F1640	177-0933-003	45F696	177-0973-003
Blue	25F1641	177-0934-003	45F697	177-0974-003
White	25F1642	177-0935-003	45F698	177-0975-003
Yellow	25F1643	177-0936-003	45F699	177-0976-003
Clear	25F1644	177-0937-003	.....	.....

1-9	10-24	25-99	100-249	250-499	500-999
.57	.50	.45	.40	.38	.35

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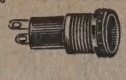
Indicator Lights & Pilot Assemblies

SERIES-95 HOLDERS 11/16" MTG. CLEARANCE HOLE

Screw Lug


Solder Lug

NEON INDICATOR LIGHTS

Meet Mil-L-3661, Solder lug, 22-K built-in resistor for B2A(NE-51H) neon lamp. (*) screw terminals 56-K 1/3 watt built-in resistor, takes B1A(NE-51) neon lamp, for use on 105-125 VDC, but both can be used on 105-125 VAC. 2 1/16" clearance hole. Black nickel finish, less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F548	95-0463-09-211	1.35	1.21	1.13	1.00	.95	.87
45F547	95-1308-09-241*	1.45	1.30	1.20	1.05	1.00	.93

Meet Mil-L-3661 Solder lug, 56-K 1/3 watt built-in resistor. Takes B1A (NE 51) neon lamp for 105-125 VAC or VDC, (*) screw terminal, 22-K built-in resistor for B2A(NE-51H) for use on 105-125 VAC only. 2 1/16" long, mounts in 11/16" clearance hole, black nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F549	95-0408-09-241	1.35	1.21	1.13	1.00	.95	.87
45F550	95-1363-09-211*	1.45	1.30	1.26	1.05	1.00	.93

Meet Mil-L-3661, solder lug (*) screw terminal, 68-K built-in resistor. Takes B2A (NE51H) neon lamp for use on .210-250 DC 2 1/16" long, mounts in 11/16" clearance hole. Black nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F551	95-9463-09-361	1.35	1.21	1.13	1.00	.95	.87
45F552	95-9363-09-361*	1.45	1.30	1.20	1.05	1.00	.93

LAMP INTEGRAL RESISTORS

Not Mil., Solder lug, 56-K 1/3 watt built-in resistor. Takes B1A(NE-51) neon lamp to be used on 105-125 VAC or VDC (†) Solder lug 22-K built-in resistor for B2A(NE-51H) neon lamp, for use on 105-125 VAC only. 2 1/16" long, mounts in 11/16" clearance hole, phenolic body and white nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F555	95-9108-09-142	.95	.91	.85	.70	.66	.62
45F556	95-9163-09-112†	.95	.91	.85	.70	.66	.62

T-3 1/4 INCANDESCENT LAMPS

11/16" MTG. CLEARANCE HOLE ENCLOSED INDICATOR

Meet Mil-L-3661, solder lug, (*) screw terminal, no resistor for use on 2-55 VAC. Takes T-3 1/4 incandescent lamp. 2 1/16" long, mounts in 11/16" clearance hole, black nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F553	95-0410-09-201	1.11	.99	.92	.81	.77	.71
45F554	95-1310-09-201*	1.23	1.09	1.01	.88	.84	.78

Not Mil., solder lug, no resistor. For use on 2-55 VAC. Takes T-3 1/4 incandescent lamp. 2 1/16" long, mounts in 11/16" clearance hole, with phenolic body and white nickel finish. Less lamp.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F557	95-9110-09-102	.77	.74	.70	.58	.55	.50

LENS FOR ABOVE HOLDERS

Stove Pipe (Internally Fluted Translucent)

Stove Pipe (Smooth Face Transparent)

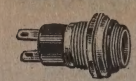
(*)Not Recommended for Use with Neon Lamps

Short Stovepipe Fluted		Lens	Short Stovepipe Plain	
Stock No.	Type No.	Color	Stock No.	Type No.
25F334	52-0991	Red	25F466	95-0931
25F335	52-0992	Green*	25F465	95-0932
25F336	52-0993	Amber	25F467	95-0933
25F337	52-0994	Blue*	25F474	95-0934
25F338	52-0997	Clear	25F468	95-0937
25F339	52-0995	White	25F469	95-0935

Long Stovepipe		Lens	Cylindrical	
Stock No.	Type No.	Color	Stock No.	Type No.
25F340	53-0991	Red	45F560	135-1431
25F341	53-0992	Green*	45F561	135-1432
25F342	53-0993	Amber	45F562	135-1433
25F343	53-0994	Blue*	45F563	135-1434
25F344	53-0997	Clear	45F564	135-1437
25F345	53-0995	White	45F565	135-1435

1-9	10-24	25-99	100-249	250-499	500-999
.24	.21	.20	.17	.16	.14

FOR LOW VOLTAGE T-3 1/4 MINIATURE BAYONET BASE LAMP


Base 125-0410 11-103

Plain

Fluted

OIL TIGHT PILOT LIGHT HOLDER-LESS LAMP FOR 11/16" MOUNTING HOLE

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F566	125-0410-11-103	1.49	1.35	1.30	1.16	1.11	1.02

OIL-TIGHT PILOT LIGHT HOLDER FOR USE WITH B1A(NE-51) FOR 11/16" MOUNTING HOLE-LESS LAMP WITH 56-K RESISTOR BUILT IN

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F567	125-0408-11-143	1.69	1.55	1.47	1.32	1.27	1.15

STOVEPIPE LENS

	Internally Fluted		Frosted Back		Plain	
Color	Stk. No.	Type 125	Stk. No.	Type 125	Stk. No.	Type 125
Red	45F568	1191-403	45F575	1111-403	45F582	1131-403
Green*	45F569	1192-403	45F576	1112-403	45F583	1132-403
Amber	45F570	1193-403	45F577	1113-403	45F584	1133-403
Blue*	45F571	1194-403	45F578	1114-403	45F585	1134-403
White	45F572	1195-403	.....	.....	45F586	1135-403
Lt. Yellow	45F573	1196-403	45F580	1116-403	45F587	1136-403
Clear	45F574	1197-403	45F581	1117-403	45F588	1137-403

1-9	10-24	25-99	100-249	250-499	500-999
.86	.76	.72	.62	.58	.50

(*) Not Recommended for Use with Neon Lamps

OIL-TIGHT ASSEMBLIES

Screw Terminal Base

Faceted Lens

Enclosed assemblies for heavy duty industrial applications. Gasketed lens. Lens gives 180° light spread. Takes 656 incandescent (bayonet or screw mt.) lamp. Supplied less lamp. 1 3/16 x 1 7/8". Mounting Wt. 3 oz.

656—SCREW EXCEPT (*) BAYONET

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F589	103-3502-05-103*	2.66	2.51	2.34	1.91	1.79	1.63
45F590	103-3101-05-103	2.32	2.18	2.05	1.66	1.55	1.42

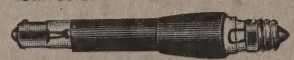
LENS FOR ABOVE BASES

TORPEDO FACETED LENS DOME LENS (FROSTED BACK)

Stock No.	Type No.	Color	Stock No.	Type No.
45F591	103-1331-403	Red	45F598	103-1211 03
45F592	103-1332-403	Green	45F599	103-1212 03
45F593	103-1333-403	Amber	45F600	103-1213 03
45F594	103-1334-403	Blue	45F601	103-1214 03
45F595	103-1335-403	White	45F602	103-1235-403*
45F596	103-1336-403	Yellow	45F603	103-1216-403
45F597	103-1337-403	Clear	45F604	103-1217-403

1-9	10-24	25-99	100-249	250-499	500-999
1.17	1.03	.96	.83	.77	.68

*Unfrosted



PILOT BULB REMOVER

Type 506-0045. Molded of rubber. Has two hollow ends which stretch over and engage lamps tightly. One end for T-3 1/4 type bulbs; the other for T-4 1/2 type bulbs. Core of solid rubber provides needed rigidity for sure grip. Wt., 4 oz.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
25F1544	506-0045	.33	.28	.24	.22	.20	.19

Type 506-0073. Molded rubber. One end for T-3 1/4 types. Other for S6 candelabra screw base bulbs.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
25F480	506-0073	.33	.28	.24	.22	.20	.19

ADAPTOR SET

Type 515-1316. For mounting any 1" Dialco assembly in 1 3/16" clearance hole. Reducer (A) is equipped with gasket (B) to fit the 1 3/16" clearance hole, and a washer (C) for under panel mounting. Retained oil-resistant gasket on the reducer assures the same oil-water-and-dust tightness that is obtained on standard Dialco assemblies. Wt., 1 oz.

Stk. No.	Type No.	1-9	10-24	25-99	100-149	250-499	500-999
25F912	515-1316	.75	.68	.62	.54	.49	.44

Switches & Indicator Lights

DIALCO

ILLUMINATED PUSHBUTTON SWITCHES

Series 913

Series 922

Series 513

Series 913. 0.1 amp —125VAC. 0.1 amp. —30VDC (non-inductive). High brightness C2A (NE-2H) Neon Lamp, non-replaceable. Min. 20,000 hours. For use in 110-125VAC circuits. Integral 33K resistor, gold plated contact parts. Mts. from back of panel in 3/8" clearance hole for 1/8" panel thickness.

Lens Color	SPST—N.O. Type 913	Stk. No.	SPST—N.C. Type 913	Stk. No.
Red	1156-1631-525	60F1235	1430-1631-525	60F1239
Amber	1156-1633-525	60F1236	1430-1633-525	60F1240
White	1156-1635-525	60F1237	1430-1635-525	60F1241
Clear	1156-1637-525	60F1238		

1-9	10-24	25-99	100-249	250-499	500-999
3.27	3.07	2.87	2.55	2.35	2.12

SPDT—TWO CIRCUITS- N.O.—N.C.

Lens Color	Type 913	Stk. No.	1-9	10-24	25-99	100-249	250-499	500-999
Red	1436-1631-525	60F1243						
Amber	1156-1633-525	60F1244	3.52	3.30	3.08	2.74	2.53	2.29
White	1436-1635-525	60F1245						

NO-MAR MOUNTING WRENCHES

506-0375, for series 913, 922, and 915 mounting panel. 506-0500 for base assemblies 513 Series sub. — min. switches.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499
60F1046	506-0375	5.16	4.70	4.44	3.94	3.70
60F1215	506-0500	5.16	4.70	4.44	3.94	3.70

Series 922. SPST momentary cont. N.O.; 0.1 amp. 125 VAC: 0.1 amp, 30 VDC Non-inductive. Life of over 1,000,000 operations at rated values. Gold plated contact parts. Mts. from back of panel in 3/8" clear hole for 1/8" panel thickness. Soldering terminal. Long cylindrical lens cap. For dry circuits or with low currents at higher voltages. Lens replaceable T-1¾ incand lamp. Less lamp. To order a complete unit, order one holder and one cap.

BASES

Stock No.	Type	Contact	1-9	10-24	25-99	100-249	250-499	500-999
45F733	922-1524-525	N.O.	3.41	3.19	2.98	2.64	2.45	2.21
45F734	922-1525-525	N.C.	3.41	3.19	2.98	2.64	2.45	2.21
45F735	922-1526-525	Two Circuit	3.74	3.50	3.27	2.89	2.68	2.43

CAPS FOR ABOVE BASES

Lens Color	Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
Red	45F736	908-1631						
Green	45F737	908-1632						
Amber	45F738	908-1633	.75	.65	.57	.48	.43	.38
Blue	45F739	908-1634						
White	45F740	908-1635						
Clear	45F741	908-1637						

DIALIGHT KAP-KOVER

Series 513. ¾" Square bezel accommodates 5/8" square push button with Kap-Kover. Permits user to insert or replace legends simple, quickly, on location. ¾" square bezel, available in four colors, accommodates the 300 and 304 Series 5/8" square push button caps, when used with clear-colorless Kap-Kover. Bezel push button cap and Kap-Kover combination may be used for snap-in mounting switches and/or matching indicators; or push button cap and Kap-Kover only may be used for standard panel mounting switches and/or matching indicators. Use of Kap-Kover with push button caps permit quick insertion or replacement of legends and reduces time to a minimum.

Stock No.	Type	1-9	10-24	25-99	100-249
45F742	.515-0300	.44	.41	.37	.33

SWITCH BASE

Stock No.	Type	1-9	10-24	25-99	100-249
45F722	513-0111-001	4.77	4.28	4.02	3.51
45F723	513-0211-001	4.77	4.28	4.02	3.51
45F724	513-0311-001	5.19	4.64	4.36	3.81
45F725	513-0411-001	5.19	4.64	4.36	3.81
45F726	513-0511-001	5.19	4.64	4.36	3.81
45F727	513-0611-001	5.59	5.03	4.71	4.12
45F728	513-1411-001	7.33	6.55	6.12	5.30
45F729	513-1511-001	7.33	6.55	6.12	5.30
45F730	513-1611-001	5.85	5.25	4.93	4.31
45F731	513-1711-001	5.85	5.25	4.93	4.31

LIGHT BASE ONLY

Stock No.	Type	1-9	10-24	25-99	100-249
45F732	533-1101	2.10	1.90	1.73	1.51

SERIES 513-SWITCH BASES

Momentary has contact rating of 3 amp at 125 VAC (resistive). 1.820" long. (*) alternate has contact rating of 5 amp at 125 VAC (resistive). Is 2.335" long. Both have aluminum, clear anodize finish mounting bushing with coin silver contacts. Have-a-.755" sq. mtg. hole .753 rd. mtg. hole, and a .870x1.110 rect. mtg. hole w/or w/o barrier. To get correct base and cap fit check last two digits of middle number to determine mtg. holes 5/8" sq. is. —6 to be used with 300 series caps, 5/8" —07 to be used with 300 series caps. ¾ x 1" rect. wo barrier —09, and rect. with barrier —10 which are to be used with 303 series caps.

Stk. No.	Type No.	Contact	1-9	10-24	25-99	100-249	250-499	500-999
45F628	513-0106-001	N.O.						
45F629	513-0107-001	N.O.	4.77	4.28	4.02	3.51	3.28	2.90
45F630	513-0110-001	N.O.						
45F631	513-0109-001	N.O.						
45F632	513-0206-001	N.C.	4.77	4.28	4.02	3.51	3.28	2.90
45F633	513-0207-001	N.C.						
45F634	513-0209-001	N.C.						
45F635	513-0210-001	N.C.						
45F636	513-0306-001	Two Circ.						
45F637	513-0307-001	Two Circ.	5.19	4.64	4.36	3.81	3.56	3.16
45F638	513-0309-001	Two Circ.						
45F639	513-0310-001	Two Circ.						
45F640	513-1406-001*	S.P.D.T.						
45F641	513-1407-001*	S.P.D.T.	7.33	6.55	6.12	5.30	4.91	4.33
45F642	513-1409-001*	S.P.D.T.						
45F643	513-1410-001*	S.P.D.T.						
45F644	513-1506-001*	Two Circ.						
45F645	513-1507-001*	Two Circ.	7.33	6.55	6.12	5.30	4.91	4.33
45F646	513-1509-001*	Two Circ.						
45F647	513-1510-001*	Two Circ.						

PUSH BUTTON CAPS

Plastic, fitted with brass shank, white nickel plated finish. Light source is T-1 ¾ bulb with midget flanged base — incandescent — in a range of 6-28 VAC. For 513 series switch bases and matching indicator base assemblies. Series 300—5/8" sq. 301—5/8" rd. and 303—¾ x 1". rect.

Lens	Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
Red	45F652	300-1871						
Green	45F653	300-1872						
Amber	45F654	300-1873	1.00	.95	.88	.71	.66	.60
Blue	45F655	300-1874						
White	45F656	300-1875						
Lt. Yellow	45F657	300-1876						
Red	45F658	301-1471						
Green	45F659	301-1472						
Amber	45F660	301-1473	1.00	.95	.88	.71	.66	.60
Blue	45F661	301-1474						
White	45F662	301-1475						
Lt. Yellow	45F663	301-1476						
Red	45F664	303-3471						
Green	45F665	303-3472						
Amber	45F666	303-3473	1.11	1.05	.97	.78	.71	.64
Blue	45F667	303-3474						
White	45F668	303-3475						
Lt. Yellow	45F669	303-3476						

MATCHING INDICATOR BASE ASSEMBLIES

Aluminum, clear anodize finish mtg. bushing, black bezel heat resistant plastic, with brass, hot-tinned, elongated terminals. 1.080" long. To determine the accommodating push button cap series check the first two digits of last number. —06 for 300 series 5/8" sq., —07 for 301 series 5/8" rd., —09 wo barrier and 810 w barrier both for 303 ¾ x 1" rectangular.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F648	533-0601						
45F649	533-0701	2.10	1.90	1.73	1.51	1.40	1.23
45F650	533-0901						
45F651	533-1001						

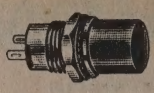
Switches and Indicator Lights

DIALCO

SUB-MINIATURE PUSHBUTTON SWITCHES AND INDICATOR LIGHTS

Switch with Round Lens

Switch with Square Lens



Indicator light with fixed flange

Indicator light with Knurled Flange

Round and Square Lens Caps

Fits a ½" mounting hole in panels up to 3/16" thick. Lenses are interchangeable from switches to indicators of the same grouping. All are momentary contact. Aluminum base assembly. 1250 VAC breakdown voltage. Contact parts are silver on series 513-0101-604, 513-0201-604, 513-0301-604. Gold on 513-0401-604. 513-0501-604, 513-0601-604, 3 amps, 125 VAC. 3 amps 30 VDC (resistive). To relamp pushbutton, simply pull it out. Uses T 1¾ lamp.

SWITCH BASE ASSEMBLIES FOR DRY CIRCUITS

Stock No.	Type 513-	Description	1-9	10-24	25-99	100-249	250-499	500-999
60F1003	0401-604	1 Cir. N.O.	4.37	3.92	3.67	3.22	3.01	2.68
60F1004	0501-604	1 Cir. N.C.	4.37	3.92	3.67	3.22	3.01	2.68
60F1005	0601-604	2 Cirs. N.O.N.C.	4.77	4.30	4.03	3.53	3.30	2.94

PUSH BUTTON SWITCH BASE ASSEMBLIES

Stock No.	Type 513-	Description	1-9	10-24	25-49	100-249	250-449	500-999
60F1000	0101-604	1 Cir. N.O.	3.95	3.55	3.34	2.92	2.73	2.43
60F1001	0201-604	1 Cir. N.C.	3.95	3.55	3.34	2.92	2.73	2.43
60F1002	0301-604	2 Cirs. N.O.N.C.	4.37	3.92	3.67	3.22	3.01	2.68

MATCHING INDICATOR LIGHTS

Companion series designed to match pushbutton switches. Lens caps can be used as illuminated pushbutton on the switch or as a lens cap on the indicator light. Incorporates unique anti-rotation (locked) feature for secure locking of socket terminal assembly in the mounting bushing and of the center terminal to the insulating disc. Insulation 1250 VAC breakdown. Base with fixed flange for front mounting in 15/32" clearance hole.

Stock No.	Type 183	1-9	10-24	25-99	100-249	250-499	500-999
60F1006	9730-14-602	1.28	1.13	1.06	.91	.85	.74

Base with movable knurled flange nut for front or rear mounting in ½" clearance hole.

60F1007	9830-14-604	1.28	1.13	1.06	.91	.85	.74

½" AND ¾" LENS CAPS FOR ABOVE SWITCH AND INDICATOR LIGHT BASES

Seven colors of round or square caps; rotatable and non-rotatable units. High strength plastic. Brass shank, white nickel plated.

Rotatable lens allows alignment after installation; non-rotatable lens position is determined by base mount.

½" LENS CAPS WITH SOLID COLOR TRANSLUCENT FACE AND SIDES

Color	Round Caps Stock No.	Rotatable	Stock No.	Non-Rotatable	Square Caps Stock No.	Rotatable	Stock No.	Non-Rotatable	1-9	10-24	25-99	100-249	250-499	500-999
Red	60F1047	183-1471	60F1054	186-1471	60F1061	185-1871	60F1068	184-1871						
Green	60F1048	183-1472	60F1055	186-1472	60F1062	185-1872	60F1069	184-1872						
Amber	60F1049	183-1473	60F1056	186-1473	60F1063	185-1873	60F1070	184-1873	.72	.67	.62	.49	.45	.40
Blue	60F1050	183-1474	60F1057	186-1474	60F1064	185-1874	60F1071	184-1874						
White	60F1051	183-1475	60F1058	186-1475	60F1065	185-1875	60F1072	184-1875						
Lt. Yellow	60F1052	183-1476	60F1059	186-1476	60F1066	185-1876	60F1073	184-1876						
Ivory	60F1053	183-1478	60F1060	186-1478	60F1067	185-1878	60F1074	184-1878						

½" LENS CAPS WITH TRANSLUCENT COLORED FACE, BLACK OPAQUE SIDES

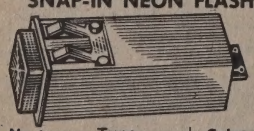
Red	60F1075	183-5071	60F1082	186-5071	60F1089	185-5071	60F1096	184-5071						
Green	60F1076	183-5072	60F1083	186-5072	60F1090	185-5072	60F1097	184-5072						
Amber	60F1077	183-5073	60F1084	186-5073	60F1091	185-5073	60F1098	184-5073	.72	.67	.62	.49	.45	.40
Blue	60F1078	183-5074	60F1085	186-5074	60F1092	185-5074	60F1099	184-5074						
White	60F1079	183-5075	60F1086	186-5075	60F1093	185-5075	60F1100	184-5075						

NON-ROTATABLE ¾" LENS CAP WITH SOLID COLOR TRANSLUCENT FACE AND SIDES

Stock No.	Round Caps Type	Color	1-9	10-24	25-99	100-299	250-499	500-999
60F1138	188-1471	Red						
60F1139	188-1472	Green						
60F1140	188-1473	Amber						
60F1141	188-1474	Blue	1.00	.95	.88	.71	.66	.60
60F1142	188-1475	White						
60F1143	188-1476	Lt. Yel.						
60F1144	188-1478	Ivory						

Stock No.	Square Caps Type	Color	1-9	10-24	25-99	100-249	250-499	500-999
60F1152	187-1871	Red						
60F1153	187-1872	Green						
60F1154	187-1873	Amber						
60F1155	187-1874	Blue	1.00	.95	.88	.71	.66	.60
60F1156	187-1875	White						
60F1157	187-1876	Lt. Yel.						
60F1158	187-1878	Ivory						

SNAP-IN NEON FLASHING INDICATOR LIGHT



Flashing light for warning panel. Snap-in mounting for panels up to 3/16" thick. Low profile cap with black bezel. Nominal rate of 130 flashes per minute.

Stk. No.	Type	Color	1-9	10-24	25-99	100-249	250-499	500-999
25F1451	539-1544-1891-001	Red	4.17	3.88	3.60	3.17	2.91	2.62
25F1452	539-1544-1893-001	Yellow	4.17	3.88	3.60	3.17	2.91	2.62
25F1453	539-1544-1895-001	White	4.17	3.88	3.60	3.17	2.91	2.62

Series 915. Neon Indicator Lights. Long cylindrical lens cap. All have internal Fresnel diffusing rings. Integral 56K resistor. Mounts from back of panel in ⅜" hole for ⅛" panel thickness. 3 terminals provided. Insulation 1250 VAC breakdown. Non-replaceable NE-2E lamp. Min. 5000 Hr. life on 110-125 VAC.

Color	Type 915-1120	Stock No.	1-9	10-24	25-49	100-249	250-499	500-999
Red	1631-523	60F1042						
Amber	1633-523	60F1043	1.97	1.86	1.74	1.55	1.46	1.33
White	1635-523	60F1044						

TELEPHONE SLIDE BASE INDICATOR LIGHTS

37-0428

70-0428

Back of panel mount in 9/16" clearance hole. Takes T-2 incandescent bulb with telephone side base. Stovepipe lens, smooth face and back. Front panel lamp replacement. With knurled ring, lockwasher, and hex mounting nut. Solder term. 13/16"x21 5/16". Less lamp. Wt., 3 oz.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F682	70-0428-11-306	1.45	1.36	1.30	1.07	1.02	.95
45F683	33-0428-01-306	1.45	1.36	1.30	1.07	1.02	.95

LENS CAPS FOR ABOVE HOLDERS

Stk. No.	Type	Color	Stk. No.	Type
45F684	70-1131-300	Red	45F689	37-0111-300
45F685	70-1132-300	Green	45F690	37-0112-300
45F686	70-1133-300	Amber	45F691	37-0113-300
45F687	70-1134-300	Blue	45F692	37-0114-300
45F688	70-1135-300	White	45F693	37-0115-300

1-9	10-24	25-99	100-249	250-499	500-999
.87	.77	.73	.63	.59	.54

15

Indicator Light Assemblies

DIALCO

Base 31-0914

Base 31-3101

Smooth Lens

32-0111

Faceted Lens

32-0431

U.L. APPROVED INDICATOR LIGHT ASSEMBLIES

Candelabra socket; lamp removable from front. Requires 1" clearance hole for mounting. Less lamp. Series 31-0914-01 for use with B7A (NE-45)) neon glow lamps in 115 volt circuit. 2⅝" long. 4 oz. Series 31-3101 indicator light is for use with S6 bulb on 115 volt circuit. 5 oz. Less lamp. Order holder and lens separately to obtain necessary parts for self-assembly of complete unit. For example: 32-0111-300 lens plus 31-0914-01-102 holder becomes a 32-0914-0111-302 assembly.

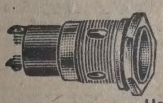
Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F605	31-0914-01-102	1.57	1.39	1.30	1.13	1.04	.95
45F606	31-3101-01-102	1.30	1.10	1.01	.86	.76	.68

LENS CAPS FOR ABOVE HOLDERS

Stk. No.	Type No.	Color	Stk. No.	Type No.
25F1576	32-0111-300	Red	25F1582	32-0431-300
25F1577	32-0112-300	Green	25F1583	32-0432-300
25F1578	32-0113-300	Amber	25F1584	32-0433-300
25F1579	32-0114-300	Blue	25F1585	32-0434-300
25F1580	32-0116-300	Lt. Yellow	25F1586	32-0436-300

1-9	10-24	25-99	100-249	250-999	500-999
.59	.56	.52	.46	.43	.38

OIL-TIGHT ASSEMBLIES FOR 1" MOUNTING HOLE



Holder

Smooth Lens

Uses Neon Glow Lamps

For use with the B7A (NE-45) candelabra screw base lamp. Resistor built-in the lamp base. Overall size approx. 1 3/16 x 2 27/32". Comes with split lockwasher and hex nut. Less lamp. Shpg. wt., 3 ozs. Order holder and lens separately to obtain necessary parts for self-assembly of complete unit. Dome Style Unfrosted Lens except † Frosted back.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F607	103-3114-05-103	2.32	2.18	2.05	.66	1.55	1.42

LENS CAPS FOR ABOVE HOLDER

Stock No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F608	103-1231-403	Red						
45F609	103-1233-403	Amber						
45F610	103-1236-403	Yellow	1.17	1.03	.96	.83	.77	.68
49F611	103-1237-403	Clear						
45F612	103-1217-403	Clear†						

SERIES 159-5437 INDICATOR LIGHT ASSEMBLIES

Use R1A (NE-79) Neon lamps, which have long lives, low wattage, and excellent resistance to shock. 3000 ohm resistors are built in for bright light on 105-125 volts.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F613	159-5437-09-113	3.96	3.72	3.50	3.12	2.92	2.67

PLASTIC STOVEPIPE LENS CAPS FOR ABOVE HOLDERS

Stock No.	Type No.		1-9	10-24	25-99	100-249	250-499	500-999
45F614	159-0931-403	Red						
45F615	195-0933-403	Amber						
45F616	159-0935-403	White	1.64	1.54	1.44	1.16	1.07	.97
45F617	159-0937-403	Clear						

SERIES 125-0463

For use with B2A (NE-51H) Neon lamp. 22K resistor for bright light on 110-125 VAC.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F618	125-0463-11-113	1.69	1.55	1.47	1.32	1.27	1.15

UNFROSTED STOVEPIPE LENS CAPS FOR ABOVE HOLDER

Stock No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F582	125-1131-403	Red						
45F584	125-1133-403	Amber	.86	.76	.72	.62	.58	.50
45F588	125-1137-403	Clear						

PRESS-TO-TEST SERIES 820-2701

Conforms to MIL Specs.

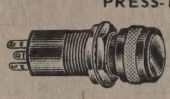
Mounts in 1" clearance hole. Overall size approx. 1¼x3¼". Three, rugged binding screw terminals: 2 for "normal" circuit; 1 for "test" circuit. Uses S6 bulbs with candelabra screw base. Supplied less lamp. Shgp. wt. 3 oz. Transparent, back frosted, except *translucent unfrosted.

Stock No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
45F620	820-2701-01-502	6.25	5.49	5.03	4.33	4.00	3.63

LENS CAPS FOR ABOVE HOLDERS

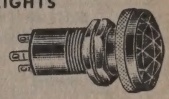
Stock No.	Type No.	Color	1-9	10-24	25-99	100-249	250-499	500-999
45F621	820-0111-500	Red						
45F622	820-0112-500	Green						
45F623	820-0113-500	Amber						
45F624	820-0114-500	Blue	1.53	1.43	1.34	1.08	1.00	.90
45F625	820-0135-500	White*						
45F626	820-0116-500	Yellow						
45F627	820-0117-500	Clear						

PRESS-TO-TEST INDICATOR LIGHTS



804-1710

803-1710



806-1710

Built-in bulb-testing device. Units light when pressed if lamp is satisfactory. 3 solder lugs. 180° visible light beam for daylight, indirect "halo" light for night. Less lamps.

FOR T-3¼ LAMPS

Take T-3¼ lamp. Size approx. ⅞"x2¼". Shpg. wt., 1½ oz.

WITH MECHANICAL SHUTTER DIMMER—⅝" LENS

Stk. No.	Type	Mil. Type No.	Lens Color
25F991	804-1710-0331-504	MS25331-2	Red
25F992	804-1710-0332-504	MS25331-3	Green
25F993	804-1710-0333-504	MS25331-4	Amber

WITHOUT DIMMER—½" LENS

25F994	803-1710-0337-504	MS25331-5	Clear
25F995	803-1710-0331-504	MS25331-6	Red
25F996	803-1710-0332-504	MS25331-7	Green
25F997	803-1710-0333-504	MS25331-8	Amber

WITHOUT DIMMER—1" LENS

25F1509	806-1710-0437-504	Clear
25F1510	806-1710-0431-504	Red
25F1511	806-1710-0432-504	Green
25F1512	806-1710-0433-504	Amber

	1-9	10-24	25-99	100-249	250-499	500-999
⅝" Lens	3.39	2.97	2.74	2.37	2.19	2.01
½" Lens	3.09	2.72	2.48	2.14	1.97	1.79
1" Lens	3.56	3.11	2.85	2.47	2.28	2.07

FOR T-1¾ LAMP

Lens Color	Dimming Stk. No.	Dimming MS No.	Type 801-1030	Non-Dimming Stk. No.	Non-Dimming MS No.	Type 800-1030
Clear	25F983	25041-1	0337-504	25F987	25041-5	0337-504
Red	25F984	25041-2	0331-504	25F988	25041-6	0331-504
Green	25F985	25041-3	0332-504	25F989	25041-7	0332-504
Amber	25F986	25041-4	0333-504	25F990	25041-8	0333-504
Blue	25F1514	25041-10	0334-504	25F1515	25041-11	0334-504

	1-9	10-24	25-99	100-249	250-499	500-999
Dimming	2.86	2.52	2.32	2.01	1.87	1.72
Non-Dimming	2.46	2.17	1.99	1.71	1.59	1.43

SERIES 812 AND 813

Body for 813 and 812 series lens caps. Listed below.

Stk. No.	Type	1-24	25-49	50-99	100-249	250-499	500-999
25F1600	812-1030-09-506	1.85	1.62	1.49	1.28	1.18	1.07

Non-dimmer transparent ½" cylindrical lens caps.

Stk. No.	Type	Lens Color	1-24	25-49	50-99	100-249	250-499	500-999
25F1602	813-1431	Red						
25F1603	813-1432	Green	.86	.75	.69	.60	.56	.49
25F1604	813-1433	Amber						

Non-dimmer translucent ½" cylindrical lens caps.

25F1605	813-1475	White						
25F1606	813-1471	Red	.86	.75	.69	.60	.56	.49
25F1607	813-1472	Green						
25F1608	813-1473	Amber						

Non-dimmer translucent ½" stovepipe lens caps.

25F1609	812-0975	White						
25F1610	812-0971	Red						
25F1611	812-0972	Green	.86	.75	.69	.60	.56	.49
25F1612	812-0973	Amber						

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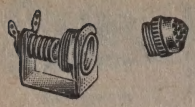
Indicator Lights and Sockets

DIALCO

HALF-INCH MINIATURE OPEN TYPE



Miniature screw and (*) bayonet socket assemblies with faceted jewels. Mounts in 11/16" hole. Bulb removable from front. With tinned solder lugs. Uses T-3¼ Bulb. Less bulbs. Wt. 3 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F670	502-8136-102*	.53	.50	.46	.42	.39	.36
45F671	502-8137-102						

HALF-INCH OPEN BAYONET TYPE

Open type pilot light assembly. Has min. bay. socket. Half-inch jewel. 2" long. Requires 11/16" mtg. hole. Designed for mounting on panels up to ¼" thick. With mtg. washers. Uses T-3¼ lamp. Less lamp. Tinned lugs. 4 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F672	502-8140-100	.79	.75	.70	.62	.59	.54

LENS CAPS FOR ABOVE HOLDERS

Faceted Stk No.	Faceted Type	Lens Color	Convex-frosted Except* Stk. No.	Convex-frosted Except* Back Type
25F1562	81-2131-100	Red	25F1555	81-0111-100
25F1563	81-2132-100	Green	25F1556	81-0112-100
25F1564	81-2133-100	Amber	25F1557	81-0113-100
25F1565	81-2134-100	Blue	25F1558	81-0114-100
25F1566	81-2135-100	White	25F1559	81-0135-100*
25F1567	81-2136-100	Yellow	25F1560	81-0116-100
25F1568	81-2137-100	Clear	25F1561	81-0117-100

	Type	1-9	10-24	25-99	100-249	250-499	500-999
Prices	Faceted	.25	.23	.22	.19	.18	.16
	Convex	.36	.32	.31	.26	.24	.22

¾-INCH CANDELABRA SOCKET

115 volt pilot light assemblies with faceted jewels, chrome-plated brass holder. Candelabra socket for S6 Lamp requires 11/16" hole for mounting. Less lamp. 4 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F673	502-2511	.31	.29	.28	.24	.23	.21

LENS CAPS FOR ABOVE HOLDER

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F430	514-2512-0431-302	Red						
25F431	514-2512-0432-302	Green						
25F432	514-2512-0433-302	Amber	.79	.75	.70	.62	.59	.54
25F433	514-2512-0434-302	Blue						
25F434	514-2512-0435-302	White						

HALF-INCH OPEN TYPE

Complete with (*) candelabra, (†) bayonet or (#) min. screw base sockets for standard pilot bulbs. Faceted jewels in nickel plated brass holders. Lug terminals. Requires 7/16" hole for mtg. Uses T-3¼ Bulb. Less bulbs. Wt., 2 oz.

HOLDER

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F674	502-1010*	.31	.29	.28	.24	.23	.21
45F675	502-1024†	.26	.25	.23	.21	.20	.18
45F676	502-1015#	.26	.25	.23	.21	.20	.18

FACETED LENS FOR ABOVE HOLDERS

Stk. No.	Type	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
25F435	514-1012-2131-102	Red						
25F436	514-1012-2132-102	Green						
25F347	514-1012-2133-102	Amber	.37	.35	.33	.29	.27	.25
25F438	514-1012-2134-102	Blue						
25F439	514-1012-2135-102	White						

1-INCH OPEN PLATED TYPE ASSEMBLY

Polished chrome-plated brass jewel holders. *Uses T-3¼" bay. base. †Uses T-3¼" min. screw. #Uses S6 cand. screw. 1½" L. Reg. 1" mtg. holes. Less lamps. 3 oz.

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F677	502-3241-102*	.70	.66	.62	.56	.51	.47
45F678	502-3242-102†	.70	.66	.62	.56	.51	.47
45F679	502-3214-102#	.79	.75	.70	.62	.59	.54

1" 115 VOLT CANDELABRA ASSEMBLIES

115 volt pilot light assemblies with faceted jewels in holder. Candelabra socket for S6 lamp. Require 1" hole. Less Lamp. Wt. 5 oz.

HOLDER

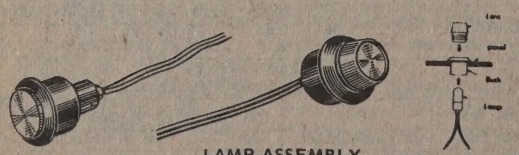
Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
45F700	502-3228-102	.92	.87	.81	.72	.68	.62

LENS CAPS FOR HOLDER LISTED ABOVE

Stk. No.	Convex frosted except * clear	Lens Color	Stk. No.	Faceted Type
25F1576	32-0111-300	Red	25F1582	32-0431-300
25F1577	32-0112-300	Green	25F1583	32-0432-300
25F1578	32-0113-300	Amber	25F1584	32-0433-300
25F1579	32-0114-300	Blue	25F1585	32-0434-300
45F681	32-0135-300*	White	45F680	32-0435-300
25F1580	32-0116-300	Lt. Yellow	25F1586	32-0436-300
25F1581	32-0117-300	Clear	25F1587	32-0437-300

1-9	10-24	25-99	100-249	250-499	500-999
.59	.56	.52	.46	.43	.38

IMLEC MODULAR INDICATOR LIGHT ASSEMBLIES



Series 100/101 assemblies are a new modular concept that provide low cost, great versatility. These pilot lights mount with a rubber bushing snapped into a 9 mm dia. cutout—no nut or retainer required. A variety of light sources—incandescent, neon, green glow neon or LED's—fit into the bushing and colored lens assemblies are slipped in from the top. Lens assembly may be mounted independently from light source and mated in the final assembly. Lens colors/light sources are interchangable.

LAMP ASSEMBLY

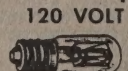
Stock No.	Type	Light Source	Volts	mA	10-90	100-490	500-990	1000-Up
39F3525	F606	Incandescent	5-6.3	50	.25	.20	.19	.18
39F3526	F614	Incandescent	12-14	80	.30	.24	.22	.21
39F3527	F628	Incandescent	24-28	80	.35	.28	.27	.25
39F3528	N5115	Neon	110-120	1.5	.35	.28	.27	.25
39F3529	G5115	Green Glow	110-120	1.5	.45	.36	.33	.31
39F3530	L617R	Red LED	1.8-2.4	100	1.00	.80	.75	.70
39F3543	L617G	Green LED	1.8-2.4	10	1.10	.88	.83	.77

LENS BUSHING ASSEMBLY

Flush Style Stock No.	Type	Color	Top Hat Style Stock No.	Type	Color	10-90	100-490	500-990	1000-Up
39F3531	100-R	Red	39F3537	101-R	Red				
39F3532	100-A	Amber	39F3538	101-A	Amber				
39F3533	100-G	Green	39F3539	101-G	Green	.25	.20	.19	.18
39F3534	100-B	Blue	39F3540	101-B	Blue				
39F3535	100-W	White	39F3541	101-W	White				
39F3536	100-C	Clear	39F3542	101-C	Clear				

HERZOG

120 VOLT 4-WATT PILOT LAMP



Type T-4½. Pilot lamp with clear bulb. Candelabra screw base. Rated at 4 watts at 120 volts. Dimensions: 9/16" dia. by 1 9/16" max. overall. Wt., 4 oz.

Stock No.	Color	10-90	100-Up
25F174	Clear	.75	.60

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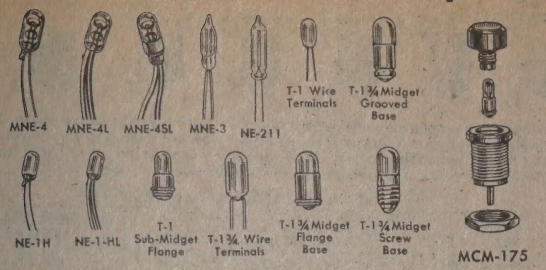
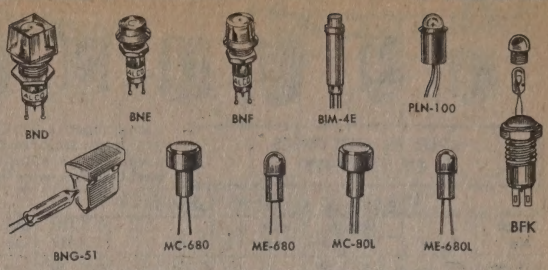
Alcolite Lamps and Assemblies

ALCO





BRITE GLO NEON LAMPS

(T-1⅜). MNE-4A/-4LA/-4SLA have straight electrodes. **MNE-4SL** has metal base to increase light output. For ¼" hole, 10" leads. Black phenolic case. 100K resistor required for 115V.

(T-1⅛). MNE-3/MNE-3H—Ignition voltage 75 VAC or 95 VDC. Current should be limited to 800 uA. 150K resistor for 115V. Longer than conventional NE-2. Breakdown: 90 VDC; maintained V: 65 VDC; design current: 1.3 mA.

(T-1.) NE-1H. High intensity neon with lens end magnification. Ignition voltage 60 VAC or 67 VDC and a ballast resistor of 35K is recommended at 115 VAC. **NE-1-HL** is same with insul. leads. T-1 #680: 5 VDC 60 mA, 100,000 hrs. For ¼" hole, 10" leads.

Stock No.	Type	Description	1-24	25-99	100-499	500-Up
57F2280	MNE-4A	Short Bare Leads	.59	.40	.35	.30
57F2231	MNE-4LA	10" Insulated Leads	.69	.47	.41	.35
57F2232	MNE-4SLA	10" Insulated Leads, Metal Base	.74	.50	.44	.37
57F2233	MNE-3	Short Bare Leads	.69	.47	.41	.35
57F2234	MNE-3H	Short Bare Leads, Hi Intensity	.79	.54	.47	.40
57F2235	NE-211	11 mm Glow, Bare Leads	.49	.33	.29	.25
57F2236	NE-214	14 mm Glow, Bare Leads	.64	.44	.38	.32
57F2237	NE-1H	Short Bare Leads	.69	.47	.41	.35
57F2238	NE-1-HL	10" Insulated Leads	.79	.54	.47	.40

INCANDESCENT T-1 AND T-1¾ LAMPS

Stock No.	Type		V	Amps	MSCP	1-9	10-99	100-499	500-Up
57F2239	680AS25		5.0	.060	.032	.83	.54	.42	.36
57F2240	683AS25	T-1	5.0	.060	.053	.83	.54	.42	.36
57F2241	713AS25	Wire	5.0	.075	.088	.83	.54	.42	.36
57F2242	715AS25	Terminals	5.0	.115	.147	.83	.54	.42	.36
57F2243	RM3-5V30		5.0	.030	.030	.89	.58	.45	.38
57F2244	685	T-1	5.0	.060	.050	1.44	.94	.72	.62
57F2245	718	Sub-Midget	5.0	.115	.147	1.38	.90	.69	.59
57F2246	856	Flange	28.0	.024	.150	3.06	1.99	1.53	1.32
57F2247	1112		14.0	.065	.150	2.16	1.40	1.08	.93
57F2248	2181	T-1¾ Wire	6.3	.200	.40	.65	.42	.33	.28
57F2249	2182	Terminals	14.0	.080	.30	.69	.45	.35	.30
57F2250	327		28.0	.040	.34	.79	.51	.40	.34
57F2251	330		14.0	.080	.50	.83	.54	.42	.36
57F2252	381	T-1¾	6.3	.200	.40	.86	.56	.43	.37
57F2253	382	Mid-Flange	14.0	.080	.30	.86	.56	.43	.37
57F2254	387	Base	28.0	.040	.30	.79	.51	.40	.34
57F2255	815		5.0	.115	.147	.86	.56	.43	.37
61F1226	379	T-1¾ Mid.	6.3	.200	.40	.86	.56	.43	.37
61F1227	386	Grooved	14.0	.080	.30	.90	.59	.45	.39
61F1228	388	Base	28.0	.040	.30	.95	.62	.48	.41
57F2256	362	T-1¾	14.0	.080	.30	.99	.64	.50	.43
57F2257	378	Mid.	6.3	.200	.40	.95	.62	.48	.41
57F2258	399	Screw Base	28.0	.040	.30	1.05	.68	.53	.45

LAMP HOLDERS

Relampable miniature holders have ⅜" diameter lens and small size. **MCM-100** has 0.7" length, mounts with ⁹⁄₁₆-32 nut. **MCM-175** has 1" length, mounts with ⅜-32 nut.

BNG-51 is a low-cost, snap-type lamp holder for miniature lamps such as NE-2. Available in three colors.

Stock No.	Type	Description	Color	1-24	25-99	100-499	500-Up
57F2220	MCM-100	Pilot, for T-1 Sub-Midget Flange Lamp.	Red	1.09	.74	.65	.55
57F2221	MCM-100		Green				
57F2222	MCM-100		Blue				
57F2223	MCM-100		Amber				
57F2224	MCM-100		White				
57F2225	MCM-175	Pilot, for T-1¾ Midget Flange Lamp	Red	1.09	.74	.65	.55
57F2226	MCM-175		Green				
57F2227	BNG-51	Holder for Neon Lamp	Red	.20	.14	.12	.10
57F2228	BNG-51		Amber				
57F2229	BNG-51		Clear				

NEON LAMPS ASSEMBLIES

BND Neon Asmbl., Sq. Lens—space saving. With or without built-in resistor. **BNE** Neon Asmbl., Compact Lens—protrudes slightly above panel. Oper. voltage: 75 VDC without resistor; for 115 VAC, use external resistors (150K, std. intensity; 33K, hi intensity). Temp.: —10° to 70°C. One ⁹⁄₁₆-32 nut mt. BNE-4R has built-in 115 VAC resistor. **BNF** Neon Asmbl., Long Lens—like BNE, but extends greater distance beyond panel. **BIM-A**—truncated cones, single lens style; lens ht., ¼". NE2H lamp, acrylic housing, tin-plated solder terms for 1¹⁄₃₂" dia. mnt. hole. Retainer incl.

Stock No.	Type	Description	Color	1-24	25-99	100-499	500-Up
57F2160	BND-2	Lamp Assembly, Std. Intensity	Red	.84	.57	.50	.42
57F2161	BND-2		Amber				
57F2162	BND-2R	Lamp Assembly with Resistor	Red	.89	.61	.53	.45
57F2163	BND-2R		Amber				
57F2164	BND-2R		White				
57F2165	BND-2R		Clear				
57F2166	BND-3	High Intensity Lamp	Red	.89	.61	.53	.45
57F2167	BND-3		Amber				
57F2168	BND-3R	High Intensity Lamp with Resistor	Red	.99	.67	.59	.50
57F2169	BND-3R		Amber				
57F2170	BND-3R		White				
57F2171	BND-3R		Clear				
57F2172	BNE-2	Standard Intensity Lamp	Red	.84	.57	.50	.42
57F2173	BNE-2		Amber				
57F2174	BNE-3	High Intensity Lamp	Red	.89	.61	.53	.45
57F2175	BNE-3		Amber				
57F2176	BNE-3		White				
57F2177	BNE-3		Clear				
57F2178	BNE-4R	High Intensity Lamp with Internal Resistor	Red	.99	.67	.59	.50
57F2179	BNE-4R		Amber				
57F2180	BNE-4R		White				
57F2181	BNE-4R		Clear				
57F2182	BNF-2	Standard Intensity Neon Lamp	Red	.84	.57	.50	.42
57F2183	BNF-2		Amber				
57F2184	BNF-2		White				
57F2185	BNF-2		Clear				
57F2186	BNF-3	High Intensity Lamp	Red	.89	.61	.53	.45
57F2187	BNF-3		Amber				
57F2188	BNF-3		White				
57F2189	BNF-3		Clear				
57F2190	BNF-4R	High Intensity Lamp with Internal Resistor	Red	.99	.67	.59	.50
57F2191	BNF-4R		Amber				
57F2192	BNF-4R		White				
57F2193	BIM-4E	Chrome Bezel	Red	.69	.47	.41	.35
57F2194	BIM-4E		Amber				
57F2198	PLN-100A	Neon Pilot	Clear	.99	.67	.59	.50

INCANDESCENT LAMP ASSEMBLIES

Ultraminiature series has cylindrical appearance and fits in ³⁄₁₆" hole. Has 5 volt, 60 mA rating; life of 100,000 hours. Contains #683 T-1 lamp. Mounting ring supplied. Types ME-680L and MC-680L have solder tin dipped, high temperature leads. 24 AWG wire. Lens unscrews, T-1 lamp is exposed.

57F2199	MC-680	Assembly with Pin Contacts	Red	1.29	.88	.77	.65
57F2200	MC-680		Green				
57F2201	MC-680		White				
57F2202	MC-680LT	Assembly with 6" Leads	Red	1.29	.88	.77	.65
57F2203	MC-680LT		Green				
57F2204	MC-680LT		Amber				
57F2205	MC-680LT		White				
57F2206	ME-680	Assembly with Pin Contacts	Red	1.19	.81	.71	.60
57F2207	ME-680		Green				
57F2208	ME-680		White				
57F2209	ME-680LT	Assembly with 6" Leads	Red	1.19	.81	.71	.60
57F2210	ME-680LT		Green				
57F2211	ME-680LT		Yellow				
57F2212	ME-680LT		Blue				
57F2213	ME-680LT		White				
57F2214	PL-105	5V Lamp Assembly	Clear	.89	.61	.53	.45
57F2215	BFK-5	Pilot Assembly with 5V Lamp	Red	1.49	1.01	.89	.75
57F2216	BFK-5		Green				
57F2217	BFK-5		Blue				
57F2218	BFK-5		Yellow				
57F2219	BFK-5		White				

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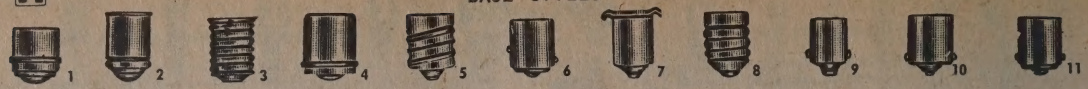
DRAKE

Chicago Miniature Lamps

BASE STYLES



SOLD IN MULTIPLES OF 10 ONLY

Lamps listed in this catalog are the more popular types available from Chicago Miniature. If your application requires special lamp or a lamp not shown, send Newark a description of your needs. We will submit our recommendations. "AS" types are aged & selected for critical application. W—wire terminals. (*)—Not illustrated. (+)—Wedge base. L—Long life.

GENERAL SERVICE LAMPS

Stock No.	Type	Design V.	Design Amp.	Life Hours	B.	Bulb	10-90	100-490	500-Up
27F100	PR-2	2.38	.50	15	7	B-3½	.15	.13	.11
27F101	PR-3	3.57	.50	15	7	B-3½	.15	.13	.11
27F102	PR-4	2.33	.27	10	7	B-3½	.15	.13	.11
27F103	PR-6	2.47	.30	30	7	B-3½	.15	.13	.11
27F105	PR-12	5.95	.50	15	7	B-3½	.15	.13	.11
27F106	PR-13	4.75	.50	15	7	B-3½	.15	.13	.11
27F107	PR-16	12.5	.25	50	7	B-3½	.21	.16	.14
25F091	10	2.5	.5	3000	*	G-3½	.25	.21	.17
25F092	12	6.3	.15	L	*	G-3½	.21	.17	.14
27F111	13	3.7	.30	15	8	G-3½	.13	.11	.09
27F112	14	2.47	.30	15	8	G-3½	.13	.11	.09
25F006	19	14.4	.10	. . .	*	G-3½	.29	.24	.21
27F113	27	4.9	.30	30	8	G-4½	.16	.13	.11
27F114	31	6.15	.30	15	8	G-4½	.21	.16	.14
27F115	40	6.3	.15	3000	8	T-3¼	.11	.09	.08
25F830	41	2.5	.50	3000	5	T-3¼	.22	.17	.15
27F117	43	2.5	.50	3000	9	T-3¼	.22	.17	.15
27F118	44	6.3	.25	3000	9	T-3¼	.11	.09	.08
27F119	45	3.2	.35	3000	9	T-3¼	.17	.14	.12
27F120	46	6.3	.25	3000	8	T-3¼	.11	.09	.08
27F121	47	6.3	.15	3000	9	T-3¼	.11	.09	.08
27F122	48	2.0	.06	1000	8	T-3¼	.22	.17	.15
27F123	49	2.0	.06	1000	9	T-3¼	.17	.14	.12
27F124	50	7.5	.22	1000	8	G-3½	.13	.11	.09
27F125	51	7.5	.22	1000	9	G-3½	.11	.09	.08
25F831	52	14.4	.10	1000	5	G-3½	.27	.23	.19
27F126	53	14.4	.12	1000	9	G-3½	.12	.10	.09
27F127	55	7.0	.41	500	9	G-4½	.12	.10	.09
27F128	57	14.0	.24	5 00	9	G-4½	.13	.11	.09
25F832	63	7	.63	1000	10	G-6	.15	.13	.11
27F130	67	13.5	.59	L	10	G-6	.16	.13	.11
27F131	68	13.5	.59	L	11	G-6	.24	.19	.16
25F093	81	6.5	1.05	500	10	G-6	.18	.15	.13
27F133	82	6.5	1.05	500	11	G-6	.18	.15	.13
27F134	87	6.8	1.91	300	10	S-8	.29	.24	.21
27F135	88	6.75	1.99	300	11	S-8	.29	.24	.21
27F136	88L	6.75	1.99	750	11	S-8	.78	.64	.54
27F137	90	13.0	.58	750	11	G-6	.17	.14	.12
27F138	93	12.8	1.04	500	10	S-8	.25	.19	.17
25F094	112	1.2	.22	5	8	GTL-3	.13	.11	.09
25F833	123	1.25	.30	10	5	G-3½	.14	.11	.10
25F834	130	6.3	.15	L	6	G-3½	.17	.14	.12
25F143	131	1.3	.10	50	8	G-3½	.15	.12	.11
25F090	159	6.3	.15	L	*	T-3¼	.21	.17	.14
25F835	219	6.3	.25	L	10	G-3½	.33	.27	.23
27F147	222	2.25	.25	5	8	GTL-3	.13	.11	.09
25F148	224	2.15	.22	5	*	GTL-2¾	.18	.15	.13
27F149	233	2.33	.27	10	8	G-3½	.19	.15	.13
25F095	239	6.3	.36	5000	9	T-3¼	.25	.19	.17
25F150	240	6.3	.36	L	9	T-3¼	.23	.18	.15
27F152	252	2.5	.35	10000	4	GTL-1¾	2.44	1.99	1.70
27F153	253X	2.5	.35	10000	2	GTL-1¾	2.96	2.40	2.05
25F096	259	6.3	.25	L	+	T-3¼	.16	.13	.11
27F154	261	2.5	.35	10000	2	GTL-1¾	4.75	3.86	3.30
27F1012	268	2.5	.35	10000	4	T-1¾	1.57	1.27	1.09
27F156	304	28.0	.30	500	11	G-6	.40	.32	.27
27F158	307	28.0	.66	300	10	S-8	.56	.45	.39
25F836	307IF	28.0	.67	300	10	S-8	.66	.53	.45
27F160	313	28.0	.17	500	9	T-3¼	.26	.22	.18
26F500	323	3.0	.19	350	*	T-1¼	1.17	.95	.81
26F537	324	3.0	.19	350	*	T-1¼	.49	.40	.34
26F501	327	28.0	.04	1000	4	T-1¾	.52	.42	.36
26F502	327AS15	28.0	.04	. . . .	4	T-1¾	1.68	1.36	1.17
26F503	327AS25	28.0	.04	. . . .	4	T-1¾	.95	.77	.66
26F913	327LSV	28.0	.06	. . . .	4	T-1¾	1.13	.92	.79
26F504	328	6.0	.20	1000	4	T-1¾	.41	.34	.28
26F541	330	14.0	.08	750	4	T-1¾	.69	.56	.48
26F542	331	1.35	.06	500	4	T-1¾	.80	.65	.55
26F544	334	28.0	.04	1000	2	T-1¾	.78	.63	.54
27F162	334LSV	28.0	.06	25000	2	T-1¾	1.41	1.14	.98
26F508	335	28.0	.04	25000	3	T-1¾	1.19	.97	.83
26F509	335AS15	28.0	.08	. . . .	3	T-1¾	2.52	2.04	1.75
26F547	336	14.0	.04	750	2	T-1¾	1.19	.96	.82
26F548	337	6.0	.20	1000	2	T-1¾	1.40	1.14	.98
26F552	338	2.7	.06	3000	4	T-1¾	.71	.58	.50
26F511	342	6.0	.03	10000	3	T-1¾	1.44	1.17	.99
26F554	344	10.0	.014	10000	4	T-1¾	1.12	.91	.77
26F555	345	6.0	.04	10000	4	T-1¾	.91	.73	.63
26F914	346	18.0	.04	1000	2	T-1¾	1.03	.83	.71
25F008	349	6.3	.20	. . . .	4	T-1¾	.89	.71	.62

GENERAL SERVICE LAMPS

Stock No.	Type	Design V.	Design Amp.	Life Hours	B.	Bulb	10-90	100-490	500-Up
26F915	367	10.0	.04	30000	4	T-1¾	1.13	.92	.79
27F166	370	18.0	.015	1000	4	T-1¾	1.24	1.00	.86
27F1017	373	14.0	.08	750	3	T-1¾	1.43	1.16	.98
27F167	375	3.0	.04	10000	4	T-1¾	2.05	1.67	1.43
27F1018	376	28.0	.06	25000	4	T-1¾	1.13	.92	.79
26F916	380	6.3	.04	50000	4	T-1¾	1.73	1.40	1.20
26F917	381	6.3	.20	50000	4	T-1¾	.92	.75	.64
26F918	382	14.0	.08	50000	4	T-1¾	1.05	.85	.72
27F1021	385	28.0	.04	50000	4	T-1¾	1.62	1.32	1.12
27F168	386	14.0	.08	50000	2	T-1¾	1.25	1.02	.88
26F919	387	28.0	.04	25000	4	T-1¾	.59	.49	.41
27F169	388	28.0	.04	25000	2	T-1¾	1.25	1.02	.86
27F1022	397	10.0	.04	30000	2	T-1¾	1.13	.92	.79
25F837	398	6.3	.20	3000	2	T-1¾	.87	.71	.61
25F009	399	28.0	.04	. . . .	8	T-1¾	1.09	.89	.71
25F838	425	5.0	.50	.15	5	G-4½	.17	.14	.12
27F172	428	12.5	.25	250	8	G-4½	.21	.16	.14
27F178	502	5.1	.15	100	8	G-4½	.14	.11	.10
27F180	509	24.0	.18	1000	5	G-6	.67	.55	.46
25F839	515	5.0	.115	40000	*	T-1¼	.79	.64	.55
25F841	583	5.0	.06	100000	*	T-1¼	.78	.63	.54
26F521	680	5.0	.06	200000	*	T-1	1.41	1.16	.98
25F842	680AS15	5	.06	100000	*	T-1	1.64	1.34	1.14
26F523	682	5.0	.06	200000	1	T-1	1.72	139	1.19
25F843	682AS15	5	.06	100000	1	T-1	1.91	1.56	1.33
26F525	683	5.0	.06	100000	*	T-1	1.41	1.16	.98
25F844	683AS15	5.0	.06	100000	*	T-1	1.64	1.34	1.14
26F527	685	5.0	.06	100000	1	T-1	1.72	1.39	1.19
25F845	685AS15	5.0	.06	100000	1	T-1	1.91	1.56	1.33
26F533	715	5.0	.115	40000	*	T-1	1.41	1.16	.98
26F534	715AS15	5.0	.115	40000	*	T-1	1.64	1.34	1.14
26F535	718	5.0	.115	40000	1	T-1	1.72	1.39	1.19
26F536	718AS15	5.0	.115	40000	1	T-3¼	1.91	1.56	1.33
25F846	755	6.3	.15	50000	9	T-3¼	.26	.22	.18
25F847	756	14.0	.08	50000	9	B-6	.35	.28	.24
25F010	757	28.0	.08	50000	9	B-6	.39	.31	.27
27F183	1003	12.8	.94	100	10	S-8	.24	.19	.16
27F184	1004	12.8	.94	100	11	S-8	.24	.19	.16
27F187	1034	12.8	1.80	200L	*	S-8	.33	.27	.24
27F189	1073	12.8	1.80	200	10	S-8	.24	.19	.16
27F190	1129	6.4	2.63	200	10	RP-11	.25	.21	.17
25F848	1130	6.4	2.80	200	11	S-8	.33	.27	.23
27F192	1133	6.2	3.91	200	10	S-8	.43	.36	.30
27F193	1141	12.8	1.44	500	10	RP-11	.24	.19	.16
27F194	1142	12.8	1.44	500	11	RP-11	.28	.23	.19
27F195	1143	12.5	2.00	400	10	G-6	.57	.46	.40
27F198	1184	5.5	6.36	100	11	G-6	.62	.50	.42
27F202	1251	28.0	.23	L	110	G-3½	.40	.32	.28
27F203	1252	24.0	.23	L	11	G-3½	.45	.37	.31
25F849	1445	18.0	.15	250	10	G-5	.15	.13	.11
27F206	1447	18.0	.15	250	8	T-3	.16	.14	.12
27F208	1458	20.0	.25	250	9	G-4½	.29	.24	.19
27F211	1477	24.0	.17	250	8	G-4½	.54	.44	.38
27F213	1483	6.0	.04	250	8	G-4½	.28	.23	.19
27F214	1487	14.0	.21	3000	8	T-3¼	.22	.17	.15
27F215	1488	14.0	.15	200	9	T-3¼	.23	.18	.16
27F216	1489	6.5	2.75	125	10	T-5	2.57	2.08	1.78
27F217	1490	3.2	.16	3000	9	T-3¼	.17	.14	.12
27F220	1493	6.5	2.80	100	11	S-8	1.02	.83	.70
27F221	1503	5.9	6.53	200	*	RP1-1	1.26	1.03	.89
27F223	1630	6.5	2.75	100	*	S-8	1.33	1.08	.93
25F862	1648	8.0	2.0	1500	11	S-8	.97	.79	.67
26F556	1705	14.0	.08	750	W	T-1¾	.54	.44	.38
26F557	1728	1.35	.06	500	W	. . . .	.40	.32	.28
26F558	1730	6.0	.04	10000	W	T-1¾	.91	.73	.63
26F559	1738	2.7	.06	6000	W	. . . .	.40	.32	.28
27F1025	1762	28.0	.04	1000	*	T-1¾	.40	.32	.28
27F225	1763	6.1	4.10	125	*	T-1¾	1.23	1.00	.85
26F561	1764	28.0	.04	1000	*	S-11	.44	.36	.31
26F562	1764/LSV	28.0	.06	25000	*	S-11	.73	.59	.51
26F512	1767	2.5	.20	500	3	T-1¾	.64	.52	.44
26F513	1768	6	.20	1000	3	T-1¾	.76	.62	.52
26F564	1775	6.3	.075	500	3	. . . .	.93	.75	.64
27F226	1783	2.5	.20	500	W	T-1	.39	.31	.27
27F1026	1784	6.0	.20	1000	*	T-1¾	.60	.50	.42
27F227	1813	14.4	.10	1000	9	T-3¼	.23	.18	.15
27F228	1815	14	.20	3000	9	T-3¼	.19	.15	.13
27F229	1816	13	.33	1000	9	T-3¼	.18	.15	.13

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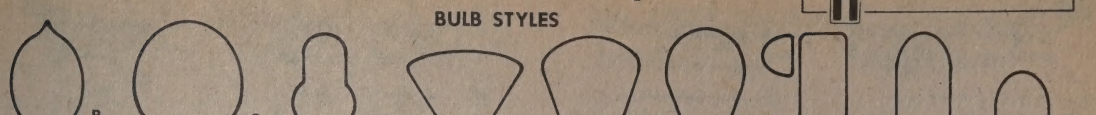
Chicago Miniature Lamps

DRAKE

BULB STYLES



GENERAL SERVICE LAMPS (CONT'D)

**Knurled screw. †Specs midget flanged ‡Spec. screw.

Stock No.	Type	Design V.	Design Amps	Life Hours	Base Style	Bulb Style	10-90	100-490	500-Up
27F230	1819	28	.04	1000	9	T-3¼	.28	.23	.19
27F231	1820	28	.10	1000	9	T-3¼	.30	.24	.21
27F232	1821	28	.17	500	8	T-3¼	.66	.53	.45
27F233	1822	36	.10	1000	9	T-3¼	.52	.42	.37
27F234	1828	37.5	.05	L	9	T-3¼	.56	.45	.39
27F235	1829	28	.075	1000	9	T-3¼	.29	.24	.21
25F085	1835	55.0	.05	.....	9	T-3¼	.64	.52	.44
27F236	1847	6.3	.15	20000	9	T-3¼	.15	.12	.11
27F237	1850	5	.09	1500	9	T-3¼	.29	.24	.21
27F238	1855	6.3	.80	3000	9	T-4½	.30	.25	.22
25F1900	1864	28.0	.17	500	9	T-3¼	.37	.30	.26
27F239	1866	6.3	.25	20000	9	T-3¼	.18	.15	.13
27F240	1869	10.0	.014	10000	W	T-1¾	.96	.78	.67
27F241	1891	14.0	.233	500	9	T-3¼	.13	.11	.10
27F242	1892	14.4	.12	1000	9	T-3¼	.22	.17	.15
27F243	1893	14.0	.33	L	9	T-3¼	.15	.12	.11
25F1901	1895	14.9	.27	1500	9	G-4½	.17	.14	.12
27F244	2102	18.0	.04	1000	W	T-1¾	.71	.58	.50
27F245	2107	10.0	.04	30000	W	T-1¾	1.09	.89	.76
25F099	2114	6.0	.06	3000	W	T-1¼	.64	.52	.44
27F247	2124	2.5	.35	10000	W	GTL-1¾	1.84	1.49	1.27
25F185	2128	3.0	.0125	.....	W	T-1	3.33	2.70	2.31
25F1902	2136	2.5	.350	10,000	W	GTL-1¾	3.51	2.85	2.43
25F086	2158	3.0	.015	.....	W	T-1¾	1.13	.92	.79
27F250	2162	14.0	.088	10000	W	T-1¾	.55	.45	.39
25F1903	2180	6.3	.04	50000	*	T-1¾	1.08	.88	.76
27F1028	2187	28.0	.04	25000	*	T-1¾	.92	.75	.64
25F186	2169	2.5	.350	10000	W	T-1¾	.50	.40	.35
25F087	2181	6.3	.21	.....	W	T-1¾	.53	.43	.37
25F187	2182	14.0	.08	50000	W	T-1¾	.78	.63	.54
27F096	6803	5.0	.060	7500	1	T-¾	2.24	1.81	1.56
25F189	6833	5.0	.060	100000	W	T-¾	2.02	1.64	1.40
25F1904	6838	28.0	.024	16000	*	T-1	2.10	1.70	1.46
25F191	6839	28.0	.024	16000	1	T-1	2.55	2.07	1.77
25F193	7153	5.0	.115	40000	W	T-¾	2.02	1.64	1.40
27F294	7216	5	.125	500	*	T-1	2.20	1.79	1.53
25F1906	8299	2.5	.350	10000	3	TL-1¾	2.05	1.67	1.43
25F1907	8362	14.0	.08	50000	3	T-1¾	1.02	.82	.70
25F1908	8369	28.0	.065	5000	3	T-1¾	1.07	.86	.73
25F1913	8610	6.3	.20	3000	*	T-1¼	.73	.59	.51
25F1909	8623	28.0	.04	1000	**	T-1¼	1.58	1.29	1.09
25F195	8627	28.0	.04	1000	W	T-1¼	.97	.79	.68
25F1910	8632	28.0	.04	1000	†	T-1¼	1.58	1.29	1.09
25F1911	8635	28.0	.04	1000	‡	T-1¼	1.65	1.34	1.14
25F198	8639	6.0	.20	500	*	T-1¼	1.58	1.29	1.09
26F592	8640	14	.08	1000	*	T-1¼	.70	.56	.49
25F1912	8646	3.0	.008	16000	*	T-1	1.58	1.29	1.09
26F605	8661	6	.04	1000	W	T-1¼	1.12	.91	.78
25F199	8666	5.0	.08	3000	W	T-¾	2.02	1.64	1.40
27F297	8805	5	.06	20000	1	T-1¾	.64	.52	.44

STANDARD VOLTAGE LAMPS

Stock No.	Type	Design V.	Design Amps	Life Hours	Base Style	Bulb Style	10-90	100-490	500-Up
27F259	3S6/5	120	3	3000	8	S-6	.59	.53	.48
27F260	6S6	115	6	1500	8	S-6	.26	.23	.21
27F261	6S6	145	6	1500	8	S-6	.59	.53	.48
27F262	6S6/DC	120V	6	1500	11	S-6	.43	.39	.35
27F263	6T4½/1	115-125	6	1500	8	T-4½	.81	.73	.66
27F264	7C7	115-125	7	3000	8	C-7	.23	.21	.19
27F265	10C7	115-125	10	.....	8	C-7	.32	.29	.26
27F266	10C7DC	115-125	10	.....	11	C-7	.43	.39	.35
27F267	10S6/10	230	10	1500	8	S-6	.68	.61	.65

SOLD IN MULTIPLES OF 10 ONLY

NEON GLOW LAMPS

#Med. Screw §Cand. Screw

Stock No.	Type	Design V	Design W	Life Hours	Base	Bulb	10-990	1000-4990	5000-Up
25F810	A1B	105-125	1/25	25000	W	T-2	.23	.138	.103
25F811	A1C	105-125	1/10	25000	W	T-2	.24	.140	.104
27F251	NE2(A1A)	105-125	1/25	25000+	W	T-2	.19	.113	.086
27F252	NE2D(C7A)	105-125	1/10	5000+	†	T-2	1.45	.866	.642
25F812	NE2E(A9A)	105-125	1/4	5000	W	T-2	.22	.129	.095
27F253	NE2H(C2A)	105-125	1/4	5000	W	T-2	.22	.129	.095
25F813	NE2J(C9A)	105-125	1/4	5000	7	T-2	1.45	.866	.642
25F814	NE21(B6A)	110-125	1/4	7500	10	T-4½	1.28	1.07	.789
25F815	NE30(J5A)	110-125	‖	10000	10	S-11	2.70	1.62	1.20
25F816	NE32(L5A)	110-125	‖	10000	11	G-10	2.29	1.37	1.02
27F254	NE45(B7A)	110-125	1/4	7500	8	T-4½	1.65	.99	.733
27F255	NE48(B9A)	110-125	1/4	7500	11	T-4½	1.35	.807	.597
27F256	NE51(B1A)	110-125	1/25	15000+	6	T-3¼	.48	.286	.212
27F257	NE51H(B2A)	110-125	1/4	5000+	6	T-3¼	.48	.286	.212
25F817	NE56(J9A)	220-250	‖	10000	#	S-11	2.73	1.64	1.21
25F818	NE57(F3A)	110-125	1/4	7500	§	T-4½	1.90	1.14	.846
25F819	NE58(F4A)	220-250	1/2	.....	§	T-4½	1.28	1.07	.289
27F258	NE83(5AH)	60-100	.....	.....	W	T-2	.46	.243	.204
25F080	NE86(5AJ)	55	.....	2000	W	T-2	.43	.257	.19

CM7-SERIES BI-PIN LAMPS

Stock No.	Type	Design V.	Design Amps	Life Hours	Bulb	10-90	100-490	500-Up
25F820	CM7-7112	5.0	.021	10000	T-¾	3.78	3.07	2.62
25F821	CM7-7115	5.0	.060	3000	T-¾	2.88	2.34	2.00
25F822	CM7-7117	5.0	.080	15000	T-¾	2.88	2.34	2.00
25F823	CM7-7118	5.0	.115	40000	T-¾	2.88	2.34	2.00
25F827	CM7-7309	6.0	.06	3000	T-1¼	1.62	1.31	1.12
27F268	CM7-7327	28.0	.04	1000	T-1¾	.70	.56	.49
27F269	CM7-7328	6.0	.20	1000	T-1¾	.73	.59	.51
27F270	CM7-7330	14.0	.08	750	T-1¾	.70	.56	.49
25F854	CM7-7344	10.0	.014	10000	T-1¾	1.05	.83	.72
25F853	CM7-7349	6.3	.20	3000	T-1¾	.70	.56	.49
25F855	CM7-7367	10.0	.04	5000	T-1¾	1.10	.90	.77
25F856	CM7-7371	12.0	.04	10000	T-1¾	1.20	.97	.83
25F858	CM7-7373	14.0	.10	10000	T-1¾	1.44	1.17	.99
25F859	CM7-7376	28.0	.065	5000	T-1¾	1.20	.97	.83
27F1030	CM7-7377	6.0	.075	500	T-1¾	.70	.56	.49
25F852	CM7-7380	6.3	.04	50000	T-1¾	.95	.78	.66
25F857	CM7-7382	14.0	.08	5000	T-1¾	.77	.63	.54
25F825	CM7-7515	5.0	.115	40000	T-1¼	1.62	1.31	1.12
25F824	CM7-7583	5.0	.06	100000	T-1¼	1.62	1.31	1.12
25F828	CM7-7628	6.0	.20	1000	T-1¼	1.62	1.31	1.12
25F850	CM7-7632	28.0	.04	1000	T-1¼	1.62	1.31	1.12
25F829	CM7-7646	14.0	.08	1000	T-1¼	1.62	1.31	1.12
25F826	CM7-7660	6.0	.04	1000	T-1¼	1.89	1.53	1.32
27F271	CM7-7838	2.7	.06	6000	T-1¾	.95	.78	.66
25F851	CM7-7945	6.0	.04	10000	T-1¾	.95	.78	.66

CM8-SERIES MINIATURE & SUB-MINIATURE LAMPS

Stock No.	Type	Design V	Design Amps	Life Hours	Base	Bulb	10-90	100-490	500-Up
27F273	CM8-60	6.0	5.5	9000	10	RP-11	.89	.71	.62
27F282	CM8-363	28.0	.04	....		TF-1½	.76	.62	.52
27F283	CM8-373	2.5	.35	10000	2	TL-1¾	1.45	1.18	1.00
27F286	CM8-374	2.5	.35	10000	*	TL-1¾	1.29	1.05	.90
27F288	CM8-503	6.3	.35	1000	6	TL-3¾	3.03	2.46	2.11
27F099	CM8-967	120	.02	5000	6	T-2	.90	.73	.63

*Not Illustrated W=wire terminals.

15

INDICATOR LAMPS

Special units for Dialco series of 81 indicator lights. T-2 incandescent bulb with slide base: ¼" diam., 5000 hr. life. PKG. OF 10 ONLY

Stock No.	Type	Volts	Amps	End. Foot Candles	10-90	100-490	500-Up
27F075	6PSB	6	.140	800	.57	.46	.41
27F076	12PSB	12	.170	2500	.57	.46	.41
27F077	24PSB	24	.073	2200	.57	.46	.41
27F078	28PSB	28	.040	2000	.57	.46	.41
27F079	48PSB	48	.053	1500	.57	.46	.41
27F080	60PSB	60	.050	2600	.57	.46	.41
27F081	120PSB	120	.025	1500	.57	.46	.41

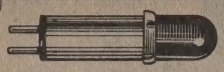
TELEPHONE SLIDE BASE LAMPS

Incandescent lamps specifically designed for use in telephone switchboards. 5000 hour life. ¼" diameter. PKG. OF 10 ONLY

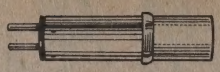
Stock No.	Type	Volts	Amps	End. Foot Candles	10-90	100-490	500-Up
27F084	24C	24	.06 -.085	875	.73	.44	.38
27F085	24E	24	.032-.038	600	.73	.44	.38
27F087	24X	24	.032-.038	600	.73	.44	.38
27F088	30B	30	.09 -.11	1050	.73	.44	.38
27F090	48D	48	.017-.025	100	.73	.44	.38
27F091	55C	55	.045-.06	1025	.73	.44	.38

DRAKE

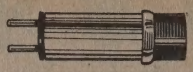
Chicago Miniature Lamp Indicators



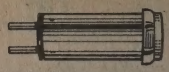
[A] Macrodome



[B] Long Cylindrical



[C] Short Cylindrical



[D] Flush

SUBMINIATURE INDICATOR LIGHTS

Ideal for all subminiature applications: computers, data processing equipment, instrumentation, etc. Mount in cartridge holder or mounting clip (not incl.). Clear anodized aluminum housing; nylon insulation. Stainless steel pins, off center for polarization. Meets MIL-L-3661 requirements. Mounts in 9/32" clearance hole. Available with hot stamped legends.

[A] [B] NEON INDICATORS

Built-in neon lamp (AIB) has long-life characteristics when used with 100k resistor at 105-125 V. 1/25 watt. Starting voltage: 65 VAC and 90 VDC. Cartridge bodies extend approx. .634" deep measured from front of panel; .284" diameter.

[A] MACRODOME TRANSPARENT NEON CARTRIDGE

Stock No.	Type No.	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
39F2400	CML710251	Red						
39F2401	CML710253	Amber						
39F2402	CML710255	White	.85	.78	.72	.64	.58	.52
39F2403	CML710256	Yellow						
39F2404	CML710257	Clear						

SAME AS ABOVE, BUT USES HIGH BRIGHTNESS NEON (AIC).

39F2405	CML710221	Red						
39F2406	CML710223	Amber						
39F2407	CML710225	White	.85	.78	.72	.64	.58	.52
39F2408	CML710226	Yellow						
39F2409	CML710227	Clear						

[B] LONG CYLINDRICAL TRANSPARENT NEON CARTRIDGE

39F2410	CML810251	Red						
39F2411	CML810253	Amber						
39F2412	CML810255	White	.85	.78	.72	.64	.58	.52
39F2413	CML810256	Yellow						
39F2414	CML810257	Clear						

SAME AS ABOVE, BUT USES HIGH BRIGHTNESS NEON (AIC).

39F2415	CML810221	Red						
39F2416	CML810223	Amber						
39F2417	CML810225	White	.85	.78	.72	.64	.58	.52
39F2418	CML810226	Yellow						
39F2419	CML810227	Clear						

[A] MACRODOME INCANDESCENT TRANSLUCENT CARTRIDGE INDICATORS

6 VOLTS, 0.2 AMP

Stock No.	Type No.	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
39F2420	CML720061	Red						
39F2421	CML720062	Green						
39F2422	CML720063	Amber	.97	.90	.83	.73	.67	.59
39F2423	CML720064	Blue						
39F2424	CML720065	White						
39F2425	CML720066	Yellow						

6.3 VOLTS, 0.2 AMP LONG-LIFE

39F2426	CML720131	Red						
39F2427	CML720132	Green						
39F2428	CML720133	Amber	1.17	1.05	.97	.89	.79	.72
39F2429	CML720134	Blue						
39F2430	CML720135	White						
39F2431	CML720136	Yellow						

14.0 VOLTS, 0.08 AMP

39F2432	CML720091	Red						
39F2433	CML720092	Green						
39F2434	CML720093	Amber	.97	.87	.81	.75	.66	.60
39F2435	CML720094	Blue						
39F2436	CML720095	White						
39F2437	CML720096	Yellow						

14.0 VOLTS, 0.08 AMP LONG-LIFE

39F2438	CML720281	Red						
39F2439	CML720282	Green						
39F2440	CML720283	Amber	1.26	1.16	1.06	.97	.86	.79
39F2441	CML720284	Blue						
39F2442	CML720285	White						
39F2443	CML720286	Yellow						

28.0 VOLTS, 0.04 AMP

39F2444	CML720111	Red						
39F2445	CML720112	Green						
39F2446	CML720113	Amber	1.04	.96	.87	.79	.70	.63
39F2447	CML720114	Blue						
39F2448	CML720115	White						
39F2449	CML720116	Yellow						

[C] SHORT CYLINDRICAL INCANDESCENT CARTRIDGE INDICATORS

6.0 VOLTS, 0.2 AMP TRANSLUCENT

Stock No.	Type No.	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
39F2340	CML620061	Red						
39F2341	CML620062	Green						
39F2342	CML620063	Amber	.97	.90	.83	.73	.67	.59
39F2343	CML620064	Blue						
39F2344	CML620065	White						
39F2345	CML620066	Yellow						

10.0 VOLTS, 0.014 AMP TRANSPARENT

39F2346	CML610071	Red						
39F2347	CML610072	Green	1.50	1.33	1.23	1.12	1.00	.91
39F2348	CML610073	Amber						
39F2349	CML610076	Yellow						

14.0 VOLTS, 0.08 AMP TRANSLUCENT

Stock No.	Type No.	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
39F2450	CML620091	Red						
39F2451	CML620092	Green						
39F2452	CML620093	Amber	.97	.87	.81	.75	.66	.60
39F2453	CML620094	Blue						
39F2454	CML620095	White						
39F2455	CML620096	Yellow						

28.0 VOLTS, 0.04 AMP TRANSLUCENT

39F2456	CML620111	Red						
39F2457	CML620112	Green						
39F2458	CML620113	Amber	1.04	.96	.87	.79	.70	.63
39F2459	CML620114	Blue						
39F2460	CML620115	White						
39F2461	CML620116	Yellow						

[D] FLUSH INCANDESCENT CARTRIDGE INDICATORS

6.0 VOLTS, 0.2 AMP TRANSLUCENT

Stock No.	Type No.	Lens Color	1-9	10-24	25-99	100-249	250-499	500-999
39F2462	CML520061	Red						
39F2463	CML520062	Green						
39F2464	CML520063	Amber	.97	.90	.83	.73	.67	.59
39F2465	CML520064	Blue						
39F2466	CML520065	White						
39F2467	CML520066	Yellow						

14.0 VOLTS, 0.08 AMP TRANSLUCENT LONG LIFE

39F2468	CML520281	Red						
39F2469	CML520282	Green						
39F2470	CML520283	Amber	1.17	1.05	.97	.89	.79	.72
39F2471	CML520284	Blue						
39F2472	CML520285	White						
39F2473	CML520286	Yellow						

28.0 VOLTS, 0.04 AMP TRANSLUCENT

39F2474	CML520111	Red						
39F2475	CML520112	Green						
39F2476	CML520113	Amber	1.04	.96	.87	.79	.70	.63
39F2477	CML520114	Blue						
39F2478	CML520115	White						
39F2479	CML520116	Yellow						

Indicator Lights

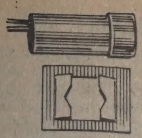


Fig. A

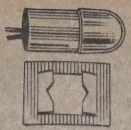


Fig. B

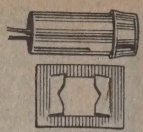


Fig. C

CM22 T-1¾ INCANDESCENT PEANUT LITES

Feature high-temperature polycarbonate housings with T-1¾ lamps. Permanently potted AWG #24, 6" insulated wire leads. Mounting hole .309 diameter nominal. Spring steel mounting clip is included. (*) TRP—Transparent, TRL—Translucent.

6.0 VOLT, 0.2 AMP

Stock No.	Fig. A Macrodome Lens	Stock No.	Fig. B Short Cylindrical Lens	Lens Color
67F4512	CM22-01-01-06	67F4549	CM22-02-01-06	Clear TRP.*
67F4513	CM22-01-02-06	67F4550	CM22-02-02-06	Red TRP.*
67F4514	CM22-01-03-06	67F4551	CM22-02-03-06	Amber TRP.*
67F4515	CM22-01-04-06	67F4552	CM22-02-04-06	Green TRP.*
67F4516	CM22-01-05-06	67F4553	CM22-02-05-06	White TRL.*

1-9	10-24	25-99	100-249	250-499	500-999
1.04	.95	.88	.78	.71	.63

6.3 VOLT, 0.2 AMP—LONG LIFE

67F4517	CM22-01-01-13	67F4554	CM22-02-01-13	Clear TRP.*
67F4518	CM22-01-02-13	67F4555	CM22-02-02-13	Red TRP.*
67F4519	CM22-01-03-13	67F4556	CM22-02-03-13	Amber TRP.*
67F4520	CM22-01-04-13	67F4557	CM22-02-04-13	Green TRP.*
67F4521	CM22-01-05-13	67F4558	CM22-02-05-13	White TRL.*

1.30	1.20	1.11	.98	.89	.79

14.0 VOLTS, 0.08 AMP

67F4522	CM22-01-01-09	67F4559	CM22-02-01-09	Clear TRP.*
67F4523	CM22-01-02-09	67F4560	CM22-02-02-09	Red TRP.*
67F4524	CM22-01-03-09	67F4561	CM22-02-03-09	Amber TRP.*
67F4525	CM22-01-04-09	67F4562	CM22-02-04-09	Green TRP.*
67F4526	CM22-01-05-09	67F4563	CM22-02-05-09	White TRL.*

.93	.85	.79	.70	.63	.56

14.0 VOLT, 0.08 AMP LONG LIFE—50,000 HRS. AVERAGE

67F4527	CM22-01-01-28	67F4564	CM22-02-01-28	Clear TRP.*
67F4528	CM22-01-02-28	67F4565	CM22-02-02-28	Red TRP.*
67F4529	CM22-01-03-28	67F4566	CM22-02-03-28	Amber TRP.*
67F4530	CM22-01-04-28	67F4567	CM22-02-04-28	Green TRP.*
67F4531	CM22-01-05-28	67F4568	CM22-02-05-28	White TRL.*

1.13	1.04	.97	.86	.78	.69

28.0 VOLTS, 0.04 AMP

67F4532	CM22-01-01-11	67F4569	CM22-02-01-11	Clear TRP.*
67F4533	CM22-01-02-11	67F4570	CM22-02-02-11	Red TRP.*
67F4534	CM22-01-03-11	67F4571	CM22-02-03-11	Amber TRP.*
67F4535	CM22-01-04-11	67F4572	CM22-02-04-11	Green TRP.*
67F4536	CM22-01-05-11	67F4573	CM22-02-05-11	White TRL.*

1.09	1.00	.93	.82	.74	.66

CM22-T-2 NEON PEANUT LITE—LOW COST

Most T-2 neon lamps, snap into Butyrate Shell. Lead wire may be connected before or after installation. Mounting hole size -08 nominal unassembled with mounting clip included. 5 volts, .11 amps per lamp. Color coded lead wires, Anodized aluminum housing and polycarbonate cap. TRL—Translucent.

Stock No.	Type	Lens Color	1-9	10-24	25-99	100-249
1/25 WATT, STARTING VOLTAGE—65V						
67F4537	CM22-1000-01-A1A(NE2)	Clear TRP.*	.27	.25	.23	.20
67F4538	CM22-1000-02-A1A(NE2)	Red TRP.*				
67F4539	CM22-1000-03-A1A(NE2)	Amber TRP.*				
67F4540	CM22-1000-05-A1A(NE2)	White TRL.*				
1/10 WATT, STARTING VOLTAGE—65V AC, 90V DC—USE 62K RESISTOR						
67F4541	CM22-1000-01-A9A(NE-2E)	Clear TRP.*	.27	.25	.23	.20
67F4542	CM22-1000-02-A9A(NE-2E)	Red TRP.*				
67F4543	CM22-1000-03-A9A(NE-2E)	Amber TRP.*				
67F4544	CM22-1000-05-A9A(NE-2E)	White TRL.*				
¼ WATT, STARTING VOLTAGE—95V AC, 135V DC—USE 22K RESISTOR						
67F4545	CM22-1000-01-C2A(NE-2H)	Clear TRP.*	.27	.25	.23	.20
67F4546	CM22-1000-02-C2A(NE-2H)	Red TRP.*				
67F4547	CM22-1000-03-C2A(NE-2H)	Amber TRP.*				
67F4548	CM22-1000-05-C2A(NE-2H)	White TRL.*				

Stock No.	Type	Size -08	Size -09
		Stk. No.	Type
96	CM39-08-1	25F1703	CM39-09-1
97	CM39-08-2	25F1704	CM39-09-2

CML SERIES "HIDE-A-LITE" INDICATOR LITE

Fig. A

Fig. B

Indicators appear white in the "off" position, and take on color when activated. Clear anodized aluminum housing. Nylon insulation. Translucent polycarbonate caps. Stainless steel pins, located off-center for polarization. Meet MIL-L-3661.

6 VOLT, 0.2 AMP

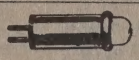
Stock No.	Fig. A Flush	Stock No.	Fig. B Short Cylindrical	Activated Color	1-9	10-24
25F1849	CML50406-W/R	25F1841	CML60406-W/R	Red	1.64	1.50
25F1850	CML50406-W/G	25F1842	CML60406.W/G	Green		

14.0 VOLT, 0.08 AMP—LONG LIFE

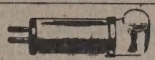
25F1872	CML50428-W/R	25F1864	CML60428-W/R	Red	1.92	1.76
25F1873	CML50428-W/G	25F1865	CML60428-W/G	Green		

28.0 VOLT, 0.04 AMP

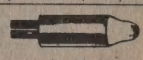
25F1896	CML50411-W/R	25F1888	CML60411-W/R	Red	1.67	1.54
25F1897	CML50411-W/G	25F1889	CML60411-W/G	Green		



CM20-1



CM20-2



CM20-3

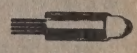
CM20 SERIES SUBMINIATURE LENS-END LITES

For close proximity use with photosensors where an intense spot of luminous and infrared energy is required. CM20-1, CM20-2 (right angle lens), and CM20-17 are mounted in bi-pin cartridges. Clear anodized aluminum body; stainless steel terminals; nylon insulation. CM20-3 thru CM20-20 are packaged in gold anodized aluminum sleeves with 24 AWG stranded wire leads. Type B insulation per MIL-W-16878. Semi-resilient thermosetting resin encapsulation. Wt. ½ oz. Note: (*) Spot covers ⅛" dia. target when projected ⅜" from end of bulb at min. intensity of 750 foot-candles. (†) When projected 1" from end of bulb, spot covers 1" dia. at 350 foot-candles. (§) ⅜" from bulb, spot covers 1⅛" dia. at 750 foot-candles. Spot is narrow elliptical. (‡) Same as CM20-3 except spot covers ⅛" dia. target. Spot is round elliptical. (**) None, however, lamp is axially aligned.

CM20-4

CM20-5

CM20-7



CM20-6

Type	Lamp Type	Volts	Amps ±10%	Life (Hours)
CM20-1*	TL-1¾	2.5	.350	10,000
CM20-2†	TL-1¾	2.5	.325	10,000
CM20-3§	TL-1¾	2.5	.350	10,000
CM20-4‡	TL-1¾	2.5	.350	10,000
CM20-5**	TL-1¼	2.5	.200	1,000
		2.1	.180	10,000
CM20-6**	TL-1¼	6.0	.200	1,000
		5.1	.180	10,000
CM20-7**	TL-1¼	28.0	.040	1,000
		24.0	.036	10,000
CM20-17‡	TL-1¾	5.0	.350	10,000
CM20-20‡	TL-1¾	5.0	.350	10,000

PRICING TABLE

Stock No.	Type	1-9	10-49	50-99	100-499	500-999
25F1720	CM20-1	2.50	2.32	2.06	1.86	1.65
25F1721	CM20-2	4.70	4.37	3.86	3.50	3.11
25F1722	CM20-3	2.56	2.39	2.11	1.91	1.70
25F1723	CM20-4	3.12	2.90	2.57	2.33	2.06
25F1724	CM20-5	2.50	2.32	2.06	1.86	1.65
25F1725	CM20-6	2.34	2.17	1.92	1.74	1.54
25F1726	CM20-7	2.40	2.23	1.97	1.79	1.59
67F4574	CM20-17	4.25	3.95	3.49	3.16	2.81
67F4575	CM20-20	4.72	4.38	3.88	3.51	3.12

CML SERIES T ¾ TRI-A-LITE

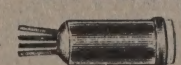


Fig. A

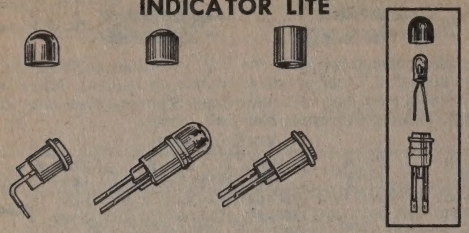
Fig. B

Three colors (red, green, yellow) in a single indicator. Appears white in "off" position, colored when "on." Mounts in 19/64" dia. hole, mounting clip included. 5 volts, .11 amps per lamp. Color coded lead wires, Anodized aluminum housing and polycarbonate cap.

Stock No.	Type	Fig.	1-9	10-24	25-99	100-249	250-Up
35F3658	CML9501-RGY	A	7.06	6.48	6.02	5.33	4.83
35F3659	CML9601-RGY	B	7.06	6.48	6.02	5.33	4.83

Indicator Lights and Accessories

CM25—SERIES T-1 SUBMINIATURE INDICATOR LITE



Small size and front re-lampable, meet MS90308. Dimpled terminals for positive electrical contact, internally flared lead guides for easy lamp insertion. Gold plated beryllium copper terminals; polycarbonate base and cap. Press fits in .190" hole. Ball cap and panel mount base listed, other cap and base styles available. Other cap colors available on request. *TRP = Transparent, TRL = Translucent.

5.0 V, .017 A, 10,000 HRS. AV. LIFE (CM8602)

Stock No.	Type	Lens Color	EACH 1-9	10-24	25-99	100-249	250-499	500-999
39F3470	CM25-5-702-8602	Red TRP.*						
39F3471	CM25-5-704-8602	Green TRP.*	2.33	2.14	1.99	1.76	1.60	1.41
39F3472	CM25-5-705-8602	White TRL.*						

5.0 V, .06 A, 100,000 HRS. AV. LIFE (CM683)

39F3473	CM25-5-702-683	Red TRP.*						
39F3474	CM25-5-704-683	Green TRP.*	1.87	1.73	1.60	1.41	1.29	1.13
39F3475	CM25-5-705-683	White TRL.*						

10.0 V, .027 A, 10,000 HRS. AV. LIFE (CM7218)

39F3476	CM25-5-702-7218	Red TRP.*						
39F3477	CM25-5-704-7218	Green TRP.*	2.33	2.14	1.99	1.76	1.60	1.41
39F3478	CM25-5-705-7218	White TRL.*						

14.0 V, .065 A, 16,000 HRS. AV. LIFE (CM8111)

39F3479	CM25-5-702-8111	Red TRP.*						
39F3480	CM25-5-704-8111	Green TRP.*	2.33	2.14	1.99	1.76	1.60	1.41
39F3481	CM25-5-705-8111	White TRL.*						

18.0 V, .026 A, 16,000 HRS. AV. LIFE (CM7220)

39F3482	CM25-5-702-7220	Red TRP.*						
39F3483	CM25-5-704-7220	Green TRP.*	2.33	2.14	1.99	1.76	1.60	1.41
39F3484	CM25-5-705-7220	White TRL.*						

28.0 V, .024 A. 16,000 HRS. AV. LIFE (CM6838)

39F3485	CM25-5-702-6838	Red TRP.*						
39F3486	CM25-5-704-6838	Green TRP.*	2.41	2.21	2.05	1.81	1.65	1.46
39F3487	CM25-5-705-6838	White TRL.*						

CM25 SERIES PANEL MOUNT BASE ONLY

25F1730	CM25-1005	.....	.71	.65	.60	.54	.49	.43

CM25 SERIES BALL TYPE CAP ONLY

39F3488	CM25-1007-01	Clear TRP.*						
39F3489	CM25-1007-02	Red TRP.*						
39F3490	CM25-1007-03	Yellow TRP.*	.23	.21	.19	.18	.15	.14
39F3491	CM25-1007-04	Green TRP.*						
39F3492	CM25-1007-05	White TRL.*						

CM34 SERIES RELIA-LITES

T-1 indicators built to meet MS25446. Built-in long life T-1 incandescent lamps with light output visible a full 180°. Lamp voltages from 1.5 to 28.0 V. Mounting: .193" diameter "D" hole. Housing and mounting nut: brass, nickel plated. Termination: two #26 AWG. Stranded teflon insulated 6" lead wires. Dust proof, moisture proof, sealed unit with a non-replaceable lamp.

Lens Color	Stock No.	Type No.	MIL. Spec
Red	39F3493	CM34-741-07	MS25446-4
Green	39F3494	CM34-742-07	MS25446-3
Amber	39F3495	CM34-746-07	MS25446-6
Blue	39F3496	CM34-744-07	MS25446-2
White	39F3497	CM34-745-07	MS25446-5
Clear	39F3498	CM34-737-07	MS25446-7

PRICE	1-9	10-24	25-99	100-249	250-499	500-999
	3.24	2.97	2.76	2.44	2.21	1.96

CM26—SERIES T-1 PEANUT LITE

Each T-1 Peanut Lite panel indicator contains a subminiature lamp sealed in a high temperature polycarbonate housing. Units listed have .312" long, .020" dia. gold-plated nickel pins. Can be used with sockets for quick disconnect or solder connections. Commercial substitute for MS90308. Max. panel thickness, ⅛". Mounting hole .185-.190" dia. with mounting clip. Other colors, termination styles, voltages on request, *TRL= Translucent.

5.0 V, .06 A, 50,000 HRS. AV. LIFE

Stock No.	Type	Lens Color	EACH 1-9	10-24	25-99	100-249	250-499	500-999
25F1813	CM26-2-05-19	White TRL.*						
39F3499	CM26-2-07-19	Red TRL.*	1.17	1.07	.99	.87	.80	.70
39F3500	CM26-2-09-19	Amber TRL.*						

5.0 V, .11 A, 15,000 HRS. AV. LIFE—HIGH BRIGHTNESS

25F1816	CM26-2-05-22	White TRL.*						
39F3501	CM26-2-07-22	Red TRL.*	1.17	1.07	.99	.87	.80	.70
39F3502	CM26-2-09-22	Amber TRL.*						

10.0 V, .027 A, 10,000 HRS. AV. LIFE

25F1808	CM26-2-05-14	White TRL.*						
39F3503	CM26-2-07-14	Red TRL.*	1.75	1.61	1.49	1.32	1.20	1.06
39F3504	CM26-2-09-14	Amber TRL.*						

18.0 V, .026 A, 16,000 HRS. AV. LIFE

25F1811	CM26-2-05-17	White TRL.*						
39F3505	CM26-2-07-17	Red TRL.*	2.03	1.87	1.74	1.53	1.39	1.23
39F3506	CM26-2-09-17	Amber TRL.*						

28.0 V, .024 A, 16,000 HRS. AV. LIFE

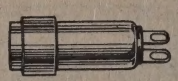
25F1812	CM26-2-05-18	White TRL.*						
39F3507	CM26-2-07-18	Red TRL.*	2.05	1.89	1.75	1.56	1.40	1.24
39F3508	CM26-2-09-18	Amber TRL.*						

CM21-3 SERIES CARTRIDGE INDICATOR CONNECTOR

CM21-3 connectors are convenient low cost devices for use with cartridge indicators. Connector bodies are high temperature phenolic. The contacts are cadmium plated brass for corrosion resistance.

Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
35F016	CM21-3	.29	.26	.24	.22	.20	.17

CM21-14 SERIES SWAGE MOUNTED SOCKET



Units are designed for swage-in mounting from the rear of a 1/16" thick panel. Clear anodized aluminum is used for housing and phenolic for the insulator. Terminals are phosphor bronze with a fused tin finish.

Stock No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
35F108	CM21-14	.51	.47	.44	.39	.35	.31

CML SERIES T-1¾ AND T-2 CARTRIDGE HOLDERS

39F2464	CML520063	Amber
39F2465	CML520064	Blue
39F2466	CML520065	White
39F2467	CML520066	Yellow

Body collar, facing nut, aluminum black anodized. Lock washer and hex nut, cadmium plated steel. Insulator, phenolic. Letter A and B are located on the base for terminal identification. Terminal pins are located off-center for correct polarity in DC circuits.

Stock No.	Type	Fig.	Terminals	1-9	10-24	25-99	100-249	250-499	500-999
35F022	CML10203-1	A	Solder cup	1.15	1.06	.94	.88	.80	.73
35F020	CML10202-1	B	Turret	1.15	1.06	.94	.88	.80	.73

CARTRIDGE INDICATOR MOUNTING CLIP

For mounting CML cartridge indicators directly into panels. Spring tempered steel, black rust-preventive finish.

Stock No.	Type	1-9	10-24	25-99	100-249	250-499	599-999
39F3509	CML10380	.10	.08	.07	.06	.05	.05

Chicago Miniature Lamp Indicators

DRAKE

CM41 SERIES T-1 TRI-A-LITES

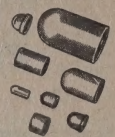
New concept in lighting, featuring three indicators in one housing. For use where space is at a premium, and three indicators are required. Mounting hole, .410" nominal. Anodized aluminum housing; translucent polycarbonate cap; .040" dia. nickel pins; nylon insulation. Three colors: Red, Green, Amber. Series 1123—flush cap. Series 2123—short cylindrical cap.

Stock No.	Type CM41-	V	Amps	1-9	10-24	25-99	100-249	250-499	500-999
39F2330	1123-07	5.0	.06	5.78	5.31	4.93	4.36	3.95	3.51
39F2331	2123-07	5.0	.06	5.78	5.31	4.93	4.36	3.95	3.51
39F2332	1123-14	10.0	.027	8.11	7.44	6.91	6.11	5.54	4.92
39F2333	2123-14	10.0	.027	8.11	7.44	6.91	6.11	5.54	4.92
39F2334	1123-17	18.0	.026	8.71	8.00	7.43	6.57	5.95	5.28
39F2335	2123-17	18.0	.026	8.71	8.00	7.43	6.57	5.95	5.28
39F2336	1123-18	28.0	.024	9.13	8.38	7.78	6.89	6.24	5.54
39F2337	2123-18	28.0	.024	9.13	8.38	7.78	6.89	6.24	5.54

SOCKET FOR ABOVE

Stk. No.	Type	1-9	10-24	25-99	100-249	250-499	500-999
39F2338	CM21-6	1.55	1.42	1.32	1.17	1.06	.94

CM39 SERIES SLIP-ON LAMP FILTERS



Translucent precision molded silicone rubber; for subminiature and miniature lamps. Impervious to color shift. For consistent filter color control, every production lot is tested and color verified by Spectrophotometric Analysis. Charted and recorded to C.I.E. standards. Filters can be developed to meet any C.I.E. level.

- **Colors:** Filter color emission rates conform to: Red—MIL-L-25467A & MIL-P-7788, Blue/white—MIL-L-27160B, Green—MIL-C-25050, Blue—Aviation, Desaturated for optimum transmission, Yellow—Aviation and identification MIL-C-25050.
- **Environmental:** Filters are resistant to ambient atmosphere, sunlight, salt spray, ozone and most acids.
- **Material:** Silicone rubber filters meet MIL-R-5847, Class 111.
- **Temperature:** −62° to +225°C.

Lamp Size	Part No.	Dim.	Lamp Size	Part No.	Dim.
T- ¾	-02	.090x.230	T-1¾	-08	.325x.279
T-1	-03	.096x.3125	T-2	-09	.250x.522
T-1	-04	.096x.219	T-2	-10	.250x.272
T-1¼	-05	.175x.265	T-3¼	-11	.370x.672
T-1¾	-06	.214x.375	S-6	-12	.584x1.120
T-1¾	-07	.218x.3125			

Color	Size -02 Stk. No.	Size -02 Type	Size -03 Stk. No.	Size -03 Type
Red	25F1654	CM39-02-1	25F1661	CM39-03-1
Blue/White	25F1655	CM39-02-2	25F1662	CM39-03-2
Clear	25F1656	CM39-02-3	25F1663	CM39-03-3
Amber	25F1657	CM39-02-4	25F1664	CM39-03-4
Green	25F1658	CM39-02-5	25F1665	CM39-03-5
Blue	25F1659	CM39-02-6	25F1666	CM39-03-6
Yellow	25F1660	CM39-02-7	25F1667	CM39-03-7

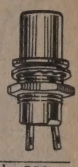
Color	Size -04 Stk. No.	Size -04 Type	Size -05 Stk. No.	Size -05 Type	Size -06 Stk. No.	Size -06 Type
Red	25F1668	CM39-04-1	25F1675	CM39-05-1	25F1682	CM39-06-1
Blue/White	25F1669	CM39-04-2	25F1676	CM39-05-2	25F1683	CM39-06-2
Clear	25F1670	CM39-04-3	25F1677	CM39-05-3	25F1684	CM39-06-3
Amber	25F1671	CM39-04-4	25F1678	CM39-05-4	25F1685	CM39-06-4
Green	25F1672	CM39-04-5	25F1679	CM39-05-5	25F1686	CM39-06-5
Blue	25F1673	CM39-04-6	25F1680	CM39-05-6	25F1687	CM39-06-6
Yellow	25F1674	CM39-04-7	25F1681	CM39-05-7	25F1688	CM39-06-7

Color	Size -07 Stk. No.	Size -07 Type	Size -08 Stk. No.	Size -08 Type	Size -09 Stk. No.	Size -09 Type
Red	25F1689	CM39-07-1	25F1696	CM39-08-1	25F1703	CM39-09-1
Blue/White	25F1690	CM39-07-2	25F1697	CM39-08-2	25F1704	CM39-09-2
Clear	25F1691	CM39-07-3	25F1698	CM39-08-3	25F1705	CM39-09-3
Amber	25F1692	CM39-07-4	25F1699	CM39-08-4	24F1706	CM39-09-4
Green	25F1693	CM39-07-5	25F1700	CM39-08-5	25F1707	CM39-09-5
Blue	25F1694	CM39-07-6	25F1701	CM39-08-6	25F1708	CM39-09-6
Yellow	25F1695	CM39-07-7	25F1702	CM39-08-7	25F1709	CM39-09-7

Color	Size -10 Stk. No.	Size -10 Type	Size -11 Stk. No.	Size -11 Type	Size -12 Stk. No.	Size -12 Type
Red	25F1710	CM39-10-1	25F1750	CM39-11-1	25F1757	CM39-12-1
Blue/White	25F1711	CM39-10-2	25F1751	CM39-11-2	25F1758	CM39-12-2
Clear	25F1712	CM39-10-3	25F1752	CM39-11-3	25F1759	CM39-12-3
Amber	25F1713	CM39-10-4	25F1753	CM39-11-4	25F1760	CM39-12-4
Green	25F1714	CM39-10-5	25F1754	CM39-11-5	25F1761	CM39-12-5
Blue	25F1715	CM39-10-6	25F1755	CM39-11-6	25F1762	CM39-12-6
Yellow	25F1716	CM39-10-7	25F1756	CM39-11-7	25F1763	CM39-12-7

PRICES Type	1-9	10-99	100-499	500-999	1000-Up
CM39-02 thru -10 (T-¾ thru T-2)	.26	.22	.18	.16	.14
CM39-11 or -12 (T-3¼ & S-6)	.34	.29	.24	.21	.18

CM30 SERIES INDUSTRI-LITES INCANDESCENT SUBMINIATURE MS25226



Uses T-1¾ incandescent lamps (1.35 to 28.0 V). Overall size, 1³⁄₃₂x⅝"; front panel mt. in ¹⁵⁄₃₂" hole.

Lens Color	Stock No.	Type No.	MIL Std. Dwg. No.
Aviation Green	39F2480	CM30-3732	MS25256-4
Ident. Red	39F2481	CM30-3731	MS25256-6
Aviation White	39F2482	CM30-3737	MS25256-8
Aviation Blue	39F2483	CM30-3734	MS25256-12

PRICES	1-9	10-24	25-99	100-249	250-499	500-999
CM30-Series	1.86	1.71	1.60	1.42	1.29	1.15

CM31 SERIES PRESS-TO-TEST INDUSTRI-LITES

Provides an immediate check of lamp condition. Slight pressure on the lens "breaks" the signal circuit and connects the lamp to a test circuit. Lamps are front replaceable. Non-dimming. Mounts in ¹⁵⁄₃₂" dia. "D" hole. Accepts T-1¾ lamps, 1.35 to 28.0 volts. Black anodized aluminum housing and nut; cadmium plated steel lockwasher. Termination: three hot solder dip lugs tapered to accept Amp series 98.

INDUSTRI-LITE BODY (Takes lens caps below)

Stock No.	Type No.	1-24	25-49	50-99	100-249	250-499	500-999
39F2484	CM31-3000	2.80	2.57	2.39	2.11	1.91	1.70

TRANSPARENT CYLINDRICAL LENS CAP

Lens Color	Stock No.	Type No.	1-24	25-49	50-99	100-249	250-499	500-999
Red	39F2485	CM31-0631	.38	.35	.33	.29	.26	.23
Green	39F2486	CM31-0632	.38	.35	.33	.29	.26	.23

TRANSLUCENT CYLINDRICAL LENS CAP

White	39F2487	CM31-0645						
Red	39F2488	CM31-0641	.38	.35	.33	.29	.26	.23
Green	39F2489	CM31-0642						
Amber	39F2490	CM31-0643						

TRANSLUCENT MACRODOME LENS CAP

White	39F2491	CM31-0745						
Red	39F2492	CM31-0741	.38	.35	.33	.29	.26	.23
Green	39F2493	CM31-0742						
Amber	39F2494	CM31-0743						

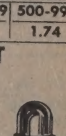
CM32 SERIES T-2 NEON INDUSTRI-LITES (MS25257)

Uses T-2 neon glow lamps; 62K resistor built in for use on 105-125 V AC or DC. Black anodized aluminum housing and nut; butyrate cap; cadmium plated steel, cronack dipped lockwasher. Termination: brass, two hot solder dipped lugs tapered to accept Amp® series 98 terminals. Size, 1½" x ⅝". Less lamp.

Lens Color	Stk. No.	Type No.	MIL Std. Dwg. No.
Aviation Yellow	39F2495	CM32-1-3136-2	MS25257-2
Ident. Red	39F2496	CM32-1-3131-2	MS25257-4
Clear	39F2497	CM32-1-3137-2	MS25257-6

PRICES	1-9	10-24	25-99	100-249	250-499	500-999
CM32 Series	2.82	2.59	2.35	2.15	1.94	1.74

CM33 SERIES OIL & WATERTIGHT INDUSTRI-LITES



Takes T-1¾ midget flange base incandescent lamps (MS25237) from 1.35 to 28.0 V. "O" ring seal withstands pressures up to 15 p.s.i.g. Lamps are front replaceable. Mounts in ¹⁵⁄₃₂" dia. "D" hole. Black anodized aluminum housing and nut. Termination: brass, hot solder dipped lugs accept Amp® series 98. Overall size, ⅝" x 1¹³⁄₁₆" long. Less lamp.

HOLDER (Takes Lens Caps below)

Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-499	500-999
39F2329	CM33-3000	1.70	1.56	1.45	1.28	1.16	1.03

LENS CAPS FOR ABOVE

Lens Color	Transparent Stock No.	Transparent Type No.	Translucent Stock No.	Translucent Type No.
Red	39F2498	CM33-0431	39F2323	CM33-0441
Green	39F2499	CM33-0432	39F2324	CM33-0442
Blue	39F2320	CM33-0434	39F2325	CM33-0444
Yellow	39F2321	CM33-0436	39F2326	CM33-0446
Clear	39F2322	CM33-0437		
Amber			39F2327	CM33-0443
White			39F2328	CM33-0445

PRICES	1-9	10-24	25-99	100-249	250-499	500-999
Any Lens Cap	.46	.42	.39	.35	.31	.28

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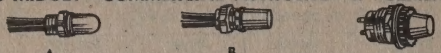
Lighted Devices

INDICATOR LIGHTS

All photos ½ actual size.
Colors abbreviated—see color chart.

SUB MIDGET "COMMERCIAL ASTROLITE" & "GEMLITE"



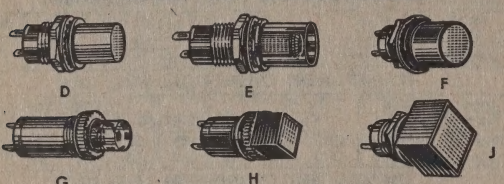
Durable nickel plated brass body and 180° lens. Similar to MIL-spec "Astrolite." Mounts in .191" dia. "D" hole (incl. mtg. hdwe), in panels up to 3/8" thick, 3/8" min. ctrs. Long life T-1 lamp (5V, 60ma) built-in. 6" leads; 105°C vinyl insulation. Specify lens color; B, G, R, T, W, Y.

Stock No.	Fig.	Type No.	All Prices EACH 1-9	10-24	25-99	100-249	250-Up
25F1981	A	6036-001-704	2.12	1.97	1.77	1.58	1.42
25F1982	B	6036-001-804					

Replaceable, long-life T-1 incand. lamp (not incl.). Front relampable. Front mtd. in 5/16" dia. "D" hole in panels up to 7/32" thick on 15/32" min. mtg. ctrs. (incl. mtg. hdwe). Translucent lens; turret terminals. Specify lens color: A, B, G, R, T, Y.

25F1983	C	5160-458-604	2.33	2.17	1.95	1.74	1.56

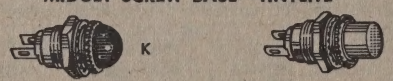
EASY MOUNT "MF"—MIDGET FLANGED



Quick, easy mtg. (H&G); fast lamp replacement. Mounts in 15/32" dia. hole in panels up to 1/8" thick. Compact size; close mtg. ctrs; solder lugs. Incl. mtg. hdwe. (D) wide angle lens; uses T-1¾ incand. lamp (not incl.); front mount. (E) fluted lens; 115 VAC neon lamp; series resistor built-in; front mount. (G) Round fresnel & (H) square lenses; uses T-1¾ incand. lamp (not incl.); rear mount with one nut. (F, H, J) lenses have opaque sides. Specify lens color. Incand: B, G, R, T, W, Y. Neon: R, T, W, Y.

25F1984	D	5131-036-604	1.22	1.14	1.02	.91	.82
25F1985	E	5133-056-823	2.08	1.94	1.74	1.56	1.40
25F1986	F	5138-036-609	1.52	1.41	1.27	1.13	1.02
25F1987	G	5154-036-833	1.44	1.34	1.21	1.08	.97
25F1988	H	5155-036-909	1.74	1.62	1.45	1.30	1.17
25F1989	J	5156-036-909	1.32	1.23	1.11	.99	.89

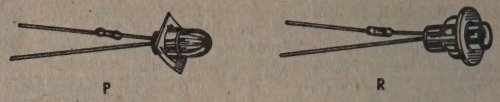
MIDGET SCREW BASE "TINYLITE"



Economical, compact; occupies only 1/3 cu. in. Front mount in panels up to 1/4" thick in 7/16" dia. hole on 23/32" ctrs. Front relampable. Uses G-2 incand. lamp (built-in). Solder lugs. Incl. mtg. hdwe. Specify lens color: B, G, R, T, W, Y.

Stk. No.	Fig.	Volts	Type No.	EACH 1-9	10-24	25-99	100-249	250-Up
25F1990	K	6-7	5126-022-204	1.05	.98	.88	.79	.71
25F1991	L	6-7	5126-022-604	1.05	.98	.88	.79	.71
25F1992	K	12-14	5127-022-204	1.05	.98	.88	.79	.71
25F1993	L	12-14	5127-022-604	1.05	.98	.88	.79	.71
25F1994	K	24-28	5128-022-204	1.34	1.25	1.12	1.00	.90
25F1995	L	24-28	5128-022-604	1.34	1.25	1.12	1.00	.90

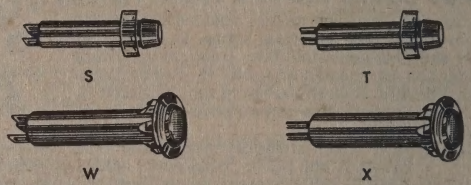
ECONOMICAL "ECONOGLO"



High brightness built-in lamp. Excellent for low cost 115V applications. Incl. ext. 22K series resistor; front mount. Type 116 mounts in 5/16" hole in panels up to 3/16" thick (Tinnerman clip incl.). Type 117 mounts in 1/2" hole in panels up to 1/16" thick (chrome snap in). Specify lens color: A, R, T.

Stock Number	Fig.	Type No.	All prices EACH 1-9	10-24	25-99	100-249	250-Up
25F1998	P	HR116-323	.39	.37	.33	.29	.26
25F1999	.....	HR116-603	.39	.37	.33	.29	.26
26F0003	.....	HR117-323	.49	.46	.41	.37	.33
26F0004	R	HR117-603	.49	.46	.41	.37	.33

NEON "GLO-LITES"

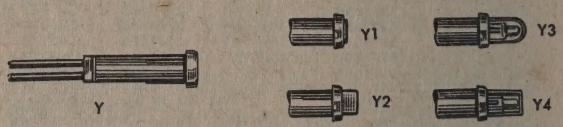


125 VAC high brightness neon (lamp and resistor built-in); 5K hr. min. life. Fast mount in 3/8" dia. hole, (6063), 1/2" dia. hole (6073); 1-pc. oil-tight, waterproof, dustproof from front. UL and CSA recognized component. For up to 105°C ambient. Specify lens color: A, R, W.

Stk. No.	Fig.	Type No.	Term	Mtg.	1-9	10-24	25-99	100-249
26F0005	.....	6063-000-534	L	T	.66	.62	.56	.50
26F0006	S	6063-000-634	L	T	.66	.62	.56	.50
26F0007	.....	6063-001-534	W	T	.61	.57	.51	.45
26F0008	T	6063-001-634	W	T	.61	.57	.51	.45
26F0009	W	6073-000-534	L	S	.73	.68	.61	.54
26F0010	.....	6073-000-634	L	S	.73	.68	.61	.54
26F0011	X	6073-001-534	W	S	.68	.64	.57	.51
26F0012	.....	6073-001-634	W	S	.68	.64	.57	.51

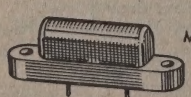
Term.—L=solder lug; W=ins. wire leads. MTG.—T=Tinnerman clip (incl.); S=snap-in.

SLENDER "GLO-LITES"



Built-in C2A neon lamp and res. for 25K hr. life. Push-in mtg. in .312" dia. hole on 7/16" min. ctrs. 10" black, 105°C PVC insulated, wire leads. White housing w/chrome bezel. Four lens shapes, in colors, incl. GREEN. Specify lens color: G R, T, W, Y.

Stk. No.	Fig.	Type No.	1-9	10-24	25-99	100-249	250-Up
26F0013	Y-Y1	6483-001-583	.72	.67	.60	.54	.48
26F0014	Y-Y2	6483-401-603	.72	.67	.60	.54	.48
26F0015	Y-Y3	6383-801-703	.86	.80	.72	.64	.57
26F0016	Y-Y4	6383-801-803	.86	.80	.72	.64	.57



"FLUSHLITE"

Low profile, high brightness, all nylon, built-in lamp and series resistor. 125 VAC operation, 1/3 w.; 5 K hr. min. life. Front or rear mount with screws or rivets (2.148" dia. holes on 1-1/2" ctrs.) not incl. Specify lens color: A, R, W.

Stk. No.	Fig.	Type No.	1-9	10-24	25-99	100-249	250-Up
25F1996	M	6103-000-924	.66	.62	.56	.50	.45

"POSTLITE"

High brightness neon w/built-in resistor. 105-120 VAC oper.; 25K hr. life. Front mtd. in 1/2" dia. hole in panels up to 5/16" thick on 7/8" ctrs. Fed. Stk. No. FSN 6210-228-5374 (colorless lens). Specify lens color: A, R T.

Stk. No.	Fig.	Type No.	1-9	10-24	25-99	100-249	250-Up
25F1997	N	6053-000-023	1.06	.99	.89	.80	.71

Always specify color—COLOR CHART: A=Amber, B=Blue, G=Green, R=Red, T=Transparent (Colorless), W=White, Y=Yellow.

All photos ½ Actual Size.
Colors Abbreviated—See Color Chart at Left.

INDICATOR LIGHTS

LED's "SOLID STATE-ASTROLITE"

Submidget w/built-in bright red LED; 90° viewing. Life rated in years; resistant to shock/vibration. Compatible with low E pwr. supply, or drive directly with solid-state circuitry. Operates on 1.8 to 2.8 VDC. Mounts in .191" dia. "D" hole in 3/16" max. thk. panels on 11/32" min. ctrs. 1.—6" wire leads, 105°C PVC ins. 2.—3/8" lg. wire terms.

Stk. No.	Fig.	Type No.	1-9	10-24	25-99	100-249	250-Up
39F3420	1.	6039-004-304	2.20	2.05	1.84	1.64	1.47
39F3421	2.	6039-005-304	1.86	1.73	1.55	1.39	1.25

SOLID STATE CARTRIDGE LAMPS

Fits popular cartridge holders; series impedance built in. Also connect directly to circuitry. Two, .040" dia. pins, .160" apart. Units operate on 2.8, 5, 6.3, 10, 14, 18 or 28 VDC. Substitute —304 for —693 to order Fig. 3.

Stk. No.	Fig.	Type No.	Volts	EACH 1-9	10-24	25-99	100-249	250-Up
39F3422	4	31-693	2.8	1.97	1.84	1.65	1.47	1.32
39F3423	4	32-693	5					
39F3424	4	33-693	6.3					
39F3425	4	34-693	10					
39F3426	4	35-693	14	2.29	2.14	1.92	1.71	1.54
39F3427	4	36-693	18					
39F3428	4	37-693	28					

SOLID STATE INDICATOR LIGHT—SERIES 6200

Mounts in 3/8" dia. hole in panels up to 5/32" thk. (incl. mtg. hdwe.). Turret lugs. For DC operation, —102 denotes 15 ma, red; —115 is 40 ma, green (see table for exceptions). For DC-AC types, —112 denotes 15 ma, red; —115 is 40 ma, green (incl. series diode or resistor for reverse voltage protection). Red dot denotes pos. lead. SPECIFY LENS COLOR: G, R, T, W. For red LED, white lens provides white color (off) & red (on). For green LED, white lens provides white (off) & green (on).

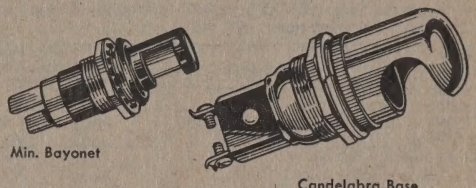
Stk. No.	Type No.	Volts	EACH 1-9	10-24	25-99	100-249	250-Up
39F3429	6200-102	2.2 DC	2.76	2.58	2.31	2.06	1.85
39F3430	6200-105		4.05	3.77	3.39	3.02	2.71
39F3431	6200-112	2.2 DC	3.47	3.23	2.90	2.59	2.33
39F3432	6200-115		5.27	4.91	4.41	3.93	3.53
39F3433	6201-102	5 DC	2.81	2.62	2.35	2.10	1.89
39F3434	6201-105		4.19	3.90	3.50	3.13	2.81
39F3435	6201-112	5 DC-	3.63	3.38	3.03	2.71	2.43
39F3436	6201-115	10 AC	5.01	4.67	4.19	3.74	3.36
39F3437	6202-102	6.3 DC	2.81	2.62	2.35	2.10	1.89
39F3438	6202-112	6.3 DC-14 AC	3.63	3.38	3.03	2.71	2.43
39F3439	6203-102	10 DC	2.81	2.62	2.35	2.10	1.89
39F3440	6203-112		3.63	3.38	3.03	2.71	2.43
39F3441	6204-102	14 DC	2.81	2.62	2.35	2.10	1.89
39F3442	6204-112	14 DC-28 AC	3.63	3.38	3.03	2.71	2.43
39F3443	6205-102	18 DC	2.81	2.62	2.35	2.10	1.89
39F3444	6205-112		3.63	3.38	3.03	2.71	2.43
39F3445	6206-102	28 DC	2.81	2.62	2.35	2.10	1.89
39F3446	6206-112		3.63	3.38	3.03	2.71	2.43
39F3447	6207-112	5-6.3	3.63	3.38	3.03	2.71	2.43
39F3448	6207-115	AC	5.01	4.67	4.19	3.74	3.36
39F3449	6208-112	18 AC	3.63	3.38	3.03	2.71	2.43

SOLID STATE "MF" MIDGET FLANGE BASE LAMPS

Direct replacements for T 1¾ incand. lamps. Life rated in years. 90° viewing; built-in resistor for voltages above 2.1 V. DC operation only. Shell negative, 15 ma. SPECIFY COLOR: R, T, W. White and transparent lenses appear red when lighted.

Stk. No.	Type No.	Volts	EACH 1-9	10-24	25-99	100-249	250-Up
39F3455	322	2.1	1.72	1.61	1.44	1.29	1.16
39F3456	322-5	5	1.97	1.84	1.65	1.47	1.32
39F3457	322-6.3	6.3	1.97	1.84	1.65	1.47	1.32
39F3458	322-10	10	1.97	1.84	1.65	1.47	1.32
39F3459	322-14	14	1.97	1.84	1.65	1.47	1.32
39F3460	322-18	18	1.97	1.84	1.65	1.47	1.32
39F3461	322-28	28	1.97	1.84	1.65	1.47	1.32

INSTRUMENT LIGHTS



Min. Bayonet. Uses T-3¼ incand. lamp (not incl.). Threaded aluminum hood has black exterior finish. Mounts in 11/16" dia. hole in panels up to 13/32" thk.; incl. mtg. hdwe. —224 and —228 have transparent window and are dust/drip proof. Solder lug or ¼" quick connect terms.

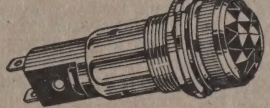
Stk. No.	Type No.	Term.	EACH 1-9	10-24	25-99	100-249	250-Up
39F3462	900-200	S	1.95	1.82	1.63	1.46	1.31
39F3463	900-208	F	1.99	1.85	1.66	1.49	1.33
39F3464	900-224	S	2.56	2.38	2.14	1.91	1.71
39F3465	900-228	F	2.59	2.42	2.17	1.94	1.74

Key: S—solder lugs. F—quick connect.

Candelabra Base. Front or rear mtg.; nickel pl. friction hood. Uses 120V, 6s6 lamp (not incl.) Mounts in 1" dia. hole on 1 3/16" ctrs. in panels up to ⅛" thk. Screw terminals.

Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-Up
39F3466	900-006	2.17	2.02	1.81	1.62	1.45

1" DIA., "J"-SLOT, LENS INDICATOR LIGHT

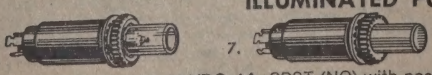


For 125 V operation. Uses S6 incand. candelabra screw base lamp (not incl.). Lens cap/bezel shank has "J" slots & exclusive tension anti-rotation lamp retainer for security against shock/vibration. UL & CSA listed at 75 W. 125V. Solder lugs. Multi-faceted jewel lens incl. SPECIFY LENS COLOR: B, G, R, T, W, Y.

Stk. No.	Type No.	1-9	10-24	25-99	100-249	250-Up
39F3467	5766-522-116	2.14	1.99	1.79	1.60	1.44

15

ILLUMINATED PUSHBUTTON SWITCHES



Contacts rated 115 VAC or 28 VDC; 1A. SPST (NO) with neon or incand. lamp incl. Rear mounts in 3/8" dia. hole in panels up to 1/8" thk. on 9/16" min. ctrs. (incl. mtg. hdwe.). SPECIFY LENS COLOR: Neon—R, T, W, Y. Incand. G, R, T, W, Y. (7009-000-833, T lens only.)

Stk. No.	Fig.	Type No.	Volts	1-49	50-99	100-499	500-Up
39F3450	6.	7003-000-833	115*	3.05	2.29	1.83	1.67
39F3451	7.	7006-000-804	6	3.10	2.33	1.86	1.70
39F3452	7.	7007-000-804	14	2.90	2.18	1.74	1.59
39F3453	7.	7008-000-804	28	3.15	2.36	1.89	1.73
39F3454	6.	7009-000-833	10	3.30	2.48	1.98	1.81

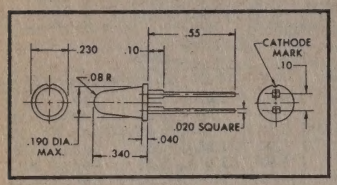
*Neon lamp, series resistor built-in. AC operation.

DRAKE

Chicago Miniature LED's

Gallium Arsenide Phosphide Light Emitting Diodes are designed for use as indicators in applications where solid state reliability is required, in back lighting applications, and in high density applications such as arrays and indicators. All units IC compatible. Feature high brightness, rugged construction and solid state reliability. Rigid terminals permit connection in a variety of ways: soldered, welded, wire wrapped or pluggable. Storage and operating temperature: −55° to +100°C. Soldering temperature 0.1" from case for 5 seconds is 260° C.

CM4-20 SERIES RED OR CLEAR



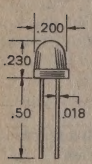
- High Brightness—2400 Foot Lamberts
- Wide Angle Visibility
- Low Current—IC Compatible

CM4-20 Series LED's are designed for use as indicators. Each unit supplied with snap-in mounting clip for panel mounting. Simple mounting. Cathode marked. Forward voltage: 1.6 V. Maximum continuous forward current: 100 mA. Reverse breakdown voltage: 3.0 V minimum. Size: .230" O.D. x .340" long with .55" long, .020" square leads. Mounting hole: .250" dia.

Stock No.	Type No.	Encapsulation	mcd*	1-99	100-999	1000-Up
67F4500	CM4-20	Clear Transparent	2.0			
67F4501	CM4-21	Clear Translucent	1.6			
67F4502	CM4-22	Red Transparent	1.6	.70	.55	.42
67F4503	CM4-23	Red Translucent	0.4			

*Luminous Intensity at 2.0 mA.

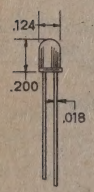
TYPE CM4-31 CLEAR DIFFUSED



Clear diffused plastic encapsulation provides an intense light source with wide viewing angle. This optimizes the light-emitting pattern for back lighting. Ideal for illuminating panel digits and diffused surfaces. IC compatible—low power. Radiates red light in 600-700 nm range. Forward voltage: 1.7 V. Continuous forward current, 50 mA max. Reverse breakdown voltage, 3.0 V min. Luminous intensity, 2.5 mcd at 20 mA. Cathode marked. Size: .200" O.D. x .230" long with .018" square leads, .500" min.

Stock No.	Type No.	Encapsulation	1-99	100-999	1000-Up
67F4504	CM4-31	Clear Diffused	.60	.45	.39

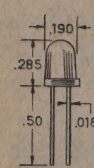
TYPE CM4-43 (T-1 SIZE)



Small size ideal for high density applications such as arrays and indicator lights. Offers high intensity, wide viewing angle and low cost. IC compatible—low power. Solid state reliability. Forward voltage: 1.6 V. Continuous forward current: 40 mA max. Reverse breakdown voltage: 3.0 V minimum. Luminous intensity: 0.8 mcd at 20 mA. Power dissipation: 80 mW. Size: .124" max. O.D. x .200" long; with .500" minimum, .018" round leads. Cathode marked. Storage and operating temp.: −55° to +100° C.

Stock No.	Type No.	Encapsulation	1-99	100-999	1000-Up
67F4505	CM4-43	Red Diffused	.59	.39	.35

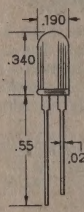
TYPE CM4-73 RED DIFFUSED



Offers large area light source with wide viewing angle. The intense light emitted makes this LED ideal for panel lighting, back lighting and many incandescent applications where solid state reliability is required. Radiates red light in the 600-700 nm range. Forward voltage: 1.7 V. Continuous forward current: 50 mA maximum. Reverse breakdown voltage: 3 V minimum. Luminous intensity: 2.0 mcd at 20 mA. Power dissipation: 120 mW. Storage/operating temperature: −55° to +100° C. Size: .190" O.D. x .285" long with .500" minimum, .018" square leads. Cathode marked.

Stock No.	Type No.	Encapsulation	1-99	100-999	1000-Up
67F4506	CM4-73	Red Diffused	.50	.37	.33

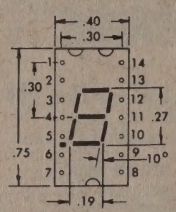
TYPE CM4-83 RED DIFFUSED



Plastic encapsulated Gallium Arsenide Phosphide LED radiates red light in the 655 nanometer region. Offers high visibility for circuit board or panel mounting, at low cost. Its high intensity also makes it an exceptional low-cost indicator. Designed for low power consumption; IC compatible; solid state reliability. Red diffused plastic lens. Forward voltage: 1.8 V. DC forward current: 50 mA maximum. Reverse breakdown voltage: 5 V minimum. Luminous intensity: 3.0 mcd at 20 mA. Power dissipation: 100 mW. Operating and storage temperature range: −55° to +100° C. Response time: 10 ns typical. Size: .190" O.D. x .340" long; .025" square leads, .550" minimum length. Cathode marked.

Stock No.	Type No.	Encapsulation	1-99	100-999	1000-Up
67F4507	CM4-83	Red Diffused	.55	.37	.33

ALPHA-NUMERIC LED READOUTS



LED alpha-numeric displays offer many design advantages, providing all numeric characters plus nine distinct letters. The .27" character height results in a highly readable display. Units are impervious to shock and vibration, offer a wide (150°) viewing angle and high contrast ratio, and mate with standard 14-pin IC connectors. Forward voltage: 3.4 V max. Continuous forward current per segment: 30 mA max. Reverse voltage per segment: 6.0 V max. Brightness: 550 ft.-L typ. at 20 mA. Left-hand decimal point; common anode. Size: .76" h x .40" w.

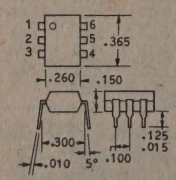
Stock No.	Type No.	Encapsulation	1-9	10-99	100-999	1000-Up
67F4508	CM4-100	Clear Transparent	12.50	10.35	8.70	7.75
67F4509	CM4-110	Red Transparent				

CM4-50 SERIES RED OR CLEAR

CM4-50 Series LED's are packaged with axial leads for use on circuit boards or where size and low cost are major considerations. The lens is designed to provide uniform brightness over a wide angle of visibility. Leads can be bent for printed circuit mounting. Cathode marked. Forward voltage, 1.6 volts. Maximum continuous forward current, 40 mA. Reverse breakdown voltage: 3.0 volts minimum. Size, .110" maximum outside diameter with .35" long rectangular leads.

Stock No.	Type No.	Encapsulation	1-99	100-999	1000-Up
67F4585	CM4-50	Clear Transparent	.62	.50	.39
67F4586	CM4-53	Red Translucent	.45	.25	.17

PHOTOTRANSISTOR OPTO-ISOLATORS



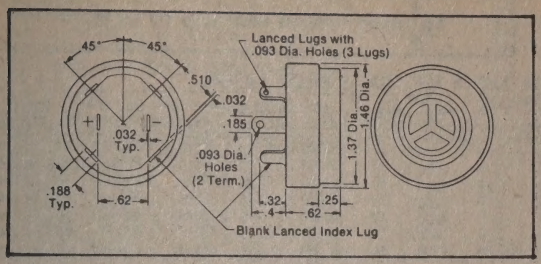
Opto-Isolators employ a gallium arsenide infrared LED and a silicon NPN phototransistor. Signal information, including a DC level, can be transmitted while maintaining a high degree of electrical isolation between input and output. Devices can be used to replace relays and transformers, and to eliminate ground loops between modules of a system. Standard dual-in-line package, .365 x .260 x .150". Output rise and fall time: 2 μsec. Input-to-output resistance: 100 Ohms.

Stock No.	Type No.	DC Current Transfer Ratio	Breakdown Volts	1-9	10-99	100-999	1000-Up
67F4510	CM4-5010	.10 @ 10 mA	1500	2.25	1.75	1.55	1.40
67F4511	CM4-5020	.35 @ 10 mA	2500	5.00	4.70	3.35	2.95

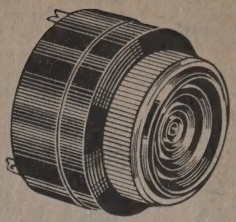
15

Solid State Signals

MALLORY AUDIBLE ELECTRONIC SIGNAL



- **Compact and Lightweight**
- **Completely Solid State**
- **No Moving Parts**
- **No Arcing, RF Noise or Mechanical Wear**
- **Self-Extinguishing Case**
- **Salt Spray Resistant**



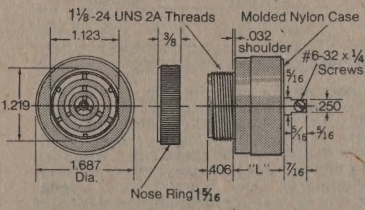
"Sonalert" electronic signal is a startling innovation in the audible warning field. Produces a penetrating sound purely by electronic means. Solid State circuitry for maximum efficiency, lowest current requirements and highest reliability. Because circuitry is solid state, there is no arcing, RF noise or mechanical wear. Sonalert is compact, light weight and highly versatile. Consuming less current than a normal indicator light, the device can be used to complement visual signals. Positive warnings are given in fault alarms for computers, fire signals, instruments, medical electronics, appliances, communications as well as telephone signals and protection equipment.

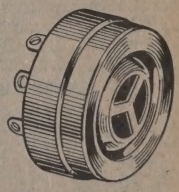
Operating Voltage 6 to 250 volts. All Sonalerts, excluding AC models, are polar devices and will not operate when voltage is applied in reverse direction. Operating current 3-14 milliamps. Sound output 68-80 minimum dB depending on voltage. Sound Frequency 2900Hz ±500Hz; 4500Hz ±500. Units also available producing pulsating sound varying from 2 to 5 Hz. Withstands storage in temperature ranges from −40°C to +85°C non-operating for 100 hours. After subjection to above storage temp. test and stabilization for 24 hours at room temp., device will meet original specified limits. Sonalert will operate and produce sound over a temp. range of −20°C to +65°C (ambient).

Stk. No.	Type	Sound Freq. (Hz.)	Operating Voltage VDC	Operating Voltage VAC	Oper. Current (Ma)	Sound Intensity (db) 1.	Vol. (in.)	Wt. (oz.)	Oper. Temp. (°C)#	Length L (in.)	Length Tol. (in.)	1-24	25-49	50-99	100-249
64F300	SC628	2900	6-28	.....	3-14	68-80	2.9	1.25	−20+65	.812	±.005	**5.90**	**5.83**	**5.56**	**5.02**
64F301	SC628H	4500	6-28	.....	3-14	68-80	2.9	1.25	−20+65	.812	±.005	**6.85**	**6.75**	**6.42**	**5.83**
64F304	SC628P	2900	6-28	.....	3-14	68-80	4	2	−20+65	1.375	±.010	**10.70**	**10.53**	**10.04**	**9.07**
64F302	SC628A	2900	6-28	6-28	3-14	68-80	4	2	−20+65	1.375	±.010	**9.45**	**9.28**	**8.85**	**7.99**
64F303	SC110	2900	30-110	30-110	3-14	68-80	4	2	−20+65	1.375	±.010	**9.45**	**9.28**	**8.85**	**7.99**
64F312	SC628HP	4500	6-28	.....	3-14	68-80	4	2	−20+65	1.375	±.010	**11.65**	**11.50**	**10.90**	**9.88**
64F313	SC628AH	4500	6-28	6-28	3-14	68-80	4	2	−20+65	1.375	±.010	**10.40**	**10.20**	**9.72**	**8.80**
64F314	SC628AP	2900	6-28	6-28	3-14	68-80	5.1	2.75	−20+65	1.937	±.015	**14.25**	**13.98**	**13.38**	**12.04**
64F315	SC628AHP	4500	6-28	6-28	3-14	68-80	5.1	2.75	−20+65	1.937	±.015	**15.20**	**14.90**	**14.20**	**12.85**
64F316	SC110H	4500	30-110	30-110	3-14	68-80	4	2	−20+65	1.375	±.010	**10.40**	**10.20**	**9.72**	**8.80**
64F317	SC110P	2900	30-110	30-110	3-14	68-80	5.1	2.75	−20+65	1.937	±.015	**14.25**	**13.98**	**13.33**	**12.04**
64F318	SC110HP	4500	30-110	30-110	3-14	68-80	5.1	2.75	−20+65	1.937	±.015	**15.20**	**14.90**	**14.20**	**12.85**
64F319	SC628W	2900	6-28	.....	3-14	68-80	4	2	−20+65	1.375	±.010	**11.70**	**11.18**	**10.60**	**9.88**
64F306	SC648	2900	48	.....	14	80	2.9	1.25	−20+65	.812	±.005	**7.50**	**7.29**	**6.96**	**6.31**
64F307	SC250	2900	250	250	14	80	4	2	−20+65	1.375	±.010	**10.20**	**9.93**	**9.45**	**8.64**

"MINI-SONALERT" ELECTRONIC AUDIBLE SIGNAL

Mini-Sonalert will operate and produce sound over a temperature range of −30°C to +65°C. Unit will operate for a minimum of 100 hours continuous operation at an elevated ambient of +65° with max. rated voltage applied; can also be subjected to a duty cycle of 1 minute on, 5 min. off for 1000 cycles at room temperature. Operates in normal atmosphere up to 10,000 feet. Terminals shall withstand pull of 5 lbs., applied axially for a period of 5 minutes. This is considered a destructive test. Terminals are .032 inch thick, tin plated to .0003 inch thickness. 3/16" quick disconnect can be used on terminals.





Lanced Lugs with .093 Dia. Holes (3 Lugs)

Stk. No.	Type	Nominal Operating Voltage	Operating Voltage Range	Max. Current At Nominal Voltage	Min. Sound Output At Nominal Voltage	1-24	25-49	50-99	100-249
64F320	SC1.5	1.5V	1 to 4 V	4 mA	60 db				
64F321	SC6	6.0V	4 to 8 V	12 mA	70 db				
64F322	SC12	12.0V	8 to 15 V	14 mA	70 db	5.69	5.56	5.27	4.68
64F323	SC18	18.0V	14 to 22 V	16 mA	70 db				
64F324	SC24	24.0V	20 to 30 V	16 mmA	70 db				

ERICSSON AUDIBLE SIGNAL DEVICE

BUZZER FOR AC OPERATION

Stock No.	Type	25c/s Oper. VAC	25c/s Imp.	50c/s Oper. VAC	50c/s Imp.	D.C. Resist.	Wt.	NET
92F700	KLG-5103.2	22-90	5600	27-90	7000	3100	0.1	**16.75**

Suitable for an extra signalling device. The buzzer is mounted on a base plate of zinc-plated sheet metal and has an ivory thermoplastic cover. Size: Height-100mm, Width-77 mm, Depth-41mm.

ATTENTION INDUSTRIAL BUYERS

NEWARK carries complete lines of top quality electronic components.
Newark can supply all your needs.

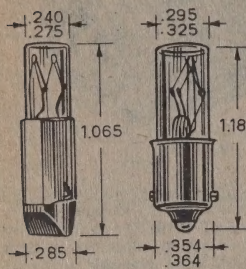
GTE SYLVANIA Pilot Lamps, Sockets and Lenses

SLIDE BASE/BAYONET BASE T-2 PILOT LAMPS

6-120V. Min. life: 5,000 hrs. Offered with slide (PSB), and miniature bayonet (MB) bases: T-2 lamps are light source for Annunciator lamps with integral reflectors, Pilot Bi-Pin, and Pilot Cartridge lamps. Wt. 2 oz.

ALL LAMPS SOLD IN MULTIPLES OF 10 ONLY

SLIDE BASE NO. 5 OR NO. 6 PILOT LAMPS



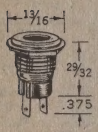
Stock No.	Lamp† Number	Type Number	Avg. Watts	Avg. Amps	Fila-ment	Avg. EFC	Avg. MSCP	Life (Hrs.)	M.O.L. Inches	Primary *Sockets	Service Avail	Each 10	100	500
35F2800	6PSB	30672-0	.8	.140	C2F	500	.12	20,000	1.115	Pilot,	Panel*	.90	.54	.45
35F2801	12PSB	31272-0	2.0	.170	C2F	2000	.35	12,000	1.115	Pilot,	Panel*	.90	.54	.45
35F2802	24PSB	32472-0	1.7	.073	C2F	3000	.50	10,000	1.115	Pilot,	Panel*	.90	.54	.45
35F2803	28PSB	32972-0	1.1	.040	C2F	1600	.29	5,000	1.115	Pilot,	Panel*	.90	.54	.45
35F2804	48PSB	34872-0	2.5	.053	C7A	1800	.70	10,000	1.115	Pilot,	Panel*	.90	.54	.45
35F2805	60PSB	36072-0	3.0	.050	C7A	2600	.73	7,500	1.115	Pilot,	Panel*	.90	.54	.45
35F2806	120PSB	32072-0	3.0	.025	CC7A	12000	.36	10,000	1.115	Pilot,	Panel*	.90	.54	.45

(†) Digits indicate Voltage.

MINIATURE BAYONET BASE PILOT LAMPS

35F2807	6MB	35100-0	.8	.140	C2F	...	.1?	20,000	1.187	Pilot,	Panel	.98	.59	.49
35F2808	12MB	35101-0	2.0	.170	C2F	...	.35	12.000	1.187	Pilot,	Panel	.98	.59	.49
35F2809	24MB	35103-0	1.7	.073	C2F	...	.50	10,000	1.187	Pliot,	Panel	.98	.59	.49
35F2810	28MB	35104-0	1.1	.040	C2F	...	.29	5,000	1.187	Pilot,	Panel	.98	.59	.49
35F2811	48MB	35106-0	2.5	.053	C7A	...	.70	10,000	1.187	Pilot,	Panel	.90	.54	.45
35F2812	60MB	35107-0	3.0	.050	C7A	...	.73	7,500	1.187	Pilot,	Panel	.90	.54	.45
35F2813	120MB	35108-0	3.0	.025	CC7A	...	.32	10,000	1.187	Pilot,	Panel	.90	.54	.45
35F2814	120MB/6	35113-0	6.0	.052	CC7A	...	1.43	3,000	1.187	Pilot,	Panel	.90	.54	.45

UNIVERSAL PILOT LIGHT HOUSING



General purpose housing made entirely of phenolic with a threaded metal bezel. For use with slide base lamps only. (PSB Series). 1 13/16"Lx1 3/16" dia.

Stk. No	Type	10-90	100-490	500-Up
35F2829	30099-0	1.26	.76	.63

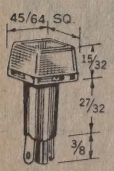
LENSES

Made of Lexan, a high temperature plastic that performs well up to 290°F. Lexan provides wider visability than glass.

Jeweled Stk. No.	Jeweled Type	Transparent Stk. No.	Transparent Type	Translucent St. No.	Translucent Type	Color
35F2831	30100-0	35F2835	30110-0	35F2841	30130-0	Red
35F2832	30106-0	35F2836	30111-0	.....	.....	Amber
35F2833	30102-0	35F2837	30112-0	35F2842	30132-0	Green
35F2834	30103-0	35F2838	30113-0	.....	.....	Blue
.....	.....	35F2839	30114-0	35F2843	30131-0	Yellow
.....	.....	35F2840	30116-0	.....	.....	Clear
.....	.....	.....	.....	35F2844	30133-0	White

Prices	10-99	100-499	500-Up
Jeweled	.60	.36	.30
Others	.27	.16	.13

PANEL LIGHT SOCKETS AND LENSES



Made of phenolic for use with pilot lamps (PSB Series). For use with slide base indicator lamps 75 watts, 125 volts. Contacts nickel plated, matching lamp base, to prevent freezing in socket. Quick mounting with a Tinnerman speed clip. Lenses are made of a high-temperature polycarbon material which eliminates lens warping and signal distortion due to heat. Unique internal design of lens allows for a wider viewing range. 2 oz. U.L. listed.

Stk. No.	Type	Desc.	10	100	500
35F2815	30152-0	Socket	.54	.33	.27

Round Lens Stk. No.	Round Lens Type	Square Lens Stk. No.	Square Lens Type	Color
35F2817	30160-0	35F2823	30170-0	Red
35F2818	30161-0	35F2824	30171-0	Clear
35F2819	30162-0	35F2825	30172-0	Amber
35F2820	30163-0	35F2826	30173-0	White
35F2821	30164-0	35F2827	30174-0	Green
35F2822	30165-0	35F2828	30175-0	Blue

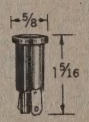
	10-90	100-490	500-Up
PRICES	.24	.15	.12

ANNUNCIATOR LAMPS

Long life annunciator lamps designed for use in elevator panels, call boards, etc. Lamps are 5-7/64" Wx1-1/16"L for bayonet base and 5-7/64" Wx1-3/16"L for candelabra base. Each lamp operates a minimum of 5,000 hours. Their unique light control is made possible by a self-contained reflector. **SOLD IN PACKAGES OF 10 ONLY.**

Candelabra Stk. No.	Candelabra Type	Bayonet St. No.	Bayonet Type	V.	Each 10-90	100-490	500-Up
35F2845	12RC	35F2848	12RB	12	1.36	.82	.69
35F2846	60RC	35F2849	60RB	60			
35F2847	120RC	35F2850	120RB	120			

PILOT PANEL SOCKET



Type 30154-0. For use with lamp only or with caps below. Spring temper brass nickel plated contact. Phenolic black body.

Stock No.	10-90	100-490	500-Up
25F289	.54	.33	.27

END COLOR CAPS

Pyrex caps for lamps exceeding 1.2 watts; profax caps for lesser wattages.

Profax Stk. No.	Profax Type	Pyrex Stk. No.	Pyrex Type	Color	10-90	100-490	500-Up
35F2899	38001	35F2904	38071	Red	.14	.08	.07
35F2900	38002	35F2905	38072	Yellow			
35F2901	38003	35F2906	38073	White			
35F2902	38004	35F2907	38074	Green			
35F2903	38005	35F2908	38075	Blue			

125 VOLT PILOT LIGHT

Type S6. 125V clear color glass envelope. Candelabra base. Rated at 1500 hours. 1-7/8" long. Shpg. wt., 4 oz. (*)Indicates for 230 volt operation.

Stk. No.	Type	Watts	10-90	100-490	500-Up
25F170	6S6	6	.31	.28	.25
25F173	3S6	3	.60	.54	.48
25F176	10S6	10*	.69	.62	.55

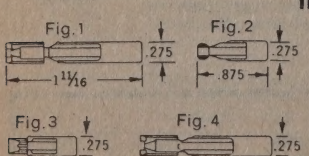
Type 7C7. Rated 1500 hrs. Candelabra base. Like illus. except conical 2 1/8" long. Wt., 4 oz.

Stk. No.	Color	10-90	100-490	500-Up
25F171	Clear	.23	.21	.19
25F172	White	.27	.24	.21

Type 6S6/DC. 125 V. double contact bayonet base bulb.

Stk. No.	Color	10-90	100-490	500-Up
25F175	Clear	.44	.40	.36

TELEPHONE AND SWITCHBOARD LAMPS - T2 BULBS



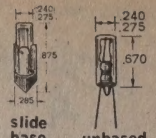
Stock No.	Lamp No.	Type	Volts	Amps	M.S. C.P.	EFC	Primary Service	M.O.L.	Fig. No.	Each 10	100	500
25F290	6C	30630-0	6.0	.040	...	180	Switchboards	1 11/16	1	.75	.45	.37
25F291	53B	35299-0	6.0	.240	.24	2000	Handsets	.797	2	.82	.49	.41
35F2856	10ESB	31063-0	10.0	.040	.07	450	Keysets	.915	3	.76	.46	.38
25F292	51A	31069-0	10.0	.040	.05	450	Keysets	.915	2	.82	.49	.41
25F293	52A	32470-0	24.0	.030	...	600	Com. Equip.	.915	2	.82	.49	.41
25F294	24E	32450-0	24.0	.035	.85	600	Switchboards	1 11/16	1	.75	.45	.37
25F295	24X	32495-0	24.0	.035	.85	600	Punched Spec. Base	Swtchbds	4	.75	.45	.37
25F296	48C	34830-0	48.0	.035	...	425	Switchboards	....	1	.83	.50	.42
25F297	55C	35530-0	55.0	.050	...	1400	Switchboards	....	1	.83	.50	.42

Indicator Lamps, Sockets

GTE SYLVANIA

INDICATOR LAMPS

Indicator lamps which offer 5,000 hours of use minimum, are ¼" in diameter. A slide type base has two metal contacts embedded in molder nylon insulator. All unbased lamps have ⅞ inch lead length. Life ratings range from 5000 to 15,000 hours. Shpg. wt. 2 oz.



slide base unbased

SLIDE BASE

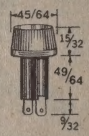
Stk. No.	Type	V	Watts	Amps	Ohms	10-90	100-490	500-Up
35F2851	4ESB	.4	.16	.040	12			
35F2852	5ESB	.5	.20	.040	17			
35F2853	6ESB	.6	.24	.040	19			
35F2854	10ASB	10	.10	.010	157			
35F2855	10CSB	10	.18	.017	115			
35F2856	10ESB	10	.40	.040	28			
35F2857	12ESB	12	.36	.040	33			
35F2858	16CSB	16	.28	.017	126	.82	.49	.41
35F2859	16ESB	16	.64	.040	43			
35F2860	18ESB	18	.72	.040	46			
33F2861	24CSB	24	.42	.017	157			
35F2862	24ESB	24	.96	.040	67			
35F2863	28ESB	28	1.12	.040	80			
35F2864	48ESB	48	1.92	.040	185	1.09	.66	.55

UNBASED

35F2865	4ES	4		.040	12			
35F2866	5ES	5	.20	.040	17			
35F2867	6ES	6	.24	.040	19			
35F2868	6.3ES	6.3	.....	.170	...			
35F2871	10AS	10	.10	.010	157			
35F2872	10CS	10	.18	.017	115			
35F2875	10ES	10	.40	.040	28			
35F2876	10E	10	.40	.040	28			
35F2877	12ES	12	.36	.040	33	.62	.38	.31
35F2878	16CS	16	.28	.017	126			
35F2879	16ES	16	.64	.040	43			
35F2880	18ES	18	.72	.040	46			
35F2881	24CS	24	.42	.017	157			
35F2882	24ES	24	.96	.040	67			
35F2886	28ES	28	1.12	.040	80			
35F2892	48ES	48	1.92	.040	185	.87	.52	.44

PANEL LIGHT SOCKET AND LENSES

Nylon, to be used with indicator lamps (ESB Series). Sockets are designed for use with slide base indicator lamps and are rated for 75 watts, 125 volts. Contacts nickel plated, matching lamps base to prevent freezing in socket. Quick mounting with a Tinnerman speed clip. Lenses are made of a high-temperature polycarbon material which eliminates lens warping and signal distortion due to heat. Unique internal design of lens allows for a wider viewing range. 2 oz.



SOCKET

Stk. No.	Type	10-90	100-490	500-Up
35F2816	30153-0	.52	.31	.25

Round Lens		Square Lens		
Stk. No.	Type	Stk. No.	Type	Color
35F2817	30160-0	35F2823	30170-0	Red
35F2818	30161-0	35F2824	30171-0	Clear
35F2819	30162-0	35F2825	30172-0	Amber
35F2820	30163-0	35F2826	30173-0	White
35F2821	30164-0	35F2827	30174-0	Green
35F2822	30165-0	35F2828	30175-0	Blue

LENS PRICES	10-90	100-490	500-Up
	.24	.15	.12

SINGLE INDICATOR SOCKETS

Square type socket is made of nylon, the round socket of phenolic. Tinnerman clips for front-of-panel mounting.

Stk. No.	Type	Description	10-90	100-490	500-Up
35F2897	30150	Round socket	.38	.23	.19
35F2898	30151	Rectangle	.38	.23	.19

END COLOR CAPS

Pyrex caps for lamps exceeding 1.2 watts; profax caps for lesser wattages.

Profax		Pyrex					
Stk. No.	Type	Stk. No.	Type	Color	10-90	100-490	500-Up
35F2899	38001	35F2904	38071	Red			
35F2900	38002	35F2905	38072	Yellow			
35F2901	38003	35F2906	38073	White	.14	.08	.07
35F2902	38004	35F2907	38074	Green			
35F2903	38005	35F2908	38075	Blue			

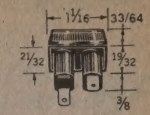
STRIP SOCKETS—U.L. APPROVED

For ESB lamps. 12 sockets. Use in line or separately.

Stk. No.	Type	Distance Between Centers	10-90	100-490	500- Up
35F2895	31250	½"	4.87	2.94	2.45
35F2896	31275	¾"	4.87	2.94	2.45

TWIN LIGHT CIRCUIT INDICATOR

For use with indicator lamps. 4-48V. Allows for 2 completely separate circuits, 2 circuits with common ground, or 2 light indication of single circuit. Two push-on speed nuts supplied with each Twin Light.



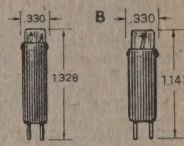
Stk. No.	Lens. No.	Color	10-90	100-490	500-Up
35F2960	30180-0	Red	.58	.34	.29
35F2961	30182-0	Amber	.58	.34	.29
35F2962	30184-0	White	.58	.34	.29
35F2963	30184-0	Green	.58	.34	.29
35F2964	30185-0	Blue	.58	.34	.29

Stk. No.	Socket No.	Description	10-90	100-490	500-Up
35F2965	31301-2	Both sides common (2 contacts)	1.07	.69	.53
35F2966	31301-3	One side common (3 contacts)	1.07	.69	.53
35F2967	31301-4	Individual Contacts (4 contacts)	1.07	.69	.53

CARTRIDGE LAMPS, SOCKETS, LENSES

FIG. A—PILOT CARTRIDGE LAMPS

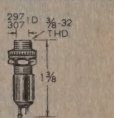
Provide a far sharper signal in all lens colors than outmoded neon lights and save cost by eliminating expensive transformers. Black anodized metal sleeves. All cartridge lamps have clear ends. Fig A-Pilot. Fig B-Indicator.



Stock No.	Type	Volts	Watts	Amps	10-90	100-490	500-Up
35F2912	21	6	.8	.140			
35F2913	31	12	2.0	.170			
35F2914	41	24	1.7	.073			
35F2915	51	28	1.1	.040	1.36	.82	.69
35F2916	61	48	2.5	.053			
35F2917	71	60	3.0	.050			
35F2918	81	120	3.0	.025			

PILOT CARTRIDGE SOCKETS

Cartridge light housing and facing nut are of black anodized aluminum as per MIL-A-8625. Base insulation is molded phenolic. Mounts in .375" hole. "A" designated solder lugs; other turret lugs.



Stk. No.	Type	10-90	100-490	500-Up
35F2935	SM-2	1.48	.89	.74
35F2936	SM-2A			

FIG. B—INDICATOR CARTRIDGE LAMPS

Stock No.	Type	Volts	Watts	Min. Amps	10-90	100-490	500-Up
35F2919	901	4	.16	.035	1.36	.82	.69
35F2920	905	5	.20	.035	1.36	.82	.69
35F2921	909	6	.24	.035	1.36	.82	.69
35F2922	913	10	.10	.009	1.36	.82	.69
35F2923	914	10	.18	.015	1.36	.82	.69
35F2924	915	10	.40	.035	1.36	.82	.69
35F2925	918	12	.36	.035	1.37	.82	.69
35F2926	925	16	.28	.015	1.37	.82	.69
35F2927	926	16	.64	.035	1.37	.82	.69
35F2928	930	18	.72	.035	1.37	.82	.69
35F2929	933	24	.42	.015	1.37	.82	.69

INDICATOR CARTRIDGE SOCKETS

Cartridge light housing and facing nut are of black anodized aluminum as per MIL-A-8625. Base insulation is molded phenolic. Mounts in .375" hole. "A" designated solder lugs; other turret lugs.

Stk. No.	Type	10-90	100-490	500-Up
35F2933	SM-1	1.48	.89	.74
35F2934	SM-1A			

CARTRIDGE LENSES

Constructed of polycarbons with high working temperatures that eliminates signal distortion and lens melting. Black anodized aluminum bezels. For housings listed above. Dia., 505".

Transparent		Translucent					
Stk. No.	Type	Stk. No.	Type	Color	10-90	100-490	500-Up
35F2937	30140	.....	....	Amber			
35F2938	30141	.....	....	Clear			
35F2939	30142	35F2942	30147	Red	.63	.38	.31
35F2940	30143	35F2943	30148	Blue			
35F2941	30144	35F2944	30149	Green			
.....	....	35F2945	30145	Yellow			
.....	....	35F2946	30146	White			

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LEECRAFT Sockets, Bases and Indicator Lights

LAMPS AND ACCESSORIES

A

B

C

D

E

F

G

H

J

Series 200. Miniature bayonet sockets with insulating sleeves. Brackets made of .025/.032" steel cadmium plated. Wire leads, 22 gauge, 6" long.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499	500-999
25F1300	2-01	A	.75	.45	.36	.16	.13
25F1301	2-04	B					
25F1302	2-06	D					
25F1303	2-13	G					
25F1304	2-15	J					

Series 300. Miniature bayonet sockets of molded bakelite. 300 type housing provides insulation where low voltage lamps are to be used. UL listed and CSA approved. Wire leads, 22 gauge, 6" long.

25F1305	3-01	A	.79	.54	.43	.31	.26
25F1306	3-02	B					
25F1307	3-05	C					
25F1308	3-06	D					
25F1309	3-13	G					
25F1310	3-15	J					
25F1311	3-20	H					

Series 400. Candelabra screw base in molded bakelite. #18 gauge wire leads in black and white, 6" long, ends stripped ½". UL listed, CSA App.

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499	500-999
25F1312	4-01	A	.79	.54	.43	.28	.27
25F1313	4-04	B					
25F1314	4-05	C					
25F1315	4-06	D					
25F1316	4-08	E					
25F1317	4-15	J					

Series 500. Miniature screw sockets with soldering terminals. Terminals are tinned and brackets are cadmium plated.

25F452	5-01	A	.64	.43	.31	.15	.13
25F453	5-04	B					
25F450	5-05	C					
25F454	5-06	D					
25F451	5-07	F					
25F447	5-08	E					
25F1318	5-13	G					
25F1319	5-15	J					

Series 600. Candelabra screw sockets with solder terms. Brackets are .025/.032".

Stk. No.	Type	Fig.	1-24	25-99	100-249	250-499	500-999
25F463	6-01	A	.67	.46	.32	.16	.14
25F461	6-05	C					
25F446	6-06	D					
25F462	6-07	F					
25F448	6-08	E					
25F1321	6-13	G					

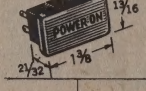
Series 700. Miniature bayonet sockets with soldering terminals for low voltage incdse. lamps. *For printed circuits.

25F457	7-01	A	.67	.40	.29	.13	.12
25F458	7-04	B					
25F455	7-05	C					
25F459	7-06	D					
25F456	7-07	F					
25F449	7-08	E					
25F1323	7-11	H					
25F1324	7-13	G					
25F1325	7-15	J					
25F460	7-20	—					
25F1326	7-35	*	.71	.52	.40	.305	.207

SERIES 51 LIGHT-SWITCH COMBINATION

Switch rating 6 amp @ 125V 3 amps @ 250V. UL listed and CSA approved. 110-125 volts.

Lens	Stk. No.	Type	1-24	25-99	100-249	250 499	500-999
Red	60F1400	51-2151T	1.86	1.31	1.10	.91	.82



SERIES 47 INDICATOR LIGHT

Fits into 3/16 x 5/8 panel opening. Built in lamps, resistor and solder terms. 110-125 volts.

Lens	Stk. No.	1-99	1-99	100-249	250-499	500-999	1000-Up
Red	60F1416	47-3	1.07	.66	.63	.51	.47

SERIES 45 & 46

Series 45. Brass terminals. ⅛" wide, .020" thick. For quick connect or as solder terminals. Mount. hole: 5/16" W/chrome ring, speed nut included.

110-125 VOLT NEON

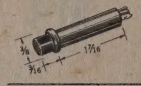
Stk. No.	Type	Lens	1-99	100-249	250-499	500-999	1000-Up
60F3600	45RN2111	Red	1.34	.81	.69	.60	.51
60F3601	45RN2113	Amber					
60F3602	45RN2115	White					

14 VOLT .08 AMP INCANDESCENT

Stk. No.	Type	Lens	1-99	100-249	250-499	500-999	1000-Up
60F3610	45RNG3-2111	Red	1.44	.98	.90	.83	.76
60F3611	45RNG3-2112	Green					
60F3612	45RNG3-2113	Amber					
60F3613	45RNG3-2114	Blue					
60F3614	45RNG3-2115	White					

28 VOLT .04 AMP INCANDESCENT

Stk. No.	Type	Lens	1-99	100-249	250-499	500-999	1000-Up
60F3616	45RNG5-2111	Red	1.38	.91	.86	.81	.75
60F3617	45RNG5-2112	Green					
60F3618	45RNG5-2113	Amber					
60F3619	45RNG5-2114	Blue					
60F3620	45RNG5-2115	White					



Series 46. Has .040" diameter steel pins with 5/32" center to center spacing. Mounting hole: 5/16" w/chrome ring, speed nut included.

110-125 VOLT NEON

Stk. No.	Type	Lens	1-99	100-249	250-499	500-999	1000-Up
60F3622	46RN-2111	Red	1.34	.81	.69	.60	.51
60F3623	46RN-2113	Amber					
60F3624	46RN-2115	White					
60F3625	46RN-2117	Clear					

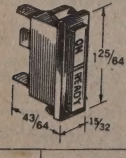
14 VOLT .08 AMP INCANDESCENT

Stk. No.	Type	Lens	1-99	100-249	250-499	500-999	1000-Up
60F3632	46RNG3-2111	Red	1.44	.98	.90	.83	.76
60F3633	46RNG3-2112	Green					
60F3634	46RNG3-2113	Amber					
60F3635	46RNG3-2114	Blue					
60F3636	46RNG3-2115	White					

28 VOLT .04 AMP INCANDESCENT

Stk. No.	Type	Lens	1-99	100-249	250-499	500-999	1000-Up
60F3638	46RNG5-2111	Red	1.38	.91	.86	.81	.75
60F3639	46RNG5-2112	Green					
60F3640	46RNG5-2113	Amber					
60F3641	46RNG5-2114	Blue					
60F3642	46RNG5-2115	White					

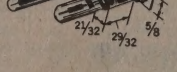
DUAL MESSAGE INDICATOR LIGHTS



Units incorporating two lamps within a standard housing for activating two legends-separately or simultaneously. Has 3 terminals with the center term. common to both lamps. Units have internal barrier for light separation. Choice of 4 lens colors and operates on 125V. Ideally suited for a variety of appliances and related equipment.

Stock No.	Type	Lens Color	1-24	25-99	100-249	250-499	500-999
60F3780	31DQ2111T	Red	1.68	1.08	1.01	.91	.76
60F3781	31DQ2113T	Amber					
60F3782	31DQ2115T	White					
60F3783	31DQ2117T	Clear					

2200 SERIES SOCKETS



Double-contact base sockets offer operation convenience with single-ended Quartzline Lamps. Permit the lamp to be positioned more accurately, hold lamp more securely, minimize possibility of lamp shaking loose from vibration. Designed for swift installation, reduces extra bulb handling, necessary with screw-in sockets. Designed for General Electric lamps as well as other Quartz Iodine lamps.

TYPE 22-25-Straight bracket socket.
TYPE 22-27A-Step bracket socket.

Stk. No.	Type	1-24	25-99	100-249
60F3784	22-25	1.85	1.39	1.08
60F3785	22-27A	1.85	1.39	1.08

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Indicator Lights & Sockets

LEECRAFT

SNAPLITE NEON PILOT LIGHTS

Fig. A Fig. B Fig. C Fig D.

Long-life irreplaceable lamp. One piece nylon housing snaps into standard ½" hole. Body size: 1 1/16" behind panel x .495" dia. Retainer: 1/16" thick x 5/8" O.D. Lens: 27/46" O.D. have #18 gauge. 6" wire leads, except "T" suffix indicates 187" tab terminals. All rated 110-125V except * 210-250V. UL and CSA Listed.

SQUARE LENS—FIG. A

Color	Stk. No.	Type	1-99	100-249	250-499	500-999	1000-Up
Red	60F1290	32R2911					
Amber	60F1291	32R2913					
White	60F1292	32R2915	1.10	.65	.59	.54	.43
Red	60F1293	32R2911T					
Amber	60F1294	32R2913T					
White	60F1295	32R2915T					

STOVEPIPE—FIG. B

Red	60F1274	32-2211					
Amber	60F1275	32-2213					
Clear	60F1276	32-2217					
White	60F1277	32-2215					
Red	60F1278	32-2211T					
Amber	60F1279	32-2213T					
Clear	60F1280	32-2217T	1.01	.61	.55	.49	.41
White	60F1281	32-2215T					
Red*	60F1426	35-2211					
Red*	60F1427	35-2211T					

FLAT CYLINDRICAL LENS—FIG. C

Red	25F1375	32-2111					
Amber	25F1376	32-2113					
Clear	25F1377	32-2117					
White	25F1378	32-2115					
Red	25F1379	32-2111T					
Amber	25F1380	32-2113T	1.01	.92	.56	.51	.46
Clear	25F1381	32-2117T					
White	25F1382	32-2115T					
Red*	60F1428	35-2111					
Red*	60F1429	35-2111T					

FLUSH LENS—FIG. D

Red	60F1282	32-2311					
Amber	60F1283	32-2313					
Clear	60F1284	32-2317					
White	60F1285	32-2315					
Red	60F1286	32-2311T					
Amber	60F1287	32-2313T	1.01	.61	.55	.49	.41
Clear	60F1288	32-2317T					
White	60F1289	32-2315T					
Red*	60F1424	35-2311					
Red*	60F1425	35-2311T					

INCANDESCENT SNAPLIGHTS 6V/.2A & 14V/.08A

All have chrome bezel to fit .500-513" hole. 18 AWG, 6" wire leads, except "T" suffix indicates .187 tab terminals.

SQUARE LENS CAP—FIG. A

Lens Color	6-Volt Types Stk. No.	6-Volt Types Type	14 Volt Types Stk. No.	14 Volt Types Type
Red	25F1362	32R-G1-2911	25F1367	32R-G3-2911
Green	25F1363	32R-G1-2912	25F1368	32R-G3-2912
Amber	25F1364	32R-G1-2913	25F1369	32R-G3-2913
Blue	25F1365	32R-G1-2914	25F1370	32R-G3-2914
White	25F1366	32R-G1-2915	25F1371	32R-G3-2915

	Type	1-99	100-249	250-499	500-999	1000-Up
Prices	32RG1	1.53	1.27	.77	.74	.71
	32RG3	1.57	1.31	.79	.77	.74

FLAT CYLINDRICAL LENS CAP—FIG.C

Red	60F1470	32R-G1-2111	60F1480	32R-G3-2111
Green	60F1471	32R-G1-2112	60F1481	32R-G3-2112
Amber	60F1472	32R-G1-2113	60F1482	32R-G3-2113
Blue	.....	.....	60F1483	32R-G3-2114
White	60F1474	32R-G1-2115	60F1484	32R-G3-2115
Red	60F1475	32R-G1-2111T	60F1485	32R-G3-2111T
Green	60F1476	32R-G1-2112T	60F1486	32R-G3-2112T
Amber	.....	.....	60F1487	32R-G3-2113T
Blue	.....	.....	60F1488	32R-G3-2114T
White	.....	.....	60F1489	32R-G3-2115T

	Type	1-99	100-249	250-499	500-999	1000-Up
Prices	32R-G1	1.40	.83	.79	.76	.70
	32R-G3	1.44	.86	.83	.79	.73

FLUSH LENS CAP—FIG D.

Lens Color	Stk. No.	Type	1-99	100-249	250-499	500-999	1000-Up
Red	60F1430	32R-G1-2311					
Green	60F1431	32R-G1-2312					
Amber	60F1432	32R-G1-2313					
Blue	60F1433	32R-G1-2314	1.40	.83	.79	.76	.70
White	60F1434	32R-G1-2315					
Red	60F1435	32R-G1-2311T					
Green	60F1436	32R-G1-2312T					
Amber	60F1437	32R-G1-2313T					
Blue	60F1438	32R-G1-2314T					
White	60F1439	32R-G1-2315T					

PRESS FIT MINIATURE NEON TINEON INDICATORS WITH ALUMINUM BEZELS

Fig. E Fig. F

Long-life, high-brightness neon lamps. Press fits into 5/16" diameter hole. Bezel is aluminum anodized. Housing, white nylon. Has transparent plastic lens available in various colors. Wire leads are #18 gauge insulated plastic. Standard length: 6" ½" stripped. Speed nut furnished for maximum security.
Tineon 36EN Series. With built-in resistor for 110-125V.

Lens Color	Flush Lens—Fig. E Stk. No.	Flush Lens—Fig. E Type	High-hat Stk. No.	Lens—Fig. F Type
Red	60F1254	36EN2311	60F1250	36EN2111
Amber	60F1255	36EN2313	60F1251	36EN2113
Clear	60F1256	36EN2317	60F1252	36EN2117
White	60F1257	36EN2315	60F1253	36EN2115

Tineon 41EN. Less resistor, external resistor req.

Red	60F1262	41EN2311	60F1258	41EN2111
Amber	60F1263	41EN2313	60F1259	41EN2113
Clear	60F1264	41EN2317	60F1260	41EN2117
White	60F1265	41EN2315	60F1261	41EN2115

	Type	1-99	100-249	250-499	500-999	1000-Up
Prices	36EN	1.16	.74	.64	.54	.46
	41EN	1.08	.69	.62	.49	.43

WITH BEZEL—INCANDESCENT LAMPS

Similar to 41 EN units above, but with incandescent lamps: 14V-.08A. Plastic flush lens.

14-VOLT TYPES

Lens Color	Stk. No.	Type	1-99	100-249	250-499	500-999	1000-Up
Red	25F1405	41EN-G3-2311					
Green	25F1406	41EN-G3-2312					
Amber	25F1407	41EN-G3-2313	1.40	.88	.84	.81	.74
Blue	25F1408	41EN-G3-2314					
White	25F1409	41EN-G3-2315					

FLUSH LENS CAP

36 Series. With built-in resistor for 110-125V.
41 Series. Less resistor; ext. resistance required for 250V. Both types are similar to Fig. E.

Lens Color	With Resistor Stk. No.	With Resistor Type	Less Resistor Stk. No.	Less Resistor Type
Red	60F1266	36N2311	60F1270	41N2311
Amber	60F1267	36N2313	60F1271	41N2313
Clear	60F1268	36N2317	60F1272	41N2317
White	60F1269	36N2315	60F1273	41N2315

	Type	1-99	100-249	250-499	500-999	1000-Up
Prices	36N	.95	.61	.55	.49	.41
	41N	.91	.61	.51	.43	.35

RECTANGULAR 3100 AND 3100T

Rectangular pilot light for maximum message display in compact areas. Have white housings and chrome plated bezels. No replacement of lamp needed. Includes proper dropping resistor for neon lamp. Lens is made of plastic. Mounting hole size, 1.281 x .395". Housing depth 21/32". Lens size, 1 15/32". Wt., 0.5 oz. 110-125 volts.

3100 SERIES—6" WIRE LEAD

Lens	Stk. No.	Type	1-99	100-249	250-499	500-999	1000-Up
Red	25F1391	31-2111					
Amber	25F1392	31-2113	1.08	.65	.57	.53	.44
Clear	25F1393	31-2117					
White	25F1394	31-2115					

3100T SERIES—BRASS TAB TERMINALS

Red	25F1395	31-2111T					
Amber	25F1396	31-2113T	1.08	.65	.57	.53	.44
Clear	25F1397	31-2117T					
White	25F1398	31-2115T					

WITH INCANDESCENT LAMPS

6V—.2A and 14V—.08A With .250 tab terminals.

Lens Color	6-Volt Types Stk. No.	6-Volt Types Type	14-Volt Types Stk. No.	14-Volt Types Type
Red	25F1410	31-G1-2111T	25F1415	31-G3-2111T
Green	25F1411	31-G1-2112T	25F1416	31-G3-2112T
Amber	25F1412	31-G1-2113T	25F1417	31-G3-2113T
Blue	25F1413	31-G1-2114T	25F1418	31-G3-2114T
White	25F1414	31-G1-2115T	25F1419	31-G3-2115T

	Type	1-24	25-99	100-249	250-499	500-999
Prices	31-G1	1.46	.84	.80	.77	.70
	31-G3	1.44	.86	.84	.80	.73

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BUD INDEX

Newark stocks a complete line of Bud products available for immediate delivery. Consult us about your special enclosure problems. We are an extension of the Bud factory's engineering department and can recommend the proper design and size for your equipment. Our advice will save you time and money. Our long years of experience assure you that we can readily understand your problems and solve them economically.

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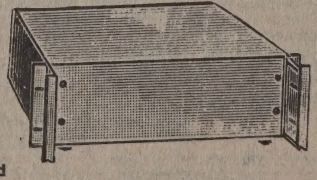
VALU/LINE CABINETS



- **Contemporary styling**
- **Completely assembled**

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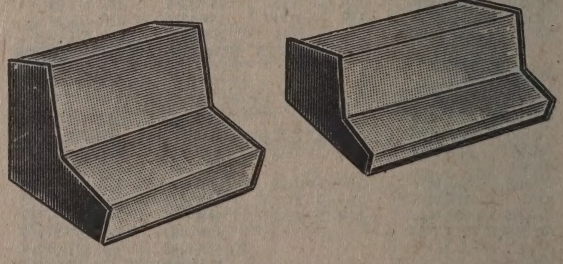
Classic and contemporary styling together with innovative engineering techniques result in a ruggedly built enclosure. Completely assembled with separate detachable rack mounting brackets and rubber feet. Adhesive paper covering on 1/8" brushed aluminum front panel provides an excellent surface for indicating position when drilling or punching panel. 7/8" diameter knockout in rear. Base, rear and top are .057" aluminum with white, smooth enamel finish. Sides are 1/8" aluminum with white, textured enamel finish. Handles are clear, anodized 6063-T5 aluminum extrusions. Bails are available as extras.

Stock No.	Type	D x W x H	1-3	4-7	8-10
99F1010	HC-14100	13" x 12¾" x 3½"	49.20	44.30	39.40
99F1011	HC-14101	13" x 17" x 3½"	51.85	46.70	41.50
99F1012	HC-14102	13" x 12¾" x 5¼"	50.80	45.75	40.65
99F1013	HC-14103	13" x 17" x 5¼"	53.40	48.10	42.75
99F1014	HC-14104	13" x 17" x 7"	56.10	50.50	44.90
99F1015	HC-14105	13" x 17" x 8¾"	58.80	52.95	47.05
99F1016	HC-14106	13" x 17" x 10½"	61.50	55.35	49.20
99F1017	HC-14107	15" x 17" x 10½"	64.15	57.75	51.35
99F1018	HC-14108	15" x 17" x 12¼"	66.80	60.15	53.45
99F1019	HC-14109	15" x 17" x 14"	72.15	64.95	57.75

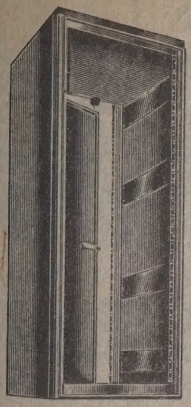


COMPUCAB SERIES

Practical and adaptable to many types of instruments. Keyboard look matches today's advanced digital technology concept. All aluminum construction combines beauty, utility and sturdiness. Base and sides are 1/8" aluminum with black textured enamel finish. Cover and back are .057" aluminum with smooth, white enamel finish. SC-13100 rear panel has one 7/8" knockout. SC-13101 rear panel has two 7/8" knockouts and 4 sets of louvers. Shipped completely assembled.

Stock No.	Type	W x D x H	1-5	6-9	10-19
91F1730	SC-13100	10" x 8 1/16" x 5 1/32"	16.60	14.95	13.30
91F1731	SC-13101	14" x 10¾" x 9 1/64"	33.90	30.55	27.15

Cabinets & Accessories



- DOUBLE RIMMED BRIGHT ALUMINUM FRAME
- COMPLETELY ASSEMBLED READY FOR USE
- YOU CAN MATCH CABINETS AND RACKS
- ALL STEEL CONSTRUCTION

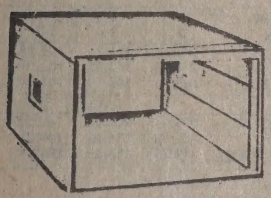
CLASSIC II CABINET RACK

Front frame made of double rimmed bright aluminum. All steel construction. Front rails tapped 10-32 with WE spacing. Pierced rear rails. Both sets of rails adjusted frontwards or back along the support braces. Accommodates 19" panels. 14 gauge framework. 16 gauge top, bottom. Sides 18 ga. Caster bracket drilled for Bud RC-7758 casters. Available in gray and royal blue textured enamel. Select white panels. Completely assembled including rear door.

Gray Stk. No.	R. Blue Stk. No.	Type No.	Width	Depth	Height	Panel Ht.	Lbs.	1-2	3-4	5-7
99F1032	99F1033	AGR-9302	22"	22"	47 5/16"	42"	126	160.65	144.60	128.50
99F1034	99F1035	AGR-9303	22"	22"	57 13/16"	52 1/2"	146	178.45	160.60	142.75
99F1036	99F1037	AGR-9304	22"	22"	66 9/16"	61 1/4"	162	198.30	178.45	158.65
99F1038	99F1039	AGR-9306	22"	22"	82 5/16"	77"	181	227.10	204.40	181.70

FRONT DOOR FOR CLASSIC II RACKS

Gray Stk. No.	R. Blue Stk. No.	Type	Fits Rack	Lbs.	1-2	3-4	5-7
99F1040	99F1041	AGD-932	AGR-9302	19	32.20	29.00	25.75
99F1042	99F1043	AGD-933	AGR-9303	23	34.60	31.15	27.70
99F1044	99F1045	AGD-934	AGR-9304	26	36.10	32.50	28.90
99F1046	99F1047	AGD-936	AGR-9306	31	39.55	35.60	31.65



CLASSIC CABINET

Double rimmed aluminum extrusion front. Recessed, brushed chrome handles attached to two steel flanges extending the interior sides of the cabinet provides carrying safety and support. Clear inside depth, panel to panel 20 9/16"; overall depth; 21 7/16". Overall width 20 13/4". Made of .060 aluminum; frame is 6063-T5 aluminum extrusions. Accommodates 19" width panels. Front and rear mounting rails tapped 10-32 W.E. spacing. Two 16 gauge vertically adjustable chassis supports. B-50, B-52, B-54 blowers fit these cabinets. For gray textured (GT) or royal blue (RB) cabinet select White door, for gold select Sand. Shipped assembled, including two aluminum handles and four feet.

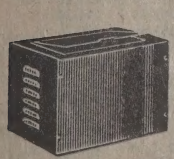
CABINETS

Gold Stk. No.	GT Stk. No.	RB Stk. No.	Type AGC	Height Inches	Wt. Lbs.	Panel Ht., In.	1-2	3-4	5-7
80W688	80W689	91F1684	9267	7 1/16	29 1/2	5 5/16	95.25	85.75	76.20
80W690	80W691	91F1685	9268	8 13/16	30 1/2	7 1/16	100.40	90.35	80.30
80W692	80W693	91F1686	9269	10 9/16	32 1/4	8 13/16	102.80	92.50	82.25
80W694	80W695	91F1687	9270	12 5/16	33 1/4	10 9/16	106.25	95.65	85.00
80W696	80W697	91F1688	9271	14 1/16	34 1/4	12 5/16	110.55	99.50	88.45
80W698	80W699	91F1689	9272	15 13/16	35	14 1/16	113.90	102.50	91.10
80W700	80W701	91F1690	9273	17 9/16	36	15 13/16	118.25	106.45	94.60
80W702	80W703	91F1691	9274	19 5/16	36 3/4	17 9/16	121.70	109.55	97.35
80W704	80W705	91F1692	9275	21 1/16	37 3/4	19 5/16	124.35	111.90	99.50
80W706	80W707	91F1693	9276	22 13/16	38 1/2	21 1/16	128.45	115.60	102.75
80W680	80W681	91F1694	9277	24 9/16	39 1/2	22 13/16	131.90	118.70	105.50
80W682	80W683	91F1695	9278	26 5/16	40 1/4	24 9/16	135.60	122.05	108.50
80W684	80W685	91F1696	9279	28 1/16	41 1/4	26 5/16	139.05	125.15	111.25
80W686	80W687	91F1697	9280	29 13/16	42	28 1/16	141.95	127.75	113.35

DOORS (19" WIDE)

Sand Stk. No.	White Stk. No.	Type AGD	Height	Lbs.	1-4	5-9	10-14
91F1451	91F1466	367	5 1/4"	1 3/4	9.60	8.65	7.70
91F1452	91F1467	368	7"	2	11.15	10.05	8.90
91F1453	91F1468	369	8 3/4"	2 3/4	12.30	11.05	9.85
91F1454	91F1469	370	10 1/2"	3	13.50	12.15	10.80
91F1455	91F1470	371	12 1/4"	3 1/2	14.45	13.00	11.55
91F1456	91F1471	372	14"	4	14.75	13.30	11.80
91F1457	91F1472	373	15 3/4"	4 3/4	16.70	15.05	13.35
91F1458	91F1473	374	17 1/2"	5	18.05	16.25	14.45
91F1459	91F1474	375	19 1/4"	5 1/2	19.35	17.40	15.50
91F1460	91F1475	376	21"	6 1/4	20.60	18.55	16.50
91F1461	91F1476	377	22 3/4"	6 3/4	21.60	19.45	17.30
91F1562	91F1477	378	24 1/2"	7 1/4	22.55	20.30	18.05
91F1463	91F1478	379	26 1/4"	7 1/2	23.90	21.50	19.10
91F1464	91F1479	380	28"	8	25.55	23.00	20.45

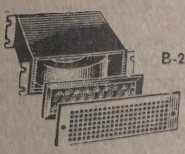
INSTRUMENT AND RECEIVER CABINETS



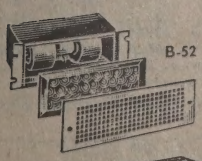
For table mounting of test instruments and receivers. Each cabinet has an evenly recessed hinged cover with convenient finger lift. The panel on front of cabinet is readily attached with self-tapping screws. Louvers provide ample ventilation. Available in black Rinkletex (BR) only.

Stk.No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F630	C-973	7x8x8"	4 3/4	6.85	6.15	5.50
91F631	C-993	7x10x8"	5	7.95	7.15	6.35
91F632	C-994	7x12x8"	6	8.20	7.40	6.55
91F633	C-995	7x14x8"	7	8.65	7.80	6.90
91F634	C-1190	8x16x8"	8 1/2	12.30	11.05	9.85
91F635	C-975	9x15x11"	12 1/4	14.95	13.45	11.95
91F636	C-999	12x18x12"	18 1/4	16.30	14.65	13.05

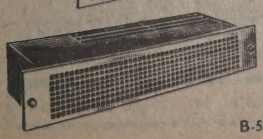
TRANS-AIRE-BLOWERS



B-27A



B-52



B-50

Designed for cooling electronic equipment. All are 115 volts, 50/60 Hz. single phase.

Model B-27A. Two speed packaged blower for top CFM. Air delivery: 515 CFM high speed, 280 CFM low speed. Motor: 1350/1150 RPM, 550/350 watt shaded pole motor.

Model B-23A: Low silhouette two speed, requiring just 3 1/2" of panel space. Produces 180 CFM on high, 130 CFM on low speed. Motor: 1450/1250 RPM, 125/100 shaded pole motor.

Model B-25A. Two speed 350/160 CFM blower, delivers a turbulent air distribution pattern to eliminate hot spots. Motor: 1420/1075 RPM, 375/200 shaded pole motor.

Model B-52. Produces 150 CFM, equipped with two extra wide, small diam. centrifugal blower wheels. Motor: 3000 RPM, fan cooled, 80 watts.

Model B-54. Dual wheels deliver 300 CFM of clean, cool filtered air. Motor 1550 RPM, rubber mounted. 60-watt shaded pole motor.

Model B-50. Requires only 3 1/2" of panel ht., produces 150 CFM, 12 1/2" wide air stream. Motor: 3150 RPM, 80 watts, shaded pole. Gray finish on all.

BLOWER

Stk. No.	Type	Dim. HxWxD	1-9	10-14	15-19
91F1630	B-27A	7x19x14 1/2"	117.20	105.50	93.75
91F1631	B-23A	3 1/2x19x12"	91.35	82.20	73.10
91F1632	B-25A	5 1/4x19x14 1/2"	104.30	93.85	83.45
91F1633	B-52	5 1/4x19x9"	91.70	82.55	73.35
91F1634	B-54	7x19x10 3/16"	117.45	105.70	93.95
91F1635	B-50	3 1/2x19x6 3/8"	88.80	79.90	71.05

USE FILTER

Stk. No.	Type	1-24	25-49	50-99
91F720	BF-28	2.10	1.90	1.70
91F904	BF-24	1.70	1.55	1.35
91F638	BF-26	1.85	1.65	1.50
80W723	BF-53	1.85	1.65	1.50
80W724	BF-55	2.00	1.80	1.60
91F904	BF-24	1.70	1.55	1.35

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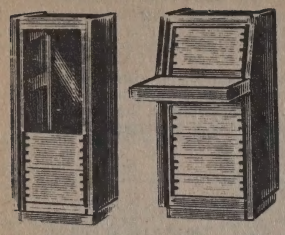
BUD

Cabinet Racks

SERIES 2000 IN MODERN COLORS



The creative industrial designer's conception of the image the modern electronic enclosure should convey to enhance the prestige of the contents. It combines the dramatic appearance of sheer, square lines with rugged construction. Together with its unique facade, it offers many exclusive features and economies inherent in all Bud products. One of the time and cost saving benefits of the Series Two Thousand Cabinet Racks is the fact that they are shipped completely assembled and immediately available for use upon removal from the protective carton. The basic frame is all welded construction employing 14 gauge steel members. 18 gauge steel is used in the door, sides and top. "U" braces welded to the sides of the frame augment its strength and rigidity and act as the mounting for the vertical rails, which may be horizontally adjusted. Front panel mounting rails are tapped 10-32. Rear rails are pierced 9/32". Caster bracket in base is drilled for Bud RC-7758 casters. Standard finishes are Royal Blue (RB) or Gray (GT) Textured enamel with clear anodized aluminum extension and Gold (GD) Textured with gold anodized aluminum extension.

INCLINED PANEL AND EXTRA DEEP CABINET RACKS

Being positioned 20° off vertical, viewing the instruments by a seated person is more comfortable. Exclusive feature; panel mounting rails in the front vertical, in the inclined panel section, and in the rear, are adjustabls from front to rear. Dimensions; Ht. 51 1/4", Wid. 24 3/16" outside depth 23 7/8" inside depth 20 1/2" Wt. 173 lbs.

Series 30-2000 extra-deep sizes are now available. Depth; 30 3/4" 14 gauge steel, welded frame. 18 gauge steel for doors, sides and tops. Front panel mounting rails tapped 10-32; rear rails pierced 9/32" Caster brackets drilled for Bud RC-7758 casters. Wt. 223 lbs.

PLAIN SIDES AND DOOR (LOUVRED SIDES & DOOR UPON REQUEST)

R. Blue Stk. No.	Gray Stk. No.	Gold Stk. No.	Type	Height	Width	Outside Depth	Clear Ins. Dep.	Inclined Panel	Vertical Panel	1-2	3-4	5-7
80W650	80W512	80W651	SE-2064	51 1/4"	24 3/16"	23 7/8"	20 1/2"	10 1/2"	29 3/4"	190.95	171.85	152.75
80W513	80W652	80W653	SE-2065	51 1/4"	24 3/16"	23 7/8"	20 1/2"	15 3/4"	24 1/2"	202.40	182.15	161.90
80W654	80W514	80W655	SE-2066	51 1/4"	24 3/16"	23 7/8"	20 1/2"	17 1/2"	22 3/4"	202.40	182.15	161.90
SERIES 30-2000 EXTRA DEEP												
99F1055	99F1058	99F1061	S-30-2064	51 1/4"	24 3/16"	32 5/8	29 1/4"	10 1/2"	29 3/4"	229.15	206.25	183.50
99F1056	99F1059	99F1062	S-30-2065	51 1/4"	24 3/16"	32 5/8"	29 1/4"	15 3/4"	24 1/2"	242.95	218.65	194.35
99F1057	99F1060	99F1063	S-30-2066	51 1/4"	24 3/16"	32 5/8"	29 1/4"	17 1/2"	22 3/4"	242.95	218.65	194.35

ADD-A-RACK ENCLOSURES

R. Blue Stk. No.	Gray Stk. No.	Gold Stk. No.	Type	To Add A-Rack To	Wt. Lbs.	1-2	3-4	5-7
80W662	80W663	80W664	ASE-2084	SE-2064	115	161.60	145.45	129.30
80W665	80W666	80W667	ASE-2085	SE-2065	115	172.40	155.15	137.90
80W668	80W669	80W670	ASE-2086	SE-2066	120	172.40	155.15	137.90

UPRIGHT CABINET RACKS

All cabinets accommodate standard 19" panels. The series below include welded framework, plain sides, plain rear door & solid top. All units: Width: 24 3/16". Outside Depth: 23 7/8", for 20 1/2" ins. depth and 27 3/8" for 24" ins. depth.

PLAIN SIDES AND DOORS (LOUVRED SIDES AND DOOR UPON REQUEST)

R. Blue Stk. No.	Gray Stk. No.	Gold Stk. No.	Type	Ht.	Clear Ins. Dep.	Panel Space	Wt. Lbs.	1-2	3-4	5-7
80W500	80W638	80W639	E-2000	30 1/4"	20 1/2"	21"	125	140.15	126.15	112.10
80W640	80W501	80W641	E-2001	40 3/4"	20 1/2"	31 1/2"	150	173.40	156.05	138.70
80W502	80W503	80W642	E-2002	44 1/4"	20 1/2"	35"	155	183.00	164.70	146.40
80W643	80W644	80W645	E-2003	51 1/4"	20 1/2"	42"	167	192.60	173.35	154.10
80W646	80W647	80W648	E-2004	61 3/4"	20 1/2"	52 1/2"	205	214.20	192.80	171.35
80W649	80W625	80W504	E-2005	70 1/2"	20 1/2"	61 1/4"	219	237.75	214.00	190.20
80W621	80W622	80W623	E-2006	79 1/4"	20 1/2"	70"	240	264.15	237.75	211.30
80W624	80W505	80W626	E-2007	88"	20 1/2"	78 3/4"	262	288.45	259.60	230.75
80W627	80W628	80W629	E-2008	30 1/4"	24"	21"	135	165.60	149.05	132.50
80W630	80W631	80W632	E-2009	40 3/4"	24"	31 1/2"	160	192.30	173.05	153.85
80W633	80W634	80W635	E-2010	44 1/4"	24"	35"	165	202.95	182.65	162.35
80W506	80W636	80W637	E-2011	51 1/4"	24"	42"	187	213.65	192.30	170.90
80W604	80W605	80W606	E-2012	61 3/4"	24"	52 1/2"	222	237.15	213.45	189.70
80W607	80W507	80W608	E-2013	70 1/2"	24"	61 1/4"	235	263.55	237.20	210.85
80W609	80W610	80W611	E-2014	79 1/4"	24"	70"	265	292.80	263.50	234.25
80W612	80W613	80W614	E-2015	88"	24"	78 3/4"	280	319.55	287.60	255.65

SERIES 30-2000 (EXTRA DEEP) UPRIGHT CABINET RACKS

R. Blue Stk. No.	Gray Stk. No.	Gold Stk. No.	Type	Height	Width	Outside Depth	Clear Ins. Dep.	Panel Space	Wt. Lbs.	1-2	3-4	5-7
99F1064	99F1072	99F1080	E-30-2000	30 1/4"	24 3/16"	32 5/8"	29 1/4"	21"	150	190.45	171.40	152.35
99F1065	99F1073	99F1081	E-30-2001	40 3/4"	24 3/16"	32 5/8"	29 1/4"	31 1/2"	175	221.20	199.10	176.95
99F1066	99F1074	99F1082	E-30-2002	44 1/4"	24 3/16"	32 5/8"	29 1/4"	35"	180	233.40	210.05	186.70
99F1067	99F1075	99F1083	E-30-2003	51 1/4"	24 3/16"	32 5/8"	29 1/4"	42"	217	246.60	221.95	197.30
99F1068	99F1076	99F1084	E-30-2004	61 3/4"	24 3/16"	32 5/8"	29 1/4"	52 1/2"	248	272.70	245.45	218.15
99F1069	99F1077	99F1085	E-30-2005	70 1/2"	24 3/16"	32 5/8"	29 1/4"	61 1/4"	259	303.10	272.80	242.50
99F1070	99F1078	99F1086	E-30-2006	79 1/4"	24 3/16"	32 5/8"	29 1/4"	70"	303	336.75	303.10	269.40
99F1071	99F1079	99F1087	E-30-2007	88"	24 3/16"	32 5/8"	29 1/4"	78 3/4"	307	367.50	330.75	294.00

DESK TOPS

For Installation on Series 2000 racks only. Serve as a smooth writing surface or shelf. Two pre-slotted supporting channels are quickly bolted-to panel mtg. rails. White Formica, 24 3/16" W, 19 1/2" D, 3 1/16" H. Supports in excess of 200 lbs.

RB	GT	GD	Type	Fits. Ser. 2000	Supp. Channel	Wt.	1-2	3-4	5-7
78F002	78F000	78F001	DT-2960	with 23 7/8" d.	21 31/32"	22 lbs.	47.40	42.65	37.90
78F003	78F004	78F005	DT-2962	with 27 3/8d.	24 25/32"	23 lbs.	48.90	44.00	39.10

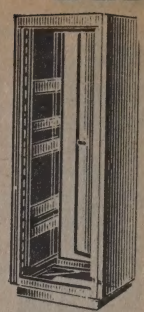
These Accessories will fit Series Two Thousand Doors available from Newark on Special Order

Series "60" Cabinet Racks

BUD

INCLINED

Basic frame welded in a solid unit composed of 14-gauge cold-rolled steel channels. Sides have "U" braces with perforated channels for fastening vertical mounting rails. Rails also support other types of equipment such as brackets, shelves, slides, etc. Eliminates need of drilling holes in the rack. Sides and rear door made of 18 gauge steel. Vertical Channel, 4" wide, welded to door to prevent vibration or whip. Two pairs of panel mounting rails are supplied, fully adjustable. Panels may be mounted in front and rear at the same time. Front rails drilled and tapped 10-32. W. E. spacing. Rear rails are drilled according to universal spacing.
All Sizes Sixty enclosures may be quickly combined with each other to create units of any width as shown in the Add-A-Rack series. In addition, such accessories as desk tops, turrets, drawers, slides, sloping panel supports and front door are easily installed. Standard finishes are textured baked enamel over a primer. Standard Bud relay rack panels are available for the Series "60" racks in light gray and light blue. Available in Louvered door and Louvered side, Louvered door-plain sides, Louvered sides-plain door on special order. All Series "60" items listed below are available in light blue finish on Special Order.



UPRIGHT

UPRIGHT CABINET RACKS

Completely assembled with sides, rear door and top. Standard units have plain sides and door and a solid top. For greater ventilation, order the units with louvered sides and/or rear door. Both have solid tops. Width of all units: 24 1/16". Inside depth: 20 1/2" clear on units with 22" outside depth. 24" on all others. Top opening: 18 5/16" wide by 17"d. on units with 22" depth. Top opening on all others: 18 5/16" w x 20 1/2" d.

"AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK."

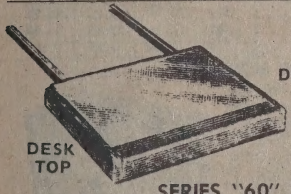
Stock No. Grey	Ht.	Panel Space	Wt. Lbs.	With Plain Sides & Door—OD 22"—Net Each, Lots of Type	1-2	3-4	5-7
92F900	29 5/8"	21"	118	2300	129.80	116.80	103.85
92F901	40 1/8"	31 1/2"	156	2301	160.65	144.60	128.50
92F902	50 5/8"	42"	173	2302	178.40	160.55	142.70
92F903	61 1/8"	52 1/2"	197	2303	198.20	178.40	158.55
92F904	69 7/8"	61 1/4"	220	2304	220.25	198.25	176.20
92F905	78 5/8"	70"	235	2305	244.65	220.20	195.70
92F906	87 3/8"	78 3/4"	265	2306	267.15	240.45	213.70

Stock No. Grey	Ht.	Panel Space	Wt. Lbs.	With Plain Sides & Door—OD 25 1/2"—Net Each, Lots of Type	1-2	3-4	5-7
92F907	29 5/8"	21"	156	2307	153.35	138.00	122.70
92F908	40 1/8"	31 1/2"	176	2308	178.10	160.30	142.50
92F909	50 5/8"	42"	185	2309	197.90	178.10	158.30
92F910	61 1/8"	52 1/2"	211	2310	219.75	197.80	175.80
92F911	69 7/8"	61 1/4"	240	2311	244.20	219.80	195.35
92F912	78 5/8"	70"	256	2312	271.25	244.15	217.00
92F913	87 3/8"	78 3/4"	267	2313	296.00	266.40	236.80

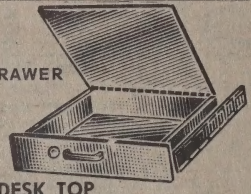
SERIES 30 (EXTRA DEEP) UPRIGHT CABINET RACKS

With Plain Sides and Doors Outside depth: 30 3/4". Clear inside depth: 29 1/4".

Stk. No. Grey	Type	Ht.	Wid.	Panel Space	Wt. Lbs.	1-2	3-4	5-7
99F1022	30-2300	29 5/8"	24 1/16"	21"	154	176.40	158.75	141.10
99F1023	30-2301	40 1/8"	24 1/16"	31 1/2"	174	204.85	184.35	163.90
99F1024	30-2302	50 5/8"	24 1/16"	42"	202	227.65	204.90	182.10
99F1025	30-2303	61 1/8"	24 1/16"	52 1/2"	225	252.75	227.50	202.20
99F1026	30-2304	69 7/8"	24 1/16"	61 1/4"	245	280.80	252.70	224.65
99F1027	30-2305	78 5/8"	24 1/16"	70"	268	311.95	280.75	249.55
99F1028	30-2306	87 3/8"	24 1/16"	78 3/4"	294	340.45	306.40	272.35



DESK TOP



DRAWER

SERIES "60" DESK TOP

Two pre-drilled full-length supporting channels are quickly bolted to panel mounting rails. Surface is ant. white formica 24 1/16" wide, 19 1/2" deep, 3 1/16" high. Supports 200 lbs. Color, grey.

Stk. No.	Type	Fits "60" Series	Sup. Channel	Lbs.	1-2	3-4	5-7
93F016	60-2360	W/22" d.	21 1/4"	22	42.05	37.85	33.65
93F039	60-2362	W/25 1/2" d.	24 3/4"	23	43.35	39.00	34.70

SERIES "60" DESK TOP DRAWER

Spacious drawer for small tools and components, circuit designs and manuals. Front panel: 3 1/2" x 19". Hinged desk top is Formica bonded to aluminum and has piano-type hinge. Latch on front panel locks and releases drawer as well as releasing top. With hardware. Textured grey finish.

Stk. No. Grey	Type	Size Inside	Lbs.	1-2	3-4	5-7
93F050	60-2363	16 9/16 x 23 31/32 x 14 7/8"	19	64.70	58.25	51.75

ADD-A-RACK SERIES

Each assembly consists of frame, top, bottom, rear door and cowlings. Used as an add-on unit to join any of the Series Sixty enclosures into a bank of two or more. One standard rack plus several Add-A-Racks make any desired number of racks combined for optimum width. Colors same as above Racks.

Stock No. Grey	Type	Wt. Lbs.	Plain Doors For Add-on to Rack No. 60-	Net Each, Lots of 1-3	4-6	7-9
93F077	2500	92	2300,	110.45	99.40	88.35
93F078	2501	113	2301,	129.45	116.50	103.55
93F079	2502	115	2302,	141.80	127.60	113.45
93F080	2503	145	2303,	154.65	139.20	123.70
93F081	2504	148	2304,	173.00	155.70	138.40
93F082	2505	152	2305,	192.75	173.50	154.20
93F083	2506	158	2306,	207.05	186.35	165.65
93F084	2507	120	2307,	123.60	111.25	98.90
93F085	2508	132	2308,	144.80	130.30	115.85

Stock No. Grey	Type	Wt. Lbs.	Plain Doors For Add-on to Rack No. 60-	Net Each, Lots of 1-2	3-4	5-9
93F086	2509	138	2309,	158.15	142.35	126.50
93F087	2510	142	2310,	172.70	155.45	138.15
93F088	2511	164	2311,	193.05	173.75	154.45
93F089	2512	168	2312,	215.00	193.50	172.00
93F090	2513	172	2313,	237.95	214.15	190.35
93F091	2530	119	2330,	164.75	148.30	131.80
93F092	2531	119	2331,	175.65	158.10	140.50
93F093	2532	125	2332,	175.65	158.10	140.50

MAKE NEWARK YOUR ONE STOP SOURCE FOR ALL BUD RADIO CABINETS AND ACCESSORIES. FAST DELIVERY FROM ON THE SHELF STOCKS.

INCLINED PANEL CABINET RACKS

Completely assembled with sides, rear door and solid top. Available in two combinations of plain or louvered sides and rear door. Size, 50 5/8"h.x24 1/16"w.x22"d. outside; 20 1/2"d. clear inside. Weight 165 lbs.

Stk. No. Grey	Type	Incline Panel Hgt.	Vert. Panel Hgt.	Top Opening W.x D.	Plain Sides and Door Net Each, Lots of 1-2	3-4	5-7
93F023	2330	10 1/2"	29 3/4"	18 5/16" x 11 53/64"	194.70	175.25	155.75
93F024	2331	15 3/4"	24 1/2"	18 5/16" x 10 1/32"	206.30	185.65	165.05
93F025	2332	17 1/2"	22 3/4"	18 5/16" x 9 27/64"	206.30	185.65	165.05

SERIES 30 (EXTRA DEEP) INCLINED PANEL CABINET RACKS

Width: 24 3/16". Clear inside depth: 29 1/4"

Stock No.	Type	Top Opening—W.x D.	Incl. Panel	Vert. Panel	1-2	3-4	5-7
99F1029	30-2330	18 5/16 x 20 9/16	10 1/2"	29 3/4"	233.65	210.30	186.90
99F1030	30-2331	18 5/16 x 18 3/4	15 3/4"	24 1/2"	247.60	222.85	198.10
99F1031	30-2332	18 5/16 x 18 3/16	17 1/2"	22 3/4"	247.60	222.85	198.10

16

Cabinet Racks

BUD ENCLOSED RELAY RACKS

Made of 16 gauge steel with 7/64" panel mtg. supports which are recessed so that panel will be flush with face of rack. Bottom supports use RC 7756 casters. Stk. No. 91F082. Shipped with necessary assembly hardware.

Enc. Relay Rack

Prestige Racks

Black	Grey	Ham. Grey	Type	HxWxD	Panel Space	Lbs.	1-9	10-14	15-19
91F050	91F056	91F062	CR-1772	66 9/16"x22"x17 1/8"	61 1/4"x19"	115	102.60	92.35	82.10
91F051	91F057	91F063	CR-1773	82 5/16"x22"x17 1/8"	77" x19"	135	118.15	106.35	94.50
91F058	91F061	91F078	CR-1771	47 5/16"x22"x17 1/8"	42" x19"	92	82.00	73.80	65.60
91F059	91F060	91F077	CR-1774	42 1/16"x22"x17 1/8"	36 3/4"x19"	82	72.45	65.20	57.95

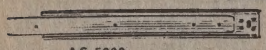
ENCLOSED RELAY RACK—GREY HAMMERTONE FINISH

Stk. No.	Type	Ht.	P.S.	Dep.	Lbs.	1-9	10-14	15-19
91F095	CR-2071	47 5/16"	42"x19"	22 1/8"	102	101.70	91.55	81.35
91F096	CR-2072	66 9/16"	61 1/4"x19"	22 1/8"	137	123.25	110.95	98.60
91F097	CR-2073	82 5/16"	77"x19"	22 1/8"	159	146.30	131.65	117.05
91F098	CR-2074	42 1/16"	36 3/4"x19"	22 1/8"	98	87.00	78.30	69.60

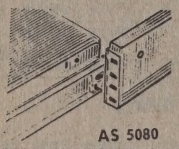
PRESTIGE RELAY CABINET RACKS

Stk. No.	Type	Panel	HxWxD	Lbs.	1-9	10-14	15-19
91F087	CR-2280	61 1/4"x19"	66 9/16"x22"x22"	179	170.85	153.75	136.70
91F088	CR-2281	66 1/2"x19"	71 3/16"x22"x22"	186	175.25	157.75	140.20
91F089	CR-2282	77"x19"	82 5/16"x22"x22"	213	196.80	177.10	157.45

CHASSIS SLIDES



AS-5000



AS 5080

Unsurpassed for reliability and absence of wear after hundreds of thousands of cycles. Ball bearings of chrome carbon steel are set in special retainers which keep them evenly spaced to give an extremely smooth movement of the slide. Self-cleaning bridged ball retainer. Bright Electro-Zinc finish. High-low temp. grease.

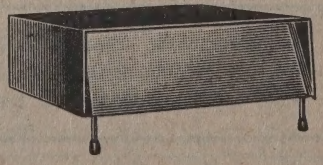
Stk. No.	Type No.	Lt.	Travel	Load Rating	Shpg. Wt.	Per Pair 1-4	5-9	10-24
91F1607	AS-5000	12"	9.00	108	1.75	10.85	9.75	8.70
91F1608	AS-5001	16"	12.00	95	2.00	12.60	11.35	10.10
91F1609	AS-5002	20"	15.00	82	2.50	13.70	12.35	10.95
91F1610	AS-5020	12"	12.88	175	3.25	25.80	23.20	20.65
91F1611	AS-5021	16"	16.88	160	4.25	28.65	25.80	22.90
91F1612	AS-5022	20"	20.88	142	5.25	30.95	27.85	24.75
91F1613	AS-5040	12"	11.88	120	3.25	34.20	30.80	27.35
91F1614	AS-5041	16"	15.88	108	4.25	37.05	33.35	29.65
91F1615	AS-5042	20"	20.88	92	5.25	39.60	35.65	31.70
91F1616	AS-5060	12"	9.00	108	1.75	9.95	8.95	7.95
91F1617	AS-5061	16"	12.00	95	2.00	10.70	9.65	8.55
91F1618	AS-5062	20"	15.00	82	2.50	11.30	10.15	9.05
91F1619	AS-5080	12"	12.00	80	3.50	31.40	28.25	25.10
91F1620	AS-5081	16"	16.00	70	4.50	32.10	28.90	25.70
91F1621	AS-5082	20"	20.00	60	5.50	35.30	31.75	28.25

MOUNTING BRACKETS AND BAR NUTS FOR SLIDES

*Bar Nut can be used with all mtg. brackets.

Stk. No.	Type	Mounts	1-4	5-9	10-24
91F1622	BAS-5100	Front	1.40	1.25	1.10
91F1623	BAS-5101	Back	1.40	1.25	1.10
91F1624	BAS-5102	Front	1.40	1.25	1.10
91F1625	BAS-5103	Back	1.40	1.25	1.10
91F1626	BAS-5110	*	1.40	1.25	1.10

TILT-A-VIEW CABINET



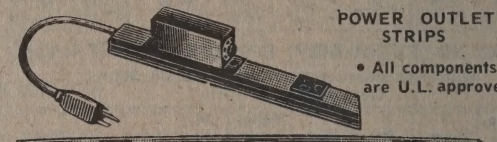
Designed to present selective angles of vision to the viewer who may be observing the action of meters or the position of dials and recorders. Detachable legs change the position of the cabinet. Two piece construction permits immediate access to interior for installation and service. Cabinet fasteners are all positioned on the lower portion of the cabinet so that no fasteners appear on the front or rear panels. Color is gray textured with sand front and rear panels. All models 18 gauge steel.

StockNo.	Type	Lbs.	H	W	D	1-14	15-24	25-34
90F393	TV2155	8 1/2	4 1/2"	15"	10"	10.25	9.25	8.20
90F394	TV2156	13	6 1/2"	16"	12"	12.00	10.80	9.60
90F395	TV2157	17	8 1/2"	17"	14"	17.45	15.70	13.95

"TEM-STAT" TEMPERATURE CONTROL

Features: Bimetal sensing element, normally open contacts close on temperature rise. Small size—2 15/16" long x 1" wide x 17/32" deep. Temp. range 80° to 170°F. Listed by U.L.

Stk. No.	Type	1-9	10-14	15-19
91F1636	TS-15	6.65	6.00	5.30



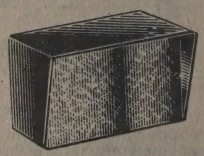
POWER OUTLET STRIPS

- All components are U.L. approved

Double wire contact receptacle and grounding terminal. 3/4" x 1 9/32" cross section. 6 foot cord. Light gray enamel finish with 15 amp overload breaker & pushbutton reset.

Stk. No.	Type	Outlets	Length	Lbs.	1-5	6-11	12-17
90F396	POS-4	4	17 1/2"	2	28.70	25.85	22.95
90F397	POS-7	7	48"	3 1/2	30.30	27.25	24.25
90F398	POS-9	9	60"	4 1/4	33.30	29.95	26.65
90F399	POS-11	11	72"	4 3/4	36.30	32.65	29.05

COWL TYPE MINIBOX



Has projecting cover which reduces glare on panel from overhead lighting and provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled this type of construction results in a sturdy, rigid housing. Fabricated of .040 aluminum. Overall dimensions and wt.: SC-2130 and SC-3030. 6x10x7". 1 3/4 lb. SC-2131 and SC-3031, 7x12x8", 2 lbs. SC-2132 and SC-3032, 3x8x5". 1 lb.; SC-2133 and SC-3033, 5x5x5", 3/4 lb.

Stk.No. G-H	Type	1-49	50-99	100-149	Stk.No. Nt'al	Type	1-49	50-99	100-149
91F884	SC-2130	8.70	7.85	6.95	91F888	SC-3030	6.25	5.65	5.00
91F885	SC-2131	9.45	8.50	7.55	91F889	SC-3031	6.75	6.10	5.40
91F886	SC-2132	5.00	4.50	4.00	91F890	SC-3032	3.60	3.25	2.90
91F887	SC-2133	5.10	4.60	4.10	91F861	SC-3033	3.75	3.40	3.00

UNIVERSAL SLOPING PANEL CABINETS

One piece, detachable back and sides fastened to body with four self tapping screws permits easy access for mounting and servicing components. Available in steel or aluminum. Hammertone gray, finish.

Aluminum

Stk.No.	Type	HxWxD	Lbs.	1-49	50-99	100-149
91F834	AC1610	4 19/64 x 4 x 4 1/16"	3/8	2.85	2.55	2.30
91F835	AC1611	4 19/64 x 5 x 4 1/16"	1/2	2.75	2.50	2.20
91F836	AC1612	4 19/64 x 6 x 4 1/16"	9/16	3.00	2.70	2.40
91F837	AC1613	4 19/64 x 7 x 4 1/16"	5/8	3.35	3.00	2.70

Steel

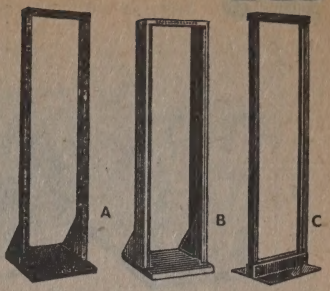
91F830	C-1606	4 19/64 x 4 x 4 1/16"	1	2.25	2.05	1.80
91F831	C-1607	4 19/64 x 5 x 4 1/16"	1	2.35	2.10	1.90
91F832	C-1608	4 19/64 x 6 x 4 1/16"	1 1/4	2.60	2.35	2.10
91F833	C1609	4 19/64 x 7 x 4 1/16"	1 1/2	3.00	2.70	2.40

Racks and Accessories

BUD

OPEN TYPE RELAY RACKS

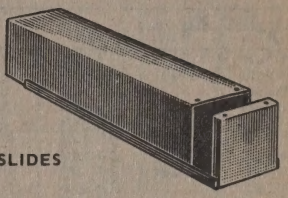
For mounting equipment where a complete enclosure is not necessary or advisable. Racks A and B may add casters for mobility. Fig. B has louvered "U" member for ventilation. Gray Hammertone (HG) except Fig. C, Black Rinkletex (BR).



Stk. No.	Type	Fig.	HxWxD	PanelSp.	Lbs.	1-9	10-14	15-19
91F1740	RR1263HG	A	35 39/64 x19 3/4x22"	31 1/2x19"	35	32.00	28.80	25.60
91F1741	RR1264HG	A	70 39/64 x19 3/4x22"	66 1/2x19"	46	36.55	32.90	29.25
91F054	RR1265BR	C	72 5/32 x20 1/2x13"	66 1/2x19"	36	85.10	76.70	68.10
91F1743	RR1363HG	A	40 55/64x19 3/4x22"	36 3/4x19"	36	30.80	27.70	24.65
91F1744	RR1364HG	A	75 55/64x19 3/4x22"	71 3/4x19"	48	38.40	34.55	30.70
91F1745	RR1366HG	A	81 7/64 x19 3/4x22"	77 x19"	49	42.10	37.90	33.70
91F1746	RR1367HG	B	64 5/8 x20 7/8x26"	61 1/4x19"	80	65.30	58.75	52.25
91F1747	RR1368HG	B	73 3/8 x20 7/8x26"	70 x19"	89	70.30	63.25	56.25
91F1748	RR1369HG	B	80 3/8 x20 7/8x26"	77 x19"	104	78.15	70.35	62.50

MINISLIDES

Used where access to internally mounted parts is necessary. .050 aluminum. Grey hammertone HG except (*) plain.

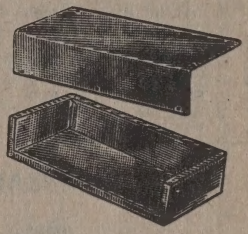


MINISLIDES

Stk.No.	Type	LxWxH	Lbs.	1-49	50-99	100-149
91F862	MS-2150	13x3 1/8x2 5/8"	1	5.40	4.85	4.30
91F863	MS-2151	13x5 1/8x2 5/8"	1 1/2	6.10	5.50	4.90
91F864	MS-2152	17x3 1/8x2 5/8"	1 1/4	5.90	5.30	4.70
91F1600	MS-3050	13x3 1/8x2 5/8	1	4.00	3.60	3.20
91F1601	MS-3051*	13x5 1/8x2 5/8	1 1/2	4.90	4.40	3.90
91F1602	MS-3052*	17x3 1/8x2 5/8	1 1/4	4.75	4.30	3.80

CONVERTA-BOX

This new box enclosure consists of a welded base and a two sided cover. Box may be easily mounted to any type of surface. Converta-Box is made of 20 gauge steel. Hardware furnished: 4 self-tapping screws. The box has a cadmium-plated finish.



Stk.No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F554	CU-341	1 1/2x4x3"	1/2	2.85	2.55	2.30
91F555	CU-452	2x5x4"	3/4	2.75	2.50	2.20
91F556	CU-482	2x8x4"	1 1/4	2.90	2.60	2.30
91F557	CU-592	2 1/2x9 1/2x5"	1 3/4	3.10	2.80	2.50
91F558	CU-622	2 1/2x12x6"	2 1/4	3.40	3.05	2.70
91F559	CU-712	2 1/2x15x7"	3	4.60	4.15	3.70

DESK TYPE OPEN RELAY RACKS

Chassis type base for mounting heavy components. Supporting angles assure steady support. Panel mounting rails are recessed so that any standard 19" panel will fit flush with the front. Available in Black Rinkletex (BR) or Light Gray Hammertone (HG).

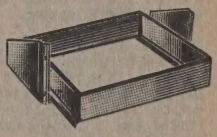
Black		Ham. Gray		Hgt.	Space	Lbs.	1-14	15-24	25-34
Stk. No.	Type	Stk. No.	Type						
91F030	RR-1248BR	91F677	RR-1248HG	24"	21"	14 1/4	14.70	13.25	11.75
91F031	RR-1249BR	91F678	RR-1249HG	31"	28"	16 3/4	17.35	15.60	13.90

VERTICAL PANEL CHASSIS

Panel mounting chassis for vertical installation where depth is limited or front service is desired. Made of .060" aluminum alloy 5005 H-14 in natural finish. Front flange has standard notching. Fits standard 19" panel space.

Stk.No.	Type	Ht.	Wt. Lbs.	1-24	25-49	50-99
91F493	CB1370	1 3/4"	3/4	3.50	3.15	2.80
91F494	CB1371	3 1/2"	1 1/4	3.90	3.50	3.10
91F495	CB1372	5 1/4"	1 1/2	4.35	3.90	3.50
91F496	CB1373	7"	2	4.90	4.40	3.90
91F497	CB1374	8 3/4"	2 1/4	5.90	5.30	4.70
91F498	CB1375	10 1/2"	2 3/4	6.95	6.25	5.55
91F499	CB1376	12 1/4"	3	7.70	6.95	6.15
91F479	CB1377	14"	3 1/4	8.45	7.60	6.75

SLIDING DRAWER ASSEMBLY



Used in mounting record players, portable typewriters, instruments, drawer space and many other purposes. Chassis and slide are light gray hammertone. Brackets are 11GA steel. Will support 30 lbs. Fits standard relay rack. Size: 16 3/4x14x3".

Stk.No.	Type	Description	Lb.	1-49	50-99	100-149
91F826	SD-1717	Assembly	5	15.50	13.95	12.40
91F827	TP-1718	Drawer Plate	1 1/2	3.75	3.40	3.00

PRECISION DIE CAST UTILITY BOXES

For applications requiring a sturdier structure than a sheet metal utility cabinet. LM-380 aluminum lightweight & easy to machine. Suitable for instrument and meter cases, filter networks, junction boxes, switches, audio and radio frequency distributors, etc.

Stk.No.	Type	Thickness	Wt.Lbs.	LxWxH"*	1-24	25-49	50-99
91F1603	CU-124	.063	1/2	4.38x2.38x1.06	1.85	1.65	1.50
91F1604	CU-234	.094	3/4	4.69x3.69x2.06	2.90	2.60	2.30
91F1605	CU-247	.094	1 1/4	7.39x4.70x2.06	4.85	4.35	3.90
91F1606	CU-347	.094	1 1/2	7.39x4.70x3.06	5.15	4.65	4.10

(*)Height less cover.

STEEL HANDY BOXES

Two-piece steel cases. Provides the maximum degree of accessibility, adequate shielding as well as complete protection from mechanical injury and dust particles. Formed of 22 gauge steel. Finished in black Rinkletex (BR)

Stk. No.	Type	HxWxL	Wt.	1-49	50-99	100-149
91F541	HB-1621	1 1/2x2 1/4x4 1/4"	1/4	2.10	1.90	1.70
91F542	HB-1622	2 3/4x2x4"	1/2	2.10	1.90	1.70

SWIVEL TRUCK CASTERS

Type RC-7756. Heavy-duty casters for use on relay racks. Four casters will carry a load of 400 pounds. Wheels are high grade hard rubber composition. Ball-bearing mounted. With screws.

Type RC-7758. Truck Casters.

StockNo.	Type	Height	Wt. (4)	1-24	25-49	50-99
91F082	RC-7756	2 5/8"	1 3/4 lbs.	1.40	1.25	1.10
91F094	RC-7758	3 1/4"	6 lbs.	3.75	3.40	3.00

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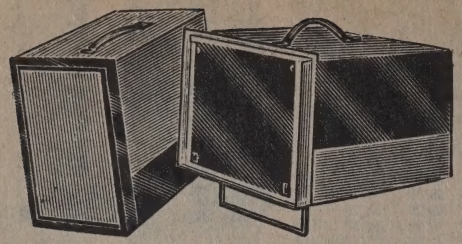
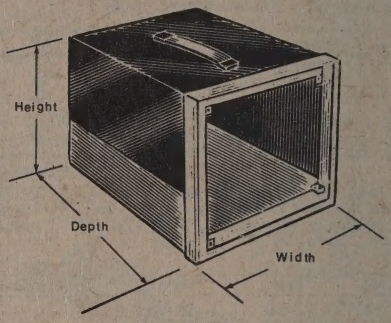
Show Case

•NEW SHOWCASE ENCLOSURES



Use as desk top instrument cases, in systems, in racks, as portable enclosures. Function plus design gives your products the competitive edge. . .the value edge. Lightweight, but sturdy. Top, sides, rear panel and base are .050 aluminum; front panel is .090. For added strength, gussets have been engineered into the sides of the unit. Strong, flexible handles, recessed and secured firmly into the top, assure safe handling. Front and rear panels and fold-away bail are standard equipment and are included. Two standard color combinations: black textured (BT) and white, royal blue (RB) and white. Also available in an accessory aluminum chassis which adds to the unit's function and versatility.

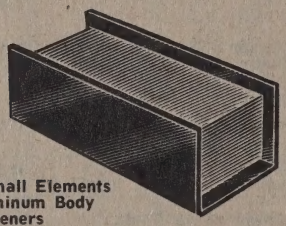
Stock No. BT.	Stock No. RB	Type	HxWxD	Lbs.	1-14
93F670	93F671	BB-1800	6 7/16" 5 1/2" 11"	2 1/2	36.65
93F672	93F673	BB-1801	6 7/16" 8 5/16" 11"	3	38.10
93F674	.....	BB-1802	8 5/16" 5 1/2" 11"	3	37.75
93F675	.....	BB-1803	8 5/16" 8 5/16" 11'	3 1/4	39.50
93F676	93F677	BB-1804	8 5/16" 11 1/16" 11"	4	41.10
93F678	.....	BB-1805	9 15/16" 5 1/2" 11"	3 1/4	38.15
93F679	.....	BB-1806	9 15/16" 8 5/16" 11"	3 1/4	39.75
93F680	93F681	BB-1807	9 15/16" 8 5/16" 15"	4 1/2	42.50
93F682	.....	BB-1808	9 15/16" 11 1/16" 11"	4 1/4	41.35
93F683	.....	BB-1809	9 15/16" 11 1/16" 15"	5	43.85



ALUMINUM CHASSIS FOR SHOWCASE

Stk. No.	Type	Fits	HxWxD	Lbs.	1-14
93F684	BBC-1821	BB-1800-02-05	9 31/32" 4 29/32" 2"	1/2	2.75
93F685	BBC-1822	BB-1801-03-06	9 31/32" 7 11/16" 2"	3/4	3.25
93F686	BBC-1823	BB-1804-08	9 31/32" 10 15/32" 2"	1	3.90
93F687	BBC-1824	BB-1807	13 31/32" 7 11/16" 2"	1	3.75
93F688	BBC-1825	BB-1809	13 31/32" 10 15/32" 2"	1 1/4	4.60

•NEW LINEAR SERIES

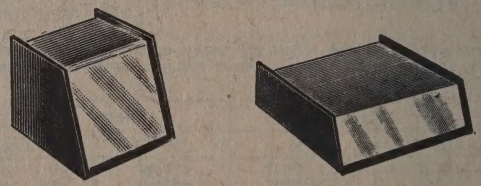


- For Housing Small Elements
- One Piece Aluminum Body
- No Visible Fasteners

Practical for housing small elements and electronic sub-systems. The one piece body of .057 aluminum has a smooth white enamel finish and has knockouts in the rear. The frame is made of 1/8" aluminum with a black textured finish. Two components are easily detached from each other. No visible fasteners are employed and rubber feet are furnished.

Stock No.	Type	O.D. HxWxD	Panel Space HxWxD	1-24	25-34	35-49
91F235	RC-11100	3 1/4"x5"x10"	2 7/8"x4 3/4"x9 1/2"	11.50	10.35	9.20
91F236	RC-11101	8"x12"x10"	7 5/8"x11 3/4"x9 1/2"	25.20	22.70	20.20

•NEW SLOPE SERIES



- 20° Front Panel Slope
- Quick Interior Access.

Clean vertical and horizontal lines provide quick access to the interior. The frame is of 1/8" aluminum with black textured finish, while the one piece body is .057 aluminum in smooth white enamel finish. The two elements are quickly separated, with knockouts in the rear. Front panel has a 20° slope.

Stock No.	Type	O.D. HxWxD	Panel Space HxWxD	1-24	25-34	35-49
91F237	SC-12100	4 1/8"x5"x5"	4 1/8"x4 3/4"x3 3/64"	7.75	7.00	6.20
91F238	SC-12101	3 1/4"x12"x10"	3 1/16"x11 3/4"x8 7/16"	16.20	14.60	13.00

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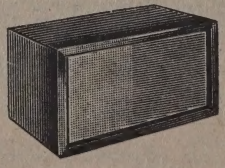
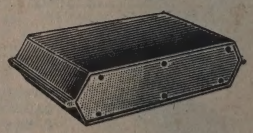
"FUTURA" CABINETS



Versatile housing for small equipment. Made of 20-gauge steel except for front panel, which is 18-ga. Top and sides are one piece, easily removable to expose interior. Front panel is held by flanges (no screws to mar appearance); is vertical, except † rises vertically 2", then has 15° incline. Chassis may be attached to base, rear, or front panels. Has four rubber feet. Dark Blue textured body with light blue textured panel (BBY) or light gray hammertone body, textured panel. (HG)

Gray Stk.No.	Blue Stk.No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F1350	91F1356	MD-1960	7x13x8"	6 3/4"	10.95	9.85	8.75
91F1351	91F1357	MD-1961	8x14x9"	7 3/4	11.75	10.60	9.40
91F1352	91F1358	MD-1962	8x16x9"	8 1/2	12.20	11.00	9.75
91F1353	91F1359	MD1963†	7x13x8"	7	12.85	11.55	10.30
91F1354	91F1360	MD-1964†	8x14x9"	8	13.70	12.35	10.95
91F1355	91F1361	MD-1965†	8x16x9"	8 3/4	14.70	13.25	11.75

"GRAND PRIX" CABINETS



For audio equipment, medical electronics, or wherever appearance is of importance. Handles are brushed aluminum extrusions that slide over end flanges of the upper and lower body segments and are secured by setscrews; when removed, the upper body segment comes off to permit servicing contents. Made entirely of 20-gauge steel. With four rubber feet to prevent damage to desk tops, etc. Choice of light gray hammertone body with matching panels (HG) or dark gray textured body with light gray panels (GGY).

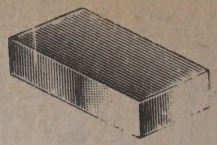
GGY Stk.No.	HG Stk.No.	Type	HxWxD	Lbs.	1-14	15-24	25-49
91F1362	91F1365	MD-1	4 3/16x19 1/8x10 1/2"	7 1/4"	21.20	19.10	16.95
91F1363	91F1366	MD-2	7 3/16x19 1/8x10 1/2"	7 3/4	22.20	20.00	17.75
91F1364	91F1367	MD-3	4 3/16x12 1/2x8 3/4"	7	17.10	15.40	13.70

Chassis & Cabinets

BUD

ALUMINUM CHASSIS

Unsurpassed range of standard sizes. Made of one piece of 5005-H-14 aluminum alloy. Reinforced, welded corners to insure utmost strength and long lasting qualities. Folded over on bottom for extra strength.



Stock No.	Type No.	Dimen.	Wt. Lbs.	1-24	25-49	50-99
91F1319	AC-1401	2 1/2" x 4 1/2" x1"	1/8	1.50	1.35	1.20
91F1320	AC-1402	3 1/2" x 4 1/2" x1"	1/8	1.60	1.45	1.30
91F1321	AC-1403	3 1/2" x 5 1/2" x1"	1/8	1.60	1.45	1.30
91F1322	AC-1404	4" x 5" x2"	1/4	1.90	1.70	1.50
91F1323	AC-1405	4" x 6" x1 1/2"	1/4	1.65	1.50	1.30
90F940	AC-430	4" x 6" x3"	1/3	2.10	1.90	1.70
90F941	AC-431	4" x 6" x2"	1/4	1.90	1.70	1.50
91F1324	AC-1406	4" x 8" x2"	1/4	2.15	1.95	1.70
90F942	AC-432	4" x17" x3"	1	3.65	3.30	2.90
91F1325	AC-1407	4 1/2" x 8" x1 1/2"	1/4	2.00	1.80	1.60
90F943	AC-402	5" x 7" x2"	1/3	2.00	1.80	1.60
90F944	AC-429	5" x 7" x3"	1/2	2.25	2.05	1.80
91F1326	AC-1408	5" x 9" x1 1/2"	1/3	2.00	1.80	1.60
91F1327	AC-1409	5" x9 1/2" x1 1/2"	1/2	2.00	1.80	1.60
90F945	AC-403	5" x 9 1/2" x2	1/2	2.15	1.95	1.70
90F939	AC-401	5" x 9 1/2" x2 1/2"	1/2	2.50	2.25	2.00
90F946	AC-421	5" x 9 1/2" x3"	5/8	2.60	2.35	2.10
90F947	AC-404	5" x10 x3"	5/8	2.60	2.35	2.10
90F948	AC-422	5" x13" x3"	3/4	3.00	2.70	2.40
91F1328	AC-1410	5" x13 1/2" x2 1/2"	3/4	2.65	2.40	2.10
91F1329	AC-1411	5 1/2" x 5 1/2" x1"	1/5	1.85	1.65	1.50
91F1330	AC-1412	5 1/2" x 9 1/2" x1 1/2"	1/3	2.00	1.80	1.60
91F1331	AC-1413	6" x 8" x2"	1/3	2.15	1.95	1.70
91F1332	AC-1414	6" x14" x3"	1 1/2	3.85	3.45	3.10
90F949	AC-433	6" x17" x3"	1 1/4	4.35	3.90	3.50
90F950	AC-405	7" x 7" x2"	1/2	2.15	1.95	1.70
90F951	AC-406	7" x 9" x2"	1/2	2.25	2.05	1.80
90F952	AC-407	7" x11" x2"	5/8	2.60	2.35	2.10
90F593	AC-408	7" x12" x3"	7/8	3.15	2.85	2.50
90F954	AC-409	7" x13" x2"	3/4	2.65	2.40	2.10
91F1333	AC-1415	7" x15" x2"	1	3.50	3.15	2.80
90F955	AC-411	7" x15" x3"	1 1/4	4.35	3.90	3.50
91F1334	AC-1416	7" x17" x2"	1 1/8	3.90	3.50	3.10
91F1335	AC-1417	7" x17" x2 1/2"	1 1/4	4.10	3.70	3.30
90F956	AC-423	7" x17" x3"	1 1/2	4.35	3.90	3.50
91F1336	AC-1418	8" x10" x2 1/2"	1	3.25	2.95	2.60
91F1337	AC-1419	8" x12" x2 1/2"	1 1/8	3.85	3.45	3.10
90F957	AC-424	8" x12" x3"	1 1/4	4.60	4.15	3.70
90F958	AC-425	8" x17" x2"	1 1/2	3.90	3.50	3.10
90F959	AC-412	8" x17" x3"	1 3/4	4.50	4.05	3.60
91F1338	AC-1420	8 1/2" x15" x3"	1 1/2	4.15	3.75	3.30
91F1339	AC-1421	9" x15" x3"	1 1/2	4.75	4.30	3.80
90F960	AC-413	10" x12" x3"	1 1/4	4.50	4.05	3.60
90F961	AC-414	10" x14" x3"	1 1/2	4.50	4.05	3.60
90F962	AC-415	10" x17" x2"	1 1/2	4.35	3.90	3.50
90F963	AC-416	10" x17" x3"	1 3/4	5.00	4.50	4.00
90F969	AC-427	10" x17" x4"	2 1/2	7.10	6.40	5.70
91F1340	AC-1422	10" x17" x5"	2 1/4	10.25	9.25	8.20
91F1341	AC-1423	10" x23" x3"	2 3/4	7.50	6.75	6.00
90F964	AC-426	11" x17" x2"	2	5.50	4.95	4.40
90F965	AC-417	11" x17" x3"	2 1/4	6.35	5.70	5.10
91F1342	AC-1424	12" x12" x3"	1 1/2	4.60	4.15	3.70
91F1343	AC-1425	12" x17" x2"	1 5/8	5.75	5.20	4.60
90F966	AC-418	12" x17" x3"	2 1/4	6.50	5.85	5.20
90F967	AC-419	13" x17" x2"	2 5/8	5.65	5.10	4.50
90F968	AC-420	13" x17" x3"	2 3/4	6.75	6.10	5.40
90F970	AC-428	13" x17" x4"	3 1/4	8.25	7.45	6.60
91F1344	AC-1426	13" x17" x5"	3 1/2	11.30	10.15	9.05
91F1345	AC-1427	14" x17" x3"	2 3/4	8.00	7.20	6.40
91F1346	AC-1428	15" x17" x4"	3 1/4	11.25	10.15	9.00
91F1347	AC-1429	15" x17" x6"	4 1/8	15.55	14.00	12.45
91F1348	AC-1430	17" x17" x3"	3 1/4	9.50	8.55	7.60
91F1349	AC-1431	17" x17" x4"	3 7/8	13.45	12.10	10.75

SHADOW CABINET

Extremely versatile housing since front rear and bottom may be removed for installation or servicing. One inch recessed front panel prevents accidental movement of controls, knobs, and switches attached to it. Body made of 18 gauge steel and panels of 16 gauge steel. Four rubber feet attached to base eliminates scratching. Finished in gray hammertone.

Stk.No.	Type	WxHxD	Lbs.	1-24	25-49	50-99
91F892	SB-2140	14 1/4x8x10"	11 1/2	11.35	10.20	9.10
91F893	SB-2141	13 1/4x7 1/2x9"	9 3/4	9.00	8.10	7.20
91F894	SB-2142	17x9 1/2x11"	15 1/4	15.05	13.55	12.05
91F895	SB-2143	15 1/2x6x9"	9 1/2	8.50	7.65	6.80

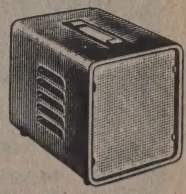
ALUMINUM BOTTOM PLATES

Widest variety of standard sizes. Fit all BUD chassis. Made of 5005-H-14 aluminum alloy. Natural finish. Plates have four embossed feet to prevent damage to surface. Fit snugly on bottom of chassis.

Stock No.	Type No.	Dimen.	Wt. Lbs.	1-49	50-99	100-149
91F1406	BPA-1501	2 1/2" x 4 1/2"	1/16	.85	.75	.70
91F1407	BPA-1502	3 1/2" x 4 1/2"	1/16	.90	.80	.75
91F1408	BPA-1503	3 1/2" x 5 1/2"	1/8	.90	.80	.75
91F1409	BPA-1504	4" x 5"	1/8	.90	.80	.75
91F1410	BPA-1505	4" x 6"	1/8	1.00	.90	.80
91F1411	BPA-1506	4" x 8"	1/8	1.15	1.05	.90
91F1413	BPA-1532	4" x17"	1/4	1.15	1.05	.90
91F1412	BPA-1507	4 1/2" x 8"	3/16	1.25	1.15	1.00
90F860	BPA-1589	5" x 7"	1/8	1.10	1.00	.90
91F1414	BPA-1508	5" x 9"	3/16	1.10	1.00	.90
90F861	BPA-1590	5" x 9 1/2"	1/8	1.10	1.00	.90
90F862	BPA-1591	5" x10"	1/4	1.10	1.00	.90
91F1415	BPA-1509	5" x13"	1/4	1.75	1.60	1.40
91F1416	BPA-1510	5" x13 1/2"	1/4	1.75	1.60	1.40
91F1417	BPA-1511	5 1/2" x 5 1/2"	1/8	1.10	1.00	.90
91F1418	BPA-1512	5 1/2" x 9 1/2"	3/16	1.15	1.05	.90
91F1419	BPA-1513	6" x 8"	3/16	1.25	1.15	1.00
91F1420	BPA-1514	6" x14"	5/16	1.75	1.60	1.40
91F1421	BPA-1515	6" x17"	3/8	2.10	1.90	1.70
90F863	BPA-1592	7" x 7"	3/16	1.10	1.00	.90
90F864	BPA-1593	7" x 9"	1/4	1.15	1.05	.90
90F865	BPA-1594	7" x11"	1/4	1.25	1.15	1.00
90F866	BPA-1595	7" x12"	5/16	1.50	1.35	1.20
90F867	BPA-1596	7" x13"	1/2	1.75	1.60	1.40
91F1422	BPA-1516	7" x15"	1/2	1.90	1.70	1.50
91F1423	BPA-1517	7" x17"	1/2	1.90	1.70	1.50
91F1424	BPA-1518	8" x10"	1/4	1.85	1.65	1.50
91F1425	BPA-1519	8" x12"	3/8	2.15	1.95	1.70
91F1426	BPA-1520	8" x17"	1/2	2.25	2.05	1.80
91F1427	BPA-1521	8 1/2" x15"	1/2	2.65	2.40	2.10
91F1428	BPA-1522	9" x15"	1/2	2.75	2.50	2.20
91F1429	BPA-1523	10" x12"	1/2	2.15	1.95	1.70
91F1430	BPA-1524	10" x14"	1/2	2.15	1.95	1.70
90F868	BPA-1597	10" x17"	5/8	2.15	1.95	1.70
91F1431	BPA-1525	10" x23"	7/8	3.15	2.85	2.50
91F1432	BPA-1526	11" x17"	3/4	2.35	2.10	1.90
91F1433	BPA-1527	12" x12"	5/8	2.35	2.10	1.90
91F1434	BPA-1528	12" x17"	3/4	2.90	2.60	2.30
90F869	BPA-1598	13" x17"	7/8	3.10	2.80	2.50
91F1435	BPA-1529	14" x17"	15/16	3.10	2.80	2.50
91F1436	BPA-1530	15" x17"	1	4.15	3.75	3.30
91F1437	BPA-1531	17" x17"	1 1/16	4.25	3.85	3.40

PORTACAB

Desirable as housings for instrumentation requiring high stylized appearance. Body is one piece aluminum with contoured corners. Panel is also aluminum. Flexible recessed handle permits easy portability as well as vertical stacking. Louvers point inward permitting side-to-side placement without loss of space. Welded back has opening. Front panel recessed 1/2". Four detachable rubber feet provided. Gray hammertone finish.



Stk.No.	Type	Lbs.	Dimensions D	W	H	1-24	25-49	50-99
91F615	WA-1540	2	8"	6 1/8"	8"	13.25	11.95	10.60
91F616	WA-1541	3 1/2	12"	8 1/8"	9"	17.30	15.55	13.85
91F617	WA-1542	3 3/4	8"	10 1/8"	8"	15.45	13.90	12.35
91F618	WA-1543	5 1/2	18"	11 1/8"	11"	21.45	19.30	17.15
91F619	WA-1544	8	18"	14 1/8"	12"	24.65	22.20	19.70

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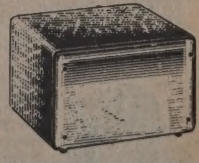
CONTOUR UTILITY CABINETS

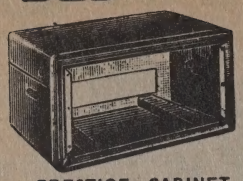
Housing and flanged panels have rounded corners. Solid front and louvered rear panels are removable. Four rubber feet attached to base prevent scratching. Dark gray textured body and light gray textured panel. All parts are 20 gauge steel.



Stk.No.	Type	Overall Size	Lbs.	1-24	25-49	50-99
91F896	CU-463	4 7/32x6 7/32x3 3/4"	1 3/4	6.95	6.25	5.55
91F897	CU-465	4 7/32x6 7/32x5 3/4	2 1/4	7.85	7.05	6.30
91F898	CU-585	5 7/32x8 7/32x5 3/4"	3	10.10	9.10	8.10
91F899	CU-587	5 7/32x8 7/32x7 3/4"	3 3/4	11.10	10.00	8.90
91F900	CU-7125	7 7/32x12 7/32x5 3/4"	5	10.25	9.25	8.20
91F901	CU-7127	7 7/32x12 7/32x7 3/4	6	10.75	9.70	8.60

Cabinets and Cases

BUD

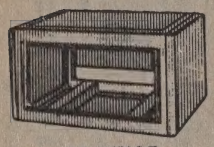


PRESTIGE CABINET

"PRESTIGE" CABINETS

Stock cabinets of 16 gauge steel for housing quality instruments, etc. Hinged covers. . .solid or perforated Grommeted finger holes for easy cover lifting. Cover closes by pressure fasteners. Chassis supporting channels and embossed feet. Width 21⅝, Depth 14¾. Finished in gray hammertone.

Stock No	Type No.	Cover	Overall Height	Panel Space	Lbs.	1-14	15-24	25-34
91F064	C-1440	Solid	9 9/16	7"	25	42.90	38.60	34.30
91F065	C-1441	Solid	11 5/16	8¾"	26	45.15	40.65	36.10
91F066	C-1442	Solid	13 1/16	10½"	28½	47.10	42.40	37.70
91F067	C-1550	Perf.	9 9/16	7"	23½	46.35	41.70	37.10
91F068	C-1551	Perf.	11 5/16	8¾"	25	48.25	43.45	38.60
91F069	C-1552	Perf.	13 1/16	10½"	27½	51.00	45.90	40.80

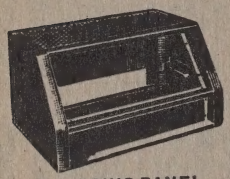


PRESTIGE VERSA CABINET

PRESTIGE VERSA CABINETS

Has sturdy framework with ball cornered sides. Unit also has solid bottom plate and two supporting channels. All of these parts are removable. Unit uses standard 19" panels. Cabinets are made to be stacked, or may be fastened side by side. Grey Hammertone finish.

Stk. No.	Type	Overall Height.	Panel Space	Rear Panel	Lbs.	Net Each, Lots of 1-9	10-14	15-19
91F906	PC-1700	8¾"	5¼"	3½"	27	42.50	38.25	34.00
91F907	PC-1701	10½"	7"	5¼"	28¼	45.00	40.50	36.00
91F908	PC-1702	12¼"	8¾"	7"	32	46.15	41.55	36.90
91F909	PC-1703	14"	10½"	8¾"	33	52.20	47.00	41.75
91F910	PC-1704	15¾"	12¼"	10½"	34¾	55.00	49.50	44.00

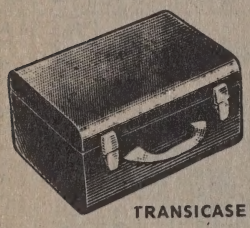


SLOPING PANEL PRESTIGE CABINET

SLOPING PANEL PRESTIGE CABINETS

Cabinet has ventilated top, full top opening, recessed handle, shielded handles in sides. Top panel swept back for easy viewing, rear opening for easy cable or control access. Panel trim bar removable. Provides for installation or removal of panels. Grey hammertone finish. Rear opening is 2½"x18", panel offset: 1¼" overall width: 22" pnl. ht. vert: 3½".

Stock No.	Type	Ht. x Depth	Pan. Ht. Slope	Lbs.	1-14	15-24	25-34
91F743	C-1555	11 7/8x14 3/8"	7"	25	50.50	45.45	40.40
91F744	C-1556	13 1/4x15 1/8"	8¾"	27	54.35	48.90	43.50
91F745	C-1557	14¾x16 1/8"	10½"	30	58.30	52.45	46.65



TRANSICASE

TRANSICASE

A portable instrument case. Made of .040 aluminum with a flush fitting panel. Transicase has two slide-off bright nickel plated hinges for easy removal of top and has two bright nickel toggle catches. Also, bright nickel handle. Two types of finishes are available dark blue textures (BB) or dark gray textured (GG). Rubber feet on base and back. Clear int. space above panel: 1 15/32".

Stk. No. Blue	Stk. No. Grey	Type	W x D x H	Panel Size	Clear Int. Space Below Panel	Internal Aperture	Lbs.	1-9	10-14	15-19
91F911	91F916	TC-300	10 1/16x7x6"	8 15/16x5 15/16"	4 13/32"	8x5 31/32"	2½	31.20	28.10	24.95
91F912	91F917	TC-301	11½x8 1/4x6"	10 3/8x7 1/4"	4 13/32"	9 7/16"x7 9/32"	3¼	32.15	28.95	25.70
91F913	91F918	TC-302	13x9x7½"	11 7/8x7 13/16"	5 29/32"	10 15/16x7 31/32"	4	34.30	30.85	27.45
91F914	91F919	TC-303	16½x9x7½"	15 3/8x7 15/16"	5 29/32"	17 5/16x7 31/32"	4¾	34.90	31.40	27.90
91F915	91F920	TC-304	20 1/8x8x9"	19x7"	7 11/32"	18 1/16x7 1/32"	6¾	36.80	33.10	29.45

STREAMLINED

STREAMLINED CABINETS

Ideal cabinets for electronic devices. They have recessed hinged cover with convenient finger lift. Grey hammertone finish or black Rinkletex BR. Overall ht. is 8" and overall depth is 8¼". Complete with panel.

Stk. No. Black	Stk. No. Ham. Grey	Type	Wid.	Panel	Top Opening	Lbs.	1-24	25-49	50-99
91F680	91F775	CD-1480	10½"	8x8"	5⅝x 7⅝"	6¼	9.20	8.30	7.35
91F681	91F776	CD-1481	12½"	8x10"	5⅝x 9⅛"	6¾	9.25	8.35	7.40
91F682	91F777	CD-1482	14½"	8x12"	5⅝x11⅛"	7½	9.95	8.95	7.95
91F683	91F778	CD-1483	16½"	8x14"	5⅝x13⅛"	7¾	10.70	9.65	8.55
91F684	91F779	CD-1484	18½"	8x16"	5⅝x15⅞"	9¼	11.35	10.20	9.10
91F685	91F780	CD-1485*	20⅝"	12x18"	10½x15½"	17½	22.20	20.00	17.75

*Has 12" overall depth.

CARRYING CASES

Portable cases for transceivers, test units and other types of compact equipment. Front and back panels are fastened by self-tapping screws. Have easy grip handle. Back Rinkletex finish.

Stk. No.	Type	HxWxD	Lbs.	1-24	25-49	50-99
91F608	CC-1095	9x 6x5"	3	4.85	4.35	3.90
91F609	CC-1092	7x12x6"	5	6.70	6.05	5.35
91F610	CC-1100	10x10x8"	7	7.70	6.95	6.15
91F611	CC-1091	6x 9x5"	3	4.85	4.35	3.90
91F612	CC-1096	12x 7x6"	5¼	6.70	6.05	3.35
91F613	CC-1097	15x7¾x7"	7¼	7.50	6.75	6.00
91F614	CC-1093	9x15x7"	8	9.35	8.40	7.50

MARK-T

Unique triangular 16 gauge steel welded cabinet. Features include. Removable front panel & real door; recessed carrying handles; 4 rubber feet; dark gray textured body, light gray textured panel & door. All models 6 17/32" H.

Stock No.	Type	W	Panel	Weight	1-14	15-24	25-34
90F384	MT-214	16"	5¾x14"	9¾	35.15	31.65	28.10
90F385	MT-219	21"	5¾x19"	12¼	38.50	34.65	30.80
90F386	MT-224	26"	5¾x24"	14¼	45.35	40.80	36.30

UNIVERSAL METER CASES

Can accommodate either a 2" or 3" meter. Center hole is punched for 2" meter and has an easily removed knock-out ring which increases size of hole to fit 3" meter. One piece, detachable back and sides fastened to the body of case with four self tapping screws. Two ⅜" knock-out holes in top for installation of feed through insulators if required. Available in steel or aluminum gray hammertone. 4¼"H. x 4"W. x4"D. *CMA-1930. 4¼x6x4".

Stk. No.	Type	Lbs.	1-49	50-99	100-149
91F598	CM-1935 Steel	¾	2.10	1.90	1.70
91F599	CMA-1936 Alum.	¼	2.40	2.15	1.90
91F597	*CMA-1930 Alum.	½	4.10	3.70	3.30

MAKE NEWARK YOUR ONE STOP SOURCE FOR ALL BUD RADIO CABINETS AND ACCESSORIES FAST DELIVERY FROM ON-THE-SHELF STOCKS.

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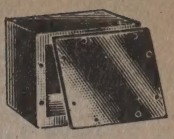
Cabinets & Miniboxes

BUD

STEEL UTILITY CABINETS

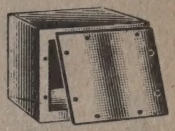
Black Stk. No.	Black Type	Grey Ham. Stk. No.	Grey Ham. Type	HxWxD	Lbs.	1-49	50-99	100-149
91F620	CU-883	91F640	CU-883HG	4x4x2"	3/4	1.65	1.50	1.30
91F621	CU-728	91F641	CU-728HG	4x5x3"	1	2.00	1.80	1.60
91F622	CU-729	91F642	CU-729HG	6x5x4"	1 3/4	2.15	1.95	1.70
91F623	CU-1098	91F643	CU-1098HG	6x6x6"	2 1/4	3.40	3.05	2.70
91F624	CU-1099	91F644	CU-1099HG	9x6x5"	3	3.85	3.45	3.10
91F625	CU-880	91F645	CU-880HG	10x10x8"	6 1/4	6.15	5.55	4.90
91F626	CU-882	91F646	CU-882HG	15x9x7"	8 1/4	6.85	6.15	5.50
91F627	CU-879	91F647	CU-879HG	10x8x7"	3 1/4	5.25	4.75	4.20
91F628	CU-881	91F648	CU-881HG	12x11x8"	8 1/2	6.75	6.10	5.40
91F629	CU-1124	91F649	CU-1124HG	12x7x6"	5	5.25	4.75	4.20



Steel utility cabinets for electronic equipment, monitors, frequency meters, etc. Ideal for the amateur, experimeter. Accurately formed of sheet steel for rugged use. Have two removable sides. Black rinkletex (BR) and light grey hammertone finish.

ALUMINUM UTILITY CABINETS

Stk. No.	Type	HxWxD	Lbs.	1-49	50-99	100-149
91F543	AU-1028	4x5x3"	1/2	2.25	2.05	1.80
91F544	AU-1029	6x5x4"	3/4	2.50	2.25	2.00
91F545	AU-1039	6x6x6"	1	3.65	3.30	2.90
91F546	AU-1040	9x6x5"	1 1/2	4.15	3.75	3.30
91F547	AU-1083	4x4x2"	1/4	2.15	1.95	1.70
91F716	AU1083HG	4x4x2"	1/4	2.50	2.25	2.00
91F717	AU1028HG	4x5x3"	1/2	2.85	2.55	2.30
91F718	AU1029HG	6x5x4"	3/4	3.00	2.70	2.40
91F719	AU1039HG	6x6x6"	1	4.00	3.60	3.20
91F720	AU1040HG	9x6x5"	1 1/2	5.00	4.50	4.00

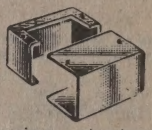


Ideal for mounting amplifiers, meters, test instruments, etc. Removable front and back may be fastened to cabinet with self-tapping screws provided. Available in natural or light gray hammertone finish (HG). Rugged and attractive. Aluminum alloy 5005 H14.

MINIBOXES

Grey Hammertone Stk. No.	Grey Hammertone Type	1-49	50-99	100-149	LxHxW	Wt. Lbs.	Natural Aluminum Stk. No.	Natural Aluminum Type	1-49	50-99	100-149
91F700	CU-2100A	1.10	1.00	.90	2 3/4x2 1/8x1 5/8"	1/4	91F572	CU-3000A	.90	.80	.70
91F701	CU-2101A	1.10	1.00	.90	3 1/4x2 1/8x1 5/8"	1/4	91F573	CU-3001A	.90	.80	.70
91F702	CU-2102A	1.15	1.05	.90	4x2 1/8x1 5/8"	1/4	91F574	CU-3002A	1.00	.90	.80
91F703	CU-2103A	1.25	1.15	1.00	4x2 1/4x2 1/4"	1/4	91F575	CU-3003A	1.15	1.05	.90
91F704	CU-2104A	1.40	1.25	1.10	5x2 1/4x2 1/4"	1/4	91F576	CU-3004A	1.25	1.15	1.00
91F705	CU-2105A	1.75	1.60	1.40	5x4x3"	1/2	91F577	CU-3005A	1.25	1.15	1.00
91F706	CU-2106A	1.50	1.35	1.20	5 1/4x3x2 1/8"	1/4	91F578	CU-3006A	1.25	1.15	1.00
91F707	CU-2107A	2.15	1.95	1.70	6x5x4"	3/4	91F579	CU-3007A	1.75	1.60	1.40
91F708	CU-2108A*	2.50	2.25	2.00	7x5x3"	3/4	91F580*	CU-3008A	2.15	1.95	1.70
91F709	CU-2109A*	3.25	2.95	2.60	8x6x3 1/2"	1	91F581*	CU-3009A	2.85	2.55	2.30
91F697	CU-2110A*	3.60	3.25	2.90	10x6x3 1/2"	1 1/4	91F582*	CU-3010A	3.00	2.70	2.40
91F698	CU-2111A*	4.85	4.35	3.90	12x7x4"	1 3/4	91F583*	CU-3011A	4.25	3.85	3.40
91F535	CU-2112A*	4.85	4.35	3.90	17x5x4"	2 1/4	91F584*	CU-3012A	4.25	3.85	3.40
91F536	CU-2113A*	1.85	1.65	1.50	10x2x1 5/8"	1/2	91F585*	CU-3013A	1.65	1.50	1.30
91F537	CU-2114A*	2.40	2.15	1.90	12x2 1/2x2 1/4"	3/4	91F586*	CU-3014A	2.10	1.90	1.70
91F538	CU-2115A	1.25	1.15	1.00	4x2x2 3/4"	1/4	91F587	CU-3015A	1.15	1.05	.90
91F539	CU-2116A	1.25	1.15	1.00	4 1/4x2 1/4x1 1/2"	1/4	91F588	CU-3016A	1.15	1.05	.90
91F540	CU-2117A	1.25	1.15	1.00	3 1/4x2 1/8x1 1/8"	1/4	91F589	CU-3017A	1.00	.90	.80

*Made of .050" aluminum.

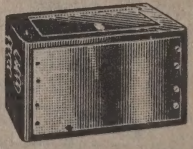


Two-piece aluminum design insures maximum degree of accessibility, adequate shielding as well as complete protection from mechanical injury and dust particles. Formed of .040 gauge aluminum. Comb. snap lock and screw type fastening. Excellent for constructing amplifiers, shielded oscillators, etc.

DELUXE METAL CABINET RACKS COMPLETE WITH PANELS

Will accommodate standard 19" panels. Five larger sizes only have hinged rear door. All sizes have top door for easy servicing or inspection. "No scratch" metal feet are embossed on bottom to minimize marring. Available in black Rinkletex (BR), gray Rinkletex (GR), or light gray hammertone (HG) finish.

Black	Grey	Type	HG Fin.	Type	DxWxH	Panel	Wt. Lbs.	1-14	15-24	25-34
91F687	91F688	CR-1726	91F689	CR-1726HG	14 3/4x22x8 23/32"	7"	28	22.80	20.50	18.25
91F650	91F656	CR-1741	91F671	CR-1741HG	14 3/4x22x10 9/16"	8 3/4"	30	24.30	21.85	19.45
91F662	91F664	CR-1740	91F668	CR-1740HG	14 3/4x22x12 5/16"	10 1/2"	34	28.45	25.60	22.75
91F651	91F657	CR-1742	91F672	CR-1742HG	14 3/4x22x14 1/16"	12 1/4"	37	29.30	26.35	23.45
91F652	91F658	CR-1739	91F673	CR-1739HG	14 3/4x22x15 13/16"	14"	40	39.75	35.80	31.80
91F653	91F659	CR-1743	91F669	CR-1743HG	14 3/4x22x19 5/16"	17 1/2"	47	38.90	35.00	31.10
91F654	91F660	CR-1744	91F670	CR-1744HG	14 3/4x22x28 1/16"	26 1/4"	58	44.90	40.40	35.90
91F666	91F667	CR-1728	91F674	CR-1728HG	14 3/4x22x33 5/16"	31 1/2"	68	47.75	43.00	38.20
91F655	91F661	CR-1745	91F675	CR-1745HG	14 3/4x22x36 13/16"	35"	78	50.25	45.25	40.20
91F663	91F665	CR-1727	91F676	CR-1727HG	14 3/4x22x22 13/16"	21"	51	41.75	37.60	33.40



SLOPING PANEL CABINETS

Black Stk. No.	Black Type	HG Fin. Stk. No.	HG Fin. Type	HxWxD	Lbs.	1-24	25-49	50-99
91F782	C-1584	91F791	C-1584HG	6 1/2x7 1/16x7 9/32"	2 3/4	5.15	4.65	4.10
91F783	C-1587	91F792	C-1587HG	8x8 1/16x8"	4	6.85	6.15	5.50
91F784	C-1585	91F793	C-1586HG	6 1/2x9 1/16x7 9/32"	2 1/2	5.65	5.10	4.50
91F785	C-1588	91F794	C-1588HG	8x10 1/16x8"	4 1/2	7.60	6.85	6.10
91F786	C-1586	91F795	C-1586HG	6 1/2x11 1/16x7 9/32"	3 3/4	6.60	5.95	5.30
91F787	C-1894	91F796	C-1894HG	8x14 1/16x8"	6	7.95	7.15	6.35
91F788	C-1892	91F797	C-1892HG	8x13 1/16x8 15/32"	5 1/2	8.85	7.95	7.10
91F789	C-1896	91F798	C-1896HG	9x18 1/16x8 3/32"	9 3/4	11.20	10.10	8.95
91F790	C-1893	91F799	C-1893HG	10x18 1/16x10 15/32"	12 1/2	11.60	10.45	9.30

The entire front panel of this cabinet is removable if so desired. This cabinet is also provided with a hinged top for easy accessibility to components that are mounted on the chassis without necessitating removal of the front panel. These cabinets are finished in black Rinkletex (BR) or light grey hammertone (HG) enamel.

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MINIATURE UTILITY CABINETS

Stk. No.	Type	HxWxD	Wt. Lbs.	1-49	50-99	100-149
91F487	C1793	4x4x2"	3/4	1.90	1.70	1.50
91F488	C1794	4x5x3"	1 1/4	2.25	2.05	1.80
91F489	C1795	5x4x3"	1	2.40	2.15	1.90
91F490	C1796	6x5x4"	2	2.60	2.35	2.10
91F491	C1797	5x6x4"	2	2.75	2.50	2.20
91F492	C1798	6x6x6"	2 3/4	3.60	3.25	2.90

Has two removable panels. The front panel has a chassis attached. An ideal housing for constructing electronic devices using miniature components. Black Rinkletex (BR) finish only. Steel.

Cabinet Accessories

Surface Shield

Shelf Assembly

Triangular Brackets

Rack Shelves

Chassis Brackets

"SURFACE SHIELD" RACK PANELS

Each panel is covered on both sides with sturdy pressure sensitive white paper for indicating size and position of drilling or milling.

Panels have standard notching. Made of aluminum alloy.

1/8" Panels 19" Wide

Stk.No.	Type	Height	lbs.	1-49	50-99	100-149
91F265	SFA-1831	1¾"	⅜	1.60	1.45	1.30
91F266	SFA-1832	3½"	¾	2.65	2.40	2.10
91F267	SFA-1833	5¼"	1⅛	3.40	3.05	2.70
91F268	SFA-1834	7"	1¾	4.15	3.75	3.30
91F269	SFA-1835	8¾"	2	4.90	4.40	3.90
91F270	SFA-1836	10½"	2½	6.35	5.70	5.10
91F271	SFA-1837	12¼"	2¾	7.25	6.55	5.80
91F272	SFA-1838	14"	3¼	8.25	7.45	6.60
91F273	SFA-1839	15¾"	3⅝	9.35	8.40	7.50
91F274	SFA-1840	17½"	4	10.25	9.25	8.20
91F275	SFA-1841	19¼"	4¼	11.45	10.30	9.15
91F276	SFA-1842	21"	5	12.35	11.10	9.90

3/16" Panels 19" Wide

Stk.No.	Type	Height	Lbs.	1-49	10-99	100-149
91F277	SFA-3161	1¾"	¾	3.00	2.70	2.40
91F278	SFA-3162	3½"	1¼	4.25	3.85	3.40
91F279	SFA-3163	5¼"	1¾	5.60	5.05	4.50
91F280	SFA-3164	7"	2½	7.00	6.30	5.60
91F281	SFA-3165	8¾"	3	8.25	7.45	6.60
91F282	SFA-3166	10½"	3¾	9.60	8.65	7.70
91F283	SFA-3167	12¼"	4½	12.20	11.00	9.75
91F284	SFA-3168	14"	5	13.85	12.45	11.10
91F285	SFA-3169	15¾"	5¾	15.55	14.00	12.45
91F286	SFA-3170	17½"	6¼	17.20	15.50	13.75
91F287	SFA-3171	19¼"	7	18.85	16.95	15.10
91F288	SFA-3172	21"	7¼	20.45	18.40	16.35

STEEL RACK PANELS

Made of 1/8" steel. 19" widths. Have standard notched edges which are able to fit the normal mounting screw spacing of all standard relay racks and telephone type relay racks.

White	Sand	Grey	Ham Grey	Textured Blue	Textured Grey	Type	Lbs.	Height	1-49	50-99	100-149
91F1574	91F1575	91F230	91F435	...	91F412	PS-1250	1¼	1¾"	1.60	1.45	1.30
91F1576	91F1577	91F321	91F436	...	91F413	PS-1251	2¼	3½"	1.85	1.65	1.50
91F1578	91F1579	91F322	91F437	91F402	91F414	PS-1252	3¼	5¼"	2.35	2.10	1.90
91F1580	91F1581	91F323	91F438	...	91F415	PS-1253	4½	7"	2.50	2.25	2.00
91F1582	91F1583	....	91F439	...	91F416	PS-1254	6	8¾"	3.35	3.00	2.70
91F1584	91F1585	91F325	91F440	91F405	91F417	PS-1255	7	10½"	3.90	3.50	3.10
91F1586	91F1587	....	91F441	91F406	91F418	PS-1256	8¼	12¼"	4.40	3.95	3.50
91F1588	91F1589	....	91F442	...	91F419	PS-1257	9½	14"	5.00	4.50	4.00
91F1590	91F1591	....	91F443	...	91F420	PS-1258	10¾	15¾	5.40	4.85	4.30
91F1592	91F1593	91F329	91F444	...	91F421	PS-1259	11¾	17½"	6.10	5.50	4.90
91F1594	91F1595	....	91F445	...	...	PS-1260	13	19¼"	6.70	6.05	5.35
91F1596	91F1597	91F331	91F446	...	91F423	PS-1261	14¼	21"	7.60	6.85	6.10

ALUMINUM—RACK—PANELS— 1/8 PANELS (5005 H-36)

91F1700	91F1701	91F360	91F388	91F240	91F252	PA-1101	⅜	1¾"	1.85	1.65	1.50
91F1702	91F1703	91F361	91F389	91F241	91F253	PA-1102	¾	3½"	2.60	2.35	2.10
91F1704	91F1705	91F362	91F390	91F242	91F254	PA-1103	1⅛	5¼"	3.35	3.00	2.70
91F1706	91F1707	91F363	91F391	91F243	91F255	PA-1104	1¾	7"	4.25	3.85	3.40
91F1708	91F1709	91F364	91F392	91F244	91F256	PA-1105	2	8¾"	4.85	4.35	3.90
91F1710	91F1711	91F365	91F393	91F245	91F257	PA-1106	2½	10½"	6.15	5.55	4.90
91F1712	91F1713	91F366	91F394	91F246	91F258	PA-1107	2¾	12¼"	7.20	6.50	5.75
91F1714	91F1715	91F367	91F395	91F247	91F259	PA-1108	3	14"	8.20	7.40	6.55
91F1716	91F1717	91F368	91F396	91F248	91F260	PA-1109	3¼	15¾"	9.10	8.20	7.30
91F1718	91F1719	...	91F397	91F249	91F261	PA-1110	3⅝	17½"	9.95	8.95	7.95
91F1720	91F1721	...	91F398	...	91F262	PA-1111	4¼	19¼"	10.85	9.75	8.70
91F1722	91F1723	...	91F399	91F25?	91F263	PA-1112	5	21"	12.00	10.80	9.60

1/8" PANELS, 2024 T-3

Ham Gray	Textured Blue	Textured Grey	Type	Lbs.	Height	1-49	50-99	100-149
90F284	...	...	PA-1131	⅜	1¾"	2.15	1.95	1.70
90F285	...	90F309	PA-1132	¾	3½"	2.85	2.55	2.30
90F286	...	90F310	PA-1133	1⅛	5¼"	3.85	3.45	3.10
90F287	90F299	90F311	PA-1134	1¾	7"	4.90	4.40	3.90
90F288	90F300	...	PA-1135	2	8¾"	5.40	4.85	4.30
90F289	90F301	90F313	PA-1136	2½	10½"	7.00	6.30	5.60
90F290	...	90F314	PA-1137	2¾	12¼"	8.00	7.20	6.40
90F291	90F303	90F315	PA-1138	3¼	14"	9.35	8.40	7.50
90F292	...	90F316	PA-1139	3⅝	15¾"	10.10	9.10	8.10
90F293	...	...	PA-1140	4	17½"	10.85	9.75	8.70
90F294	...	...	PA-1141	4¼	19¼"	11.70	10.55	9.35
90F295	...	90F319	PA-1142	5	21"	13.45	12.10	10.75

3/16" PANELS, 5005 H-36

90F224	90F236	90F248	PA-3101	¾	1¾"	2.85	2.55	2.30
90F225	90F237	90F249	PA-3102	1¼	3½	4.00	3.60	3.20
90F226	90F238	90F250	PA-3103	1¾	5¼"	5.35	4.80	4.30
90F277	90F239	90F251	PA-3104	2½"	7"	6.60	5.95	5.30
...	...	90F252	PA-3105	3	8¾"	7.75	7.00	6.20
90F230	...	...	PA-3107	4½	12¼"	11.25	10.15	9.0?

CHASSIS SUPPORTING ANGLES

7/64" steel. Black. Supplied in pairs.

Stk.No.	Type	Length	Width	Lbs.	1-24	25-49	50-99
91F090	SA-1349	14½"	3"	3½	3.60	3.25	2.90
91F091	SA-1350	12"	3"	3	3.60	3.25	2.90

SHELF ASSEMBLY

Slides welded to shelf bottom Mtg. brackets slip into slides, fastened with two screws. Ht. is 7⅛".

Black	Gray	HG	Type	Size	Lbs.	1-2	3-4	5-7
91F878	91F880	91F882	SA-1719	16x22"	13¼	13.85	12.45	11.10
91F879	91F881	91F883	SA-1720	20x22"	15¼	14.00	12.60	11.20

CHASSIS MOUNTING BRACKETS

Black enamel. (*) For 4" chassis. Sold in pairs.

Stk.No.	Type	Dimensions	Lbs.	1-49	50-99	100-149
91F070	MB-458	6½x8"	1¼	2.00	1.80	1.60
91F071	MB-448	6½x10"	1¾	2.00	1.80	1.60
91F072	MB-459	6½x11"	2	2.35	2.10	1.90
91F073	MB-449	6½x12"	2	2.65	2.40	2.10
91F074	MB-460	6½x13"	2½	2.50	2.25	2.00
91F075	MB-450*	8½x10"	2¼	3.00	2.70	2.40
91F076	MB-451*	8½x13"	3	3.15	2.85	2.50

TRIANGULAR TYPE CHASSIS MOUNTING BRACKETS

Black enamel 16 gauge steel with ¾" flang. Sold in pairs.

Stk.No.	Type	Ht.	Dep.	Wt. Lbs.	1-49 Pair	50-99 Pair	100-149 Pair
91F484	MB1266	5"	5"	½	1.60	1.45	1.30
91F485	MB1267	7"	7"	1	1.85	1.65	1.50
91F486	MB1268	9"	9"	1½	2.35	2.10	1.90

RACK SHELVES

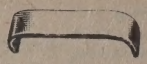
Stk.No.	Type	Size	Lbs.	1-24	25-49	50-99
91F092	CB-1976	19x1x15"	6	5.25	4.75	4.20
91F093	CB-1977	19x1x12"	5	4.15	3.75	3.30

Handles

BUD

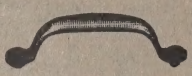
Handles are fabricated from steel, brass or cast aluminum. Durable, attractive finish will provide long wear. Material and finish specifications for each handle described below. They have unlimited applications in the electronic, electrical, and many other fields. Necessary mounting hardware furnished.

Type H-9100B. All models of this type have 1" hand clearance. All are made from solid brass and are Chrome plated. H-9100B and H-9101B are 1"x¼". H-9102B and H-1903B are ⅝x¼". Hardware supplied on all models: two 6-32 by ½" screws;9102, 9103. Four screws; 9100, 9101



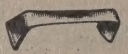
Stk. No.	Type	Mtg. Cen.	Net Each 1-99	100-199	200-499
90F700	H-9100-B	4x½"	3.40	3.05	2.70
90F701	H-9101-B	8x½"	5.50	4.95	4.40
90F702	H-9102-B	4"	3.00	2.70	2.40
90F703	H-9103-B	6"	3.40	3.05	2.70

Type UH-70A. Useful for attaching to any small housing or speaker enclosure to achieve portability. Handle made from aluminum and given an etched finish. Aver. Shpg. wt., 3 oz.



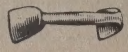
Stk. No.	Type	Len.	Mtg. Cen.	1-49	50-99	100-149
91F079	UH-70A	5⅛"	4⅜"	.75	.70	.60
91F1680	UH-71A	3¾"	3¼"	.65	.60	.50

Type H-9151B. Made from die cast aluminum. Silver anodized. 1⅜" hand clearance. Hardware: four 10-32x½" screws. **Type H-9152.** Similar to H-9151B. Has 1⅛" hand clearance. Also silver anodized. Hardware: two 10-32x⅜" screws. Aver. Shpg. Wt., 3 oz.



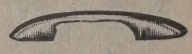
Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F711	H-9151-B	5 3/32x⅝"	4.25	3.85	3.40
90F712	H-9152-B	3⅞"	3.50	3.15	2.80

Type H-9150B. Made of die cast aluminum and finished in silver anodize. Has 1¼" hand clearance. Hardware: four 10-32x½" screws. Aver. shpg. wt. 3 oz.



Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F710	H-9150-B	4x⅝"	2.65	2.40	2.10

Type H-9120-B. Handle made of die cast aluminum. Silver anodize finish. Has hand clearance of 1". Hardware: four 6-32x½" screws. Shpg. wt. 5 oz:



Type H-9121-B Similar to H-9120 except made of die cast alloy and is chrome plated.
Type H-9123-B. Similar to H-9120 except hardware: two 10-32x½" screws.

Stk. No.	Type	Mtg. Ctrs. Ins.	Outs.	Net Each 1-99	100-199	200-499
90F705	H-9120-B	4⅜"	5⅜"	3.15	2.85	2.50
90F706	H-9121-B	4⅜"	5⅜"	4.00	3.60	3.20
90F707	H-9123-B	4½"	...	2.00	1.80	1.60

Type H-9131B. Made of die cast aluminum. Silver anodize finish. Size: 4x2⅞". Hardware: two ¼ 28x¾" raised countersunk screws and nuts. Useful as cabinet handle replacement. Average shpg. wt. 3 oz.

Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F713	H-9131-B	2¼"	3.15	2.85	2.50

Type H-9140B. This handle made of die cast aluminum with silver anodized finish. Has hand clearance of ¾". This solid design handle provides modern look to your cabinets or racks. Hardware provided for this model—two 10-32½" screws. Shpg. wt. 6 oz.

Stk. No.	Type	Mtg. Ctrs.	1-99	100-199	200-499
90F709	H-9140-B	3½"	1.85	1.65	1.50

LEVER TYPE DOOR HANDLES

Satin chrome plated, die cast handle and face plate. Corrosion resistant steel spindle and cam. Easily and quickly attached to Super Deluxe Relay Racks

9223

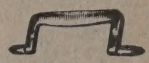
Stk. No.	Type	Desc.	Net Each 1-49	50-99	100-149
90F401	H3360	Non-Locking	5.65	5.10	4.50
90F402	HL3361	With lock & Key	8.70	7.85	6.95

FLUSH TYPE HANDLE AND CATCH

Combination handle and catch is standard on Bud Cabinet Racks. Fits flush with top of cabinet. All exposed parts are chrome plated.

Stock No.	Type	Net Each 1-49	50-99	100-149
91F1683	H-9347	1.75	1.60	1.40

Type H-9122B. Handle made of die cast aluminum with a silver anodized finish. This handle has hand clearance of 1½" and is hinged on ¼" diameter pins with two hinge blocks. Hardware provided: four 10-32x⅜" screws. Shpg. wt., 5 oz.

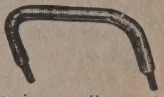


Stk. No.	Type	Mtg. Ctrs. Ins.	Outs.	Net Each 1-99	100-199	200-499
90F704	H-9122-B	6½"	7¼"	5.50	4.95	4.40

Types H-9115B and H-9116B. These handles made of ⅜" steel rod, chrome plate finish. Have hand clearance of 1 5/16". Ideal for use where a thin, durable handle is necessary or desirable. Hardware provided: two ¼-28 nuts. Av. shpg. wt. 3 oz.

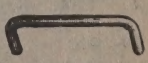
Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F746	H-9115-B	4"	1.85	1.65	1.50
90F732	H-9116-B	6"	2.00	1.80	1.60

Types H-9160B, H-9161B, H-9162B, H-9163B, H-9164B, H-9165B. All have chrome plated finish and are made of ⅜" diameter steel. All have 1 11/16" hand clearance. All are provided with two ¼-28 hex nuts as hardware. Types differ in mounting centers only which are listed below.



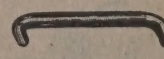
Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F733	H-9160-B	3½"	2.00	1.80	1.60
90F734	H-9161-B	5¼"	2.00	1.80	1.60
90F735	H-9162-B	7"	2.15	1.95	1.70
90F736	H-9163-B	8¾"	2.25	2.05	1.80
90F737	H-9164-B	10½"	2.40	2.15	1.90
90F738	H-9165-B	12¼"	2.65	2.40	2.10

Types H-9166B, and H-9168B. Both are made of ¼" diameter brass and both have a chrome plated finish. These handles each have 1" hand clearance and are provided with the same hardware: two 6—32x½" screws. They differ only in mounting centers which are listed below.



Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F739	H-9166-B	1 5/16"	1.10	1.00	.90
90F740	H-9168-B	3"	1.10	1.00	.90

Types H-9110-14B. ⅜" dia. except H-9114, ½" dia. steel, chrome plated. All provided with two 10-32x½" screws except H-9114 two ¼-28x1½" screws. Hand clearance 1" except* 1¼" and ** 1½". Shpg. Wt. 3 oz.



Stk. No.	Type	Mtg. Ctrs.	Net Each 1-99	100-199	200-499
90F741	H-9110-B*	6"	2.00	1.80	1.60
90F742	H-9111-B	4"	1.35	1.20	1.10
90F743	H-9112-B	6"	1.50	1.35	1.20
90F744	H-9113-B	8"	1.60	1.45	1.30
90F745	H-9114-B**	8"	2.25	2.05	1.80

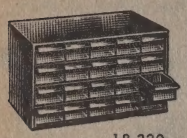
SAVE WORK! Make Newark your Complete 1-Point Stock Source
SAVE TIME! At Newark—fast, efficient service always!
SAVE MONEY! Quantity Prices Competitive with Manufacturer!

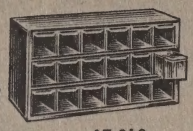
Akro-Mils Drawer Cabinets

MODULAR HEAVY-DUTY CABINETS

17-136

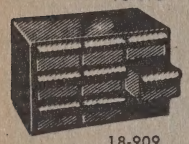
18-228

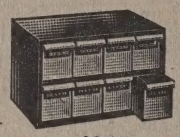

18-320

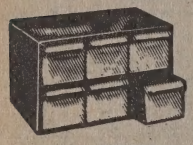

17-018

18-416

18-715


18-909


18-608


18-956

18-803

WELDED STEEL FRAMES

- **Chip-proof, scratch-resistant baked enamel finish**
- **Standard 18″ width**
- **Keyhole slots for wall mounting**
- **Attractive charcoal hammertone finish**
- **Nesting "feet" for stability in stacking**

MOLDED STYRENE DRAWERS

- **Long-lasting—rust and corrosion proof**
- **Safe—no sharp edges**
- **Lightweight—60% lighter than steel**
- **Non-Spreading—won't bulge or sag**
- **Spill-proof—safety tab keeps drawer open**

TWO TYPES OF STYRENE DRAWERS

Gray Heavy-Duty
Virtually unbreakable hi-impact styrene—ideal for most requirements. Guaranteed for life, won't crack, dent or break.

Transparent
Where frequent visual inventories are required, transparent drawers permit a quick check.

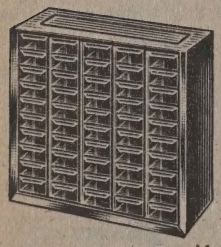
Dividable
All drawers can be partitioned into several sub-compartments. Patented dovetail dividers lock in place—won't creep or slip. Label slots provide easy indexing.

Gray HD Stk. No.	Type	Trans. Stk. No.	Type	Drws.	Drwr. Size H″	Drwr. Size W″	Drwr. Size D″	Cabinet Size H″	Cabinet Size D″	Each
.....	.....	80W057	17-136	36	1¼	2¾	5⅞	9½	6	17.10
80W065	18-228	.....	.....	28	2⅛	2⅛	11	11	11	28.30
.....	.....	80W085	17-018	18	2½	2¾	5⅞	9	6	17.10
80W061	18-320	80W062	17-320	20	2⅛	3⅛	11	11	11	25.50
80W056	18-416	80W050	17-416	16	2⅛	4	11	11	11	25.50
80W055	18-715	80W063	17-715	15	3 1/32	3⅛	11	11	11	25.50
80W054	18-909	80W064	17-909	9	3 1/32	5¼	11	11	11	25.50
80W066	18-608	.....	.....	8	4¾	4	11	11	11	25.50
80W067	18-956	.....	.....	6	4¾	5¼	11	11	11	25.50
80W086	18-803	.....	.....	3	3 1/32	16¾	11	11	11	22.35

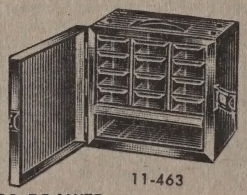
DIVIDERS FOR AKRO MILS CABINETS

Stk. No.	Type	Description	For Drwrs. in cabinet	Per Pkg.	Each
82F083	42-121	Long	17-136 11-650 11-124	24	1.93
82F119	40-501	Cross	17-136 11-650 11-124	25	.85
82F030	42-301	Cross	17-320 18-320	25	1.59
82F131	43-301	Cross	17-909 18-909	25	2.55
82F132	43-331	Long	17-715 18-715 17-909 18-909	10	2.39
82F134	43-101	Cross	17-715 18-715	25	2.39
82F137	42-401	Cross	17-416 18-416	25	1.93
82F138	42-431	Long	17-416 18-416 17-320 18-320	10	1.59
82F161	42-201	Cross	18-228	25	2.54
82F162	44-401	Cross	18-608	25	3.06
82F165	44-501	Cross	18-956	25	3.35
82F175	40-901	Cross	17-018 11-712	25	1.59

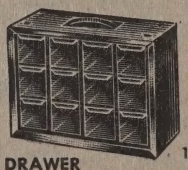
ECONOMY DRAWER CABINETS


11-650

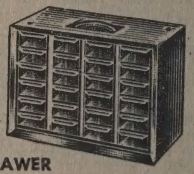
50 DRAWER
Portable steel frame, 50 Full Size 2¾″ x 1¼″ x 5¾″ see-thru drawers. Blue metallic finish, dividable drawers. Stackable frame, wall mountable.


11-463

13 DRAWER WITH LOCKING DOOR
Portable steel frame, 12 Full Size 2¾″ x 1¼″ x 5¾″ see-thru drawers. 1 Jumbo Deep 8¾″ x 2½″ x 5¾″ drawer. Gray metallic finish, dividable drawers. Stackable frame, wall mountable.


11-712

12 DRAWER
Portable steel frame, 12 Double Deep 2¾″ x 2½″ x 5¾″ see-thru drawers. Blue metallic finish, dividable drawers. Stackable frame, wall mountable.

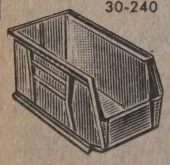

11-124

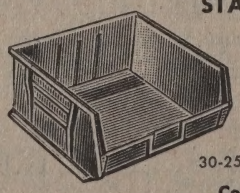
24 DRAWER
Portable steel frame, 24 Full size 2¾″ x 1¼″ x 5¾″ see-thru drawers. Blue metallic finish, dividable drawers. Stackable frame, wall mountable.

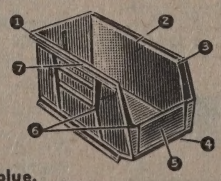
Stk. No.	Type	Drwrs.	Cabinet Size	Shpg. Wt.	Each
80W087	11-650	50	16″ x 15″ x 6½″	12 lbs.	13.44
80W052	11-463	13	10″ x 9″ x 6½″	5¾ lbs.	7.16
80W088	11-712	12	13″ x 9½″ x 6½″	7 lbs.	7.16
80W051	11-124	24	13″ x 9½″ x 6½″	7 lbs.	7.16

16

STACKING STORAGE BINS


30-240


30-250



30-210

30-220

30-230

Color: blue.

Stk. No.	Type	Inside Dimension L	Inside Dimension W	Inside Dimension H	X*	Each
80W089	30-210	4¾	3 7/16	2 13/16	4	.45
80W090	30-220	6¾	3 7/16	2 13/16	6	.88
80W091	30-230	10¼	4⅜	4¾	9	1.66
80W092	30-240	14	6 9/16	6¾	12	3.33
80W093	30-250	14	14¾	6¾	12	5.00

(*)Inside bottom length-front to back.

5 SIZES • HEAVY-DUTY MOLDED POLYPROPYLENE

EXTRA FEATURES:

1. Full width hanger—suspendable from most straight rails & carts.
2. Extra-wide stacking ledges for stability
3. Anti-Slide "Stops" prevent shifting of stacks when moved.
4. Extra large label holder.
5. Heavy reinforcing ribs prevent spreading under heavy loads.
6. Finger grips for easier handling.
7. Special slot under bin holds computer size inventory card.

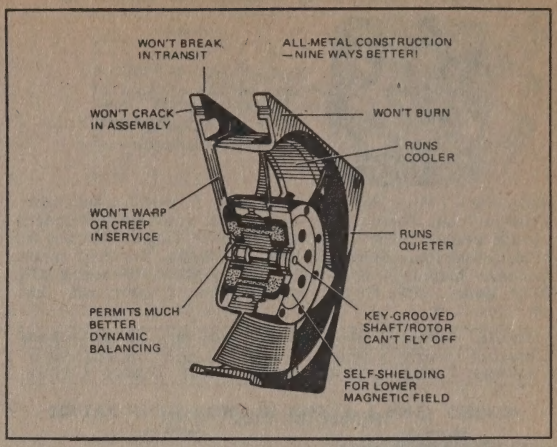
Air Cooling Devices

PAMOTOR

DESIGNED TO OUTLAST THE EQUIPMENT THEY COOL

- All Metal Construction
- Low Noise Level
- Maintenance Free Operating Life
- Low Operating Temperature

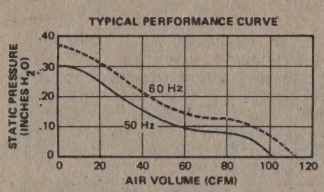
Patented design yields maximium performance at minimum cost. Rigorous quality control assures a high level of workmanship and performance. All metal, non-flammable construction for greater durability and heat dissipation. No cracking, creeping or warping to cause lock-up or bearing failure. Computer-designed, impulse welded steel impellers. Special moisture resistant finish prevents corrosion or other deterioration from high humidity or extreme temperature variations. Unique, patented "insideout" motor configuration that delivers greater torque and power at reduced operating temperature and reduces electromagnetic radiation. Maintenance-free, hand-fitted bearing system. Rotors dynamically balanced to a maximum shift of the center of gravity of .0001 inch in each end plane. Aerodynamically designed venturies and fan housings for maximum air intake with minimum air turbulance and noise. Speech interference level (SIL) is characteristically 5 dB to 10 dB below that of competitive designs with comparable air flow.

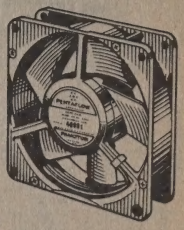

WON'T BREAK IN TRANSIT
ALL-METAL CONSTRUCTION —NINE WAYS BETTER!
WON'T CRACK IN ASSEMBLY
WON'T BURN
RUNS COOLER
WON'T WARP OR CREEP IN SERVICE
RUNS QUIETER
PERMITS MUCH BETTER DYNAMIC BALANCING
KEY-GROOVED SHAFT/ROTOR CAN'T FLY OFF
SELF-SHIELDING FOR LOWER MAGNETIC FIELD

'PENTAFLOW' MINIATURE FANS

Model 4500P Miniature Fan

Designed for high air flow volume and low noise. Suitable for a wide variety of electronic instruments, data-processing equipment, communication systems and industrial controls. Rotor securely fastened by key-grooved shaft configuration. Cannot fly or fall off. Hand-fitted broached dual-sleeve bearing. Large oiled-felt reservoir between sleeve bearings. Advanced silicone-based synthetic lubricants. Ease of relubrication. 2900 RPM. 20 W. 115 CFM air flow with an SIL of 37.5 dB. Rated Life (Continuous Operation) 100,000 hrs@25°C, 45,000 hrs. @ 50°C, 20,000 hrs. @ 65°C. Terminals: heavy duty plug-in (also solderable—#18 AWG wire). 115 V, 50,60 Hz. Size: 4½" x 4½" x 1½". Weight: 20 ounces.



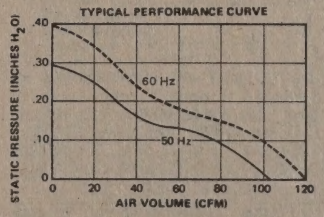


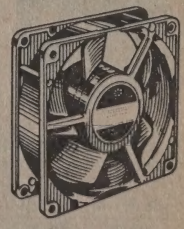
Stock No.	Type	1-9	10-24	25-49	50-99	100-249
57F1042	4500P	18.80	17.15	15.85	14.40	13.50

- 5-Year Warranty on Materials and Workmanship
- Highest Operating Efficiency

Model 4600P Miniature Fan

Provides the same or higher airflow at higher back pressures than the 4500P, from 15% to 25% higher pressures. Supplies the extra margin required for application in which higher package densities may be encountered, such as tightly packed computers, power supplies, process controls, airborne consoles and electronic RF/Microwave transmission. 130 CFM airflow with SIL of 39.8 dB. Rated Life (Continuous Operation) 100,000 hrs. @ 25°C, 45,000 hrs. @ 50°C, 20,000 hrs. @ 65°C. Terminals: heavy duty plug-in (also solderable-18 AWG wire). 115 V, 50,60 Hz. Size: 4½" x 4½" x 1½". Weight: 20 ounces.





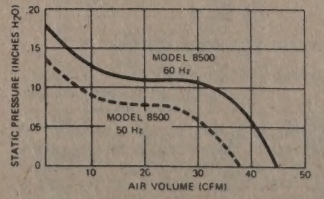
Stock No.	Type	1-9	10-24	25-49	50-99	100-249
57F2600	4600P	20.60	18.75	17.35	16.55	15.85

- 5-Year Warranty on Materials and Workmanship
- Highest Operating Efficiency

16

Model 8500P Miniature Fan

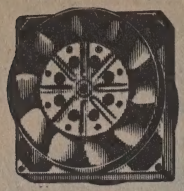
Ultra-quiet. Yields 20% more air flow in free air, and almost three times more air at moderate back pressures than comparable fans. Reduced noise level is half that of others in its class. Ideal for cooling portable equipment, standard 3½" rack applications, computer terminal equipment, medical instrumentation, audio-visual equipment, bench instruments, desk-top instruments and broadcast studio consoles. 43 CFM with SIL of 28.8 dB. Rated Life (Continuous Operation) 100,000 hrs. @ 25°C, 45,000 hrs. @ 45°C, 20,000 @ 60°C. Terminals: heavy duty 12" #24 AWG wire leads. 115 V 50,60 Hz. 3200 RPM. 15W Size: 3⅛" x 3⅛" x 1½". Weight: 18 ½ ounces.

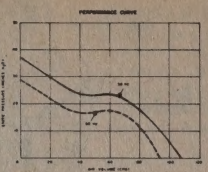


Stock No.	Type	1-9	10-24	25-49	50-99	100-249
57F1041	8500P	20.60	18.75	17.35	16.55	15.85

- 5-Year Warranty on Materials and Workmanship
- Highest Operating Efficiency

MODELS 1500S/1550S SHADED-POLE MINIATURE

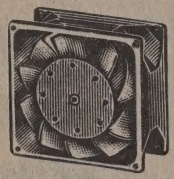


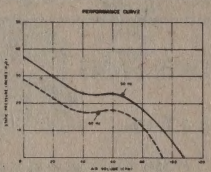


4.45 x 4.45 x 1.97 in. Universal 4⅛ in. mtg. All metal construction. Moisture resist. finish. Stator laminations, windings, and splices varnish treated. Baked at 130°C. More than 100,000 hrs. of cont. operation at room temp. 105 CFM 40 DB/SIL. Standard acces. available. **Model 1500S:** 100-125 VAC, 50/60 Hz; 27 watts; 3300 RPM. **Model 1550S:** 198-253 VAC, 50/60 Hz.; 27 watts; 3309 RPM. Wt. 2 lbs. 10 oz.

Stk. No.	Model	1-9	10-24	25-49	50-99	100-249
57F1015	1500S	25.35	23.05	21.20	20.35	19.50
57F1017	1550S	25.35	23.05	21.20	20.35	19.50

MODELS 2500S and 2550S SHADED-POLE MINIATURE

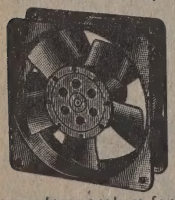


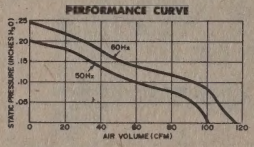


4⅞₁₆x4⅞₁₆x1³¹⁄₃₂ in. Universal 4⅛ in. mounting. Stator laminations, winding, and splices are varnish treated and baked at 130°C. Moisture resistant finish prevents corrosion under extreme temp. variations and humid atmospheric conditions. Performance characteristics with variable back pressures are illustrated on adjacent graph. Noise level, 43 dB SIL. **Model 2500S:** 105-125 VAC, 50/60 Hz.; 25 watts; 3300 RPM. **Model 2550S:** 198-253 VAC, 50/60 Hz.; 31 watts; 3250 RPM. −20°C to +45°C. Wt. 2 lbs. 10 oz.

Stk. No.	Model	1-9	10-24	25-49	50-99	100-249
57F1019	2500S	25.35	23.05	21.20	20.35	19.50
57F1021	2550S	25.35	23.05	21.20	20.35	19.50

MODELS 4500C, 4550C, 4506 SHADED-POLE MINIATURE

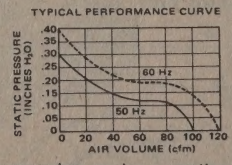




Provides 115 CFM with less than 37.5 dB SIL. Designed to operate continuously at room temperature for over 100,000 hrs. **Model 4500C:** 2900 RPM, 20 W. **Model 4550C:** 2850 RPM, 17 W. **Model 4506:** 3050 RPM, 19 W. High temperature ball bearing design. All: 115 V, 50, 60 Hz. Terminals: Heavy duty plug-in. (also solderable—#18 AWG wire). Size: 4¹¹⁄₁₆″ x 4¹¹⁄₁₆″ x 1½″. Weight: 1 lb. 4 oz. except 4506 which is 20 oz.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
57F1025	4500C	14.30	13.00	11.95	11.45	10.95
57F1026	4550C	14.30	13.00	11.95	11.45	10.95
57F1027	4506A	26.25	23.90	22.00	21.15	20.25

MODEL 4600 SHADED-POLE MINIATURE



Entire fan functions as heat sink, assuring cooler operation. 120 CFM. 39.8 SIL. 4⅛″ universal mount. Over 100,000 hrs. of continuous operation in normal room temperature. Terminals: heavy duty plug-in (also solderable—#18 AWG wire). 115-125 VAC, 50, 60 Hz. 3100 RPM. 20 W. Size: 4¹¹⁄₁₆″ x 4¹¹⁄₁₆″ x 1½″. Weight: 21 ounces.

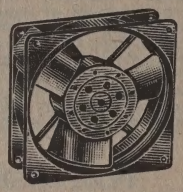
Stock No.	Type	1-9	10-24	25-49	50-99	100-249
57F2601	4600	17.35	15.80	14.55	13.95	13.40

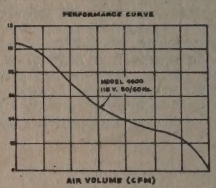
MODEL 4700 SHADED-POLE MINIATURE

For industrial control equipment, audio amplifiers, telephone systems, RF power amplifiers, etc. 100,000 hours operation at room temperature delivering 65 CFM at a noise level less than 37 dB. SIL. Measures 4½″ in diameter and is designed for a universal mounting, interchangeable with similar fans. Special moisture resistant finish for humid atmospheric applications. Stator laminations, windings, and splices varnish treated and baked at 130°C. Fan speed: 2900 RPM at 115V/60 Hz. Temperature range: −20°C to +55°C. Power requirements: 105-125 VAC, 50/60 Hz.; 20 watts at 115 Volts. Wt. 1 lb.

Stock No.	Model	1-9	10-24	25-49	50-99	100-249
57F1029	4700	14.05	12.80	11.80	11.30	10.85

MODEL 4800 SHADED-POLE MINIATURE

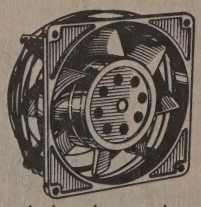


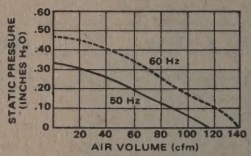


Miniature, shade-pole, axial fan. Moderate air flow, low noise fan. Less than 18 dB. SIL. 70 cfm. Ideal for Hi/Fi stereo equipment, television equipment, medical or office equipment. Fan functions as a natural heat sink, assuring cooler operation. Universal mounting, 4″ all metal construction. Moisture resistant finish. Terminals are designed for use with #18 AWG wire or with a plug and cord assembly. 115V, 50, 60 Hz. 1450 RPM. 10 W. Size: 4¹¹⁄₁₆″ x 4¹¹⁄₁₆″ x 1½″. Wt. 20 oz.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
57F1028	4800	15.95	14.50	13.30	12.75	12.25

MODEL 5500S SHADED-POLE MINIATURE

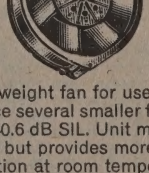


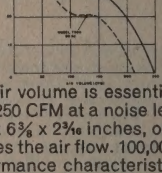


New design gives maximum efficiency at all operating points on the performance curve. Intake radially as well as axially. Moisture resistant finish. Stator laminations, windings, and splices are varnish treated and baked at 130°C. Warrantied for one year on materials and workmanship. 140 CFM. 41.8 SIL. UL accepted. Terminals: heavy duty, 12″, #24 AWG wire. 105-125 VAC 50, 60 Hz. 3250 RPM. 42 W. Size: 4.685″ x 4.685″ x 2.17″. Weight: 2 lbs. 3 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
57F2602	5500S	32.80	29.90	27.50	26.40	25.30

MODEL 7500S AND 7550S SHADED-POLE MINIATURE





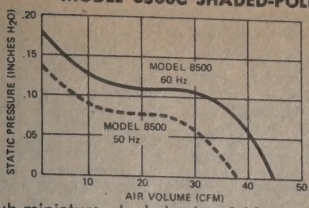
Light weight fan for use where high air volume is essential, or to replace several smaller fans. Delivers 250 CFM at a noise level less than 40.6 dB SIL. Unit measures 5²⁹⁄₃₂ x 6⅜ x 2³⁄₁₆ inches, one-third larger but provides more than 2½ times the air flow. 100,000 hours operation at room temperature. Performance characteristics with variable back pressures are illustrated on above graph. **Model 7500S:** 105-125 VAC, 50/60 Hz.; 40 watts; 3300 RMP. **Model 7550S:** 198-253 VAC, 50/60 Hz.; 49 watts; 3250 RPM. Temp. range, −20°C to +50°C. Wt. 2 lbs. 11.5 oz.

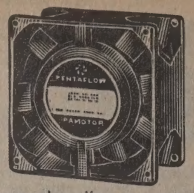
Stock No.	Model	1-9	10-24	25-49	50-99	100-249
57F1023	7500S	40.35	36.75	33.80	32.45	31.15
57F1024	7550S	40.35	36.75	33.80	32.45	31.15

Air Cooling Fans

PAMOTOR

MODEL 8500C SHADED-POLE MINIATURE

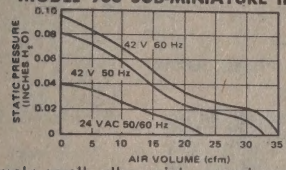


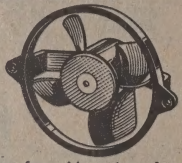


Sub-miniature, shaded pole axial fan for general cooling purposes. High air-flow ultra-quiet fan provides twenty percent more air-flow in free air than competitive fans. Half noise level. Delivers 43 cfm @ less than 28.8 dB SIL. Rated life (continuous operation); 100,000 hours @ 25°C, 20,000 hours @ 55°C. Heavy-duty, 12 inch. No. 24 AWG wire leads are standard. Built to Underwriters' Laboratories standards. 115 V, 60 Hz. 3250 RPM, 15 W. Size: 3⅛" x 3⅛" x 1½". Wt.: 15 oz.

Stock No.	Type	1-9	10-24	25-49	50-99	100-249
57F1038	8500C	16.40	14.90	13.70	13.15	12.60

MODEL 900 SUB-MINIATURE INDUCTION TYPE

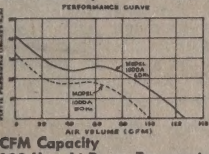




Extremely small, ultra-quiet general purpose fan. Air enters fan radially as well as axially. Induction type motor requires a 5.6 mfd. capacitor. Die-cast metal mounting base functions as a built-in heat sink. Extremely low electro-magnetic radiation. 34 CFM. 24 dB SIL. Terminals: three stranded 6" leads, #24 AWG, UL approved insulated wire. 1750 RPM. 2.5 W. 21-42 VAC, 50-60 Hz. Size: 3.129" dia. x 1.46". Wt.: 5.6 oz.

Stock No.	Type	1-9	10-24	25-49
57F2603	900	14.05	12.80	11.60

MODELS 1000A, 1110 AND 1300 INDUCTION TYPE



- 120 CFM Capacity
- 100,000 Hrs. At Room Temperature

For industrial and military applications. Die-cast housing eliminates warping and breakage common to plastic fans. Meas. 4 ½x4 ½x 1 ½ in. Univ. 4⅛ in. mount. **Model 1000A:** 42.2 dB SIL 105-125 VAC, 50/60 Hz.; 29 watts; 3500 RPM; −20°C to +45°C. **Model 1110:** 54.6 dB SIL 105-125 VAC, 400 Hz.; 35 watts; 3740 RPM; −20°C to +55°C. **Model 1300:** 42.8 dB SIL 187-253 VAC, 50/60 Hz.; 26 watts, 3400 RPM; −20°C to ±55°C. Wt. 2 lbs. 8 oz.

Stock No.	Model	1-9	10-24	25-49
57F1004	1000A	29.05	26.25	23.65
57F1006	1100	61.25	55.35	49.80
57F1009	1300	29.05	26.25	23.65

ACCESSORIES

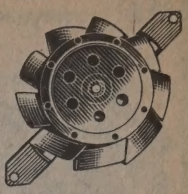
Mounting Brackets—5501. Two cadmium plated steel mounting brackets. These must be ordered separately.

Filter—5502. The multilayer, oil-treated metal filter is designed to permit a maximum of air flow while providing effective filtering.

Screen Assembly—5503. The screen portion is a protective fan guard and is housed in a rugged die-cast metal frame with spring steel holding clips which mount the assembly on equipment panels. Mounting brackets (part number 5501) for the screen assembly must be ordered separately.

Stock No.	Type	Description	For Series	1-499
57F1030	5501	Brackets (2)	2000, 2110, 2500C	.30
57F1031	5502	Filter	4500C, 4600C, 5500S	2.00
57F1032	5503	Screen Assembly		2.80
57F1033	5504	Fingerguards	As above plus 4700	1.60
57F1034	5505	Plug, cord 24"	4500C, 4600C, 4800	.60
57F1035	5506	Fingerguards	7500S	3.30
57F1036	5507	Fingerguards	1000A, 1110, 1300, 1500	.95
57F1039	5508	Fingerguards	5500C	.85
57F1037	5509	Air Straightr.	7500S	3.50
57F2605	5511	Adaptor Ring	7500S	1.85

MODEL 8700 SHADED-POLE

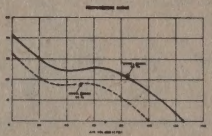


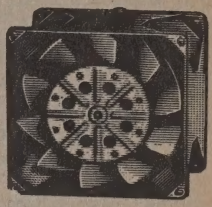
- Fan Without Venturi Designed for Applications Where Equipment Cooled Serves as Motor Housing
- Delivers 35 CFM
- Low Noise—22 dB SIL

Save space and weight with Model 8700 fan without venturi when equipment cooled serves as the motor housing. Shaded-pole, inside-out motor. Low Noise—22 dB SIL. Operates on a voltage of 115 Volts at a frequency of 60 Hz. Air flow is rated at 35 CFM. Speed is 3200 revolutions per minute. Power Required is 13 watts. Size: 3" diameter by 1½". Weight: 13 ounces.

Stock No.	Type	1-9	10-24	25-49	50-99
57F2604	8700	16.40	14.90	13.70	13.15

MODEL 2000 INDUCTION TYPE

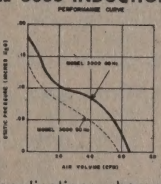


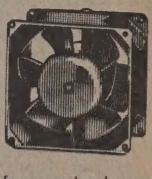


Min. axial fan for wide variety of electronic devices which require low noise and high air flow. Delivers 125 CFM, noise level less than 45.6 dB. SIL. Cont. operation more than 100,000 hrs. at room temp. Special baked finish makes it usable under humid atmospheric cond. Adjacent graph gives performance char. 105-125 VAC, 50/60 Hz.; 29 watts: 3500 RPM; −20°C to +54°C. Wt. 2 lbs. 1 oz.

Stock No.	Model	1-9	10-24	25-49
57F1011	2000	29.05	26.25	23.65

MODEL 3000 INDUCTION TYPE





- 65 CFM
- 3 ⅛ Inches
- Adjustable Speed Operation
- Will Not Warp Crack, Or Shatter

May be used in many applications where other fans are too large. Delivers a high volume of air movement. All metal construction insures maximum durability, and natural heat sinking. Metal impeller blades do not protrude beyond diecast housing. Baked grey moisture resistant finish protects against corrosion and deterioration in humid atmospheric conditions or extreme temperature variations. Performance characteristics with variable back pressures are illustrated on adjacent graph. 33.4 dB SIL 105-125 VAC, 50/60 Hz.; 15 watts; 3200 RPM; Temperature range, −20°C to +45°C. Wt. 1 lb. 3 oz.

Stock No.	Model	1-9	10-24	25-49
57F1000	3000	27.00	24.60	22.30

CAPACITORS FOR INDUCTION TYPE FANS

Capacitors supplied are either Sprague oval can type no suffix or German stud mount Suffix G.

Stock No.	Type	For Models	Cap. uF	1-9	10-24	25-49
57F2606	1011	900	5.6	1.75	1.60	1.45
57F2607	1004	1000A	6.0	2.75	2.50	2.25
57F2608	1004G	1000A	6.0	4.20	3.95	3.70
57F2609	1010	1110	.5	2.25	2.00	1.90
57F2610	1006	1300	2.0	2.75	2.50	2.25
57F2611	1005	2000, 3000	4.0	2.75	2.50	2.25
57F2612	1005G	2000, 3000	4.0	4.20	3.95	3.70

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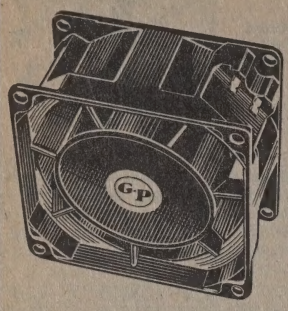
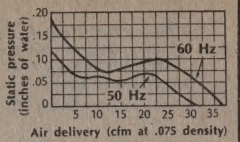
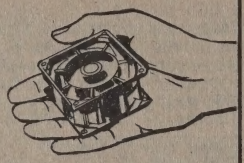
Equipment Cooling Fans

NEW! SUB-MINIATURE "PEE-WEE" BOXER



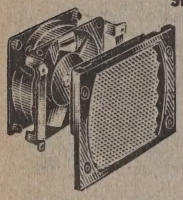


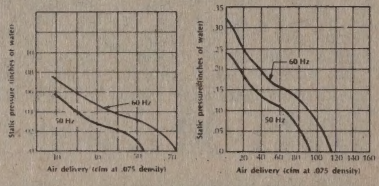


Delivers up to 36 cubic feet of air per minute. Fan measures just 3.170 inches to a side, 1.665 inches slim. Performance against back pressure, .22cfm at .10 inches, 28 cfm at .08 inches, 32 cfm at .05 inches static pressure. Two patented bearing designs, both rated at 10 years life, are available. Venturi and skeleton are die-cast of aluminum alloy. Idealiy suited to use in standard 3½" high relay rack panels.

Stk. No.	Type	Bearing Type	1-9	10-24	25-49	50-99	100-249
60F1585	PBS2107FL	Ball	22.60	21.55	19.80	17.50	15.90
60F1586	PWS2107FL	Sleeve	14.15	13.95	12.75	11.25	10.45

SLEEVE BEARING BOXER





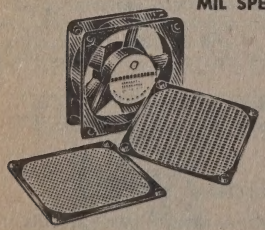
IMC's patented sleeve bearing; a unique oil recirculating design that assures positive lubrication of the entire bearing surface, provides cooler, more efficient operation, longer life than conventional designs. Units are rated at 10 years life under normal operating temperatures from −20°F to +158°F. UL Approved.

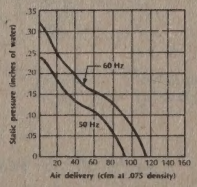
SPECIFICATIONS AND PRICING

Stk. No.	Type	Volt.	Amps	Freq.	Air Delivery (cfm)
60F1600	WS2107FL	115	.24	60/50	115
60F1625	WS2107FL-2	115	.10	60/50	70

Type	1-9	10-24	25-49	50-99	100-249
60F1600	12.40	11.30	10.20	9.30	8.90
60F1625	14.50	13.20	11.90	10.60	9.80

MIL SPEC BOXER

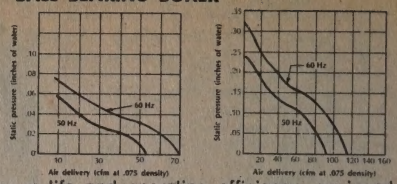




Rugged Mil Spec Boxer fans increase life and reliability of military equipment. Featuring ball bearing design, units meet 16 different mil spec tests, salt; sand, humidity, fungus, moisture, rain, temperature, vibration, shock, acceleration, radio noise finish and barometric pressure. Will operate up to +185°F. Frequency: 60/50 Hz. Air delivery: 115 cfm.

Stk. No.	Type	Volt. (Vac)	Amps	1-9	10-24	25-49	50-99	100-249
62F1572	BS2107F-0-1	115	.18	28.50	26.40	23.95	21.15	20.30

BALL BEARING BOXER



Designed for optimum life and operating efficiency, equipped with stainless steel ball bearings provide minimum 10 year life. Temp. range: −25°F to +185°F. Patented bearing design utilizes a large capacity lubricant reservoir to insure long bearing life and lubricant cooling. Ideal for use in instruments and systems requiring long life, quiet operation and minimum maintenance. Fan can be mounted in either direction to give exhaust or intake.

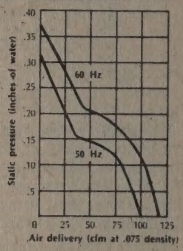
SPECIFICATIONS AND PRICING

Stk. No.	Type	Volt. (Vac)	Current (Amps)	Freq. (Hz)	Air Delivery (cfm)
62F1577	BS2107FL	115	.18	60/50	115
60F1628	BS2107FL-2	115	.10	60/50	70

Stk. No.	1-9	10-24	25-49	50-99	100-249
62F1577	21.85	20.75	19.05	16.75	16.15
60F1628	22.25	21.65	19.95	17.55	16.90

SUPER BOXER

High performance
UL Approved
Metal Housing
7 blade impeller



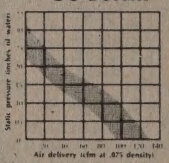
High performance fans designed for efficient, economical cooling in tightly packed card racks, cabinets, and similar space critical systems enclosures. Aerodynamic impeller design provides exceptional output characteristics against high back pressure, see adjoining performance chart. Two patented bearing designs are available. Operating temperature range: −25°F to +185°F for ball bearing model, −20°F to +158°F for sleeve bearing. Operate on 50 or 60 Hz, 115 volt input. Size and styling are identical to the standard Boxer. For added flexibility Super Boxer fans accept the wide range of standard Boxer accessories. Size: 4 1/16" x 4 1/16" x 1 ½" deep.

SPECIFICATIONS AND PRICING

Stk. No.	Type	Bearing	Volt. (Vac)	Freq. (Hz.)	Current Amps.	CFM
62F1570	BS2107F-100	Ball	115	60/50	.20	117
62F1571	WS2107F-100	Sleeve	115	60/50	.24	117

Type	1-9	10-24	25-49	50-99	100-249
62F1570	23.80	22.70	20.90	18.60	17.90
62F1571	15.40	14.05	12.60	11.20	10.50

DC BOXER



Long life
Mounts easily
Versatile
Solid state inverter

Integrally mounted solid state module converts DC input to drive the standard A.C. Boxer fan. Eliminates arcing contacts with their attendant noise and short life found in DC fans. Integrally mounted inverter means no extra connections or additional fasteners. Protected circuit; inadvertent reversal of polarity will not cause failure of inverter electronics.

SPECIFICATIONS AND PRICING

Stk. No.	Type	Bearing	Input VDC	Air Delivery (cfm)
60F1647	BS2017F-12	Ball	12-16	97-118
60F1649	BS2107F-24	Ball	22-26	100-110
60F1646	WS2107F-12	Sleeve	12-16	95-100
60F1648	WS2107F-24	Sleeve	22-26	97-100

Type	1-9	10-24	25-49	50-99
60F1647	59.50	58.40	56.70	54.40
60F1649	59.50	58.40	56.70	54.40
60F1646	51.60	50.20	48.85	47.50
60F1648	51.60	50.20	48.85	47.50

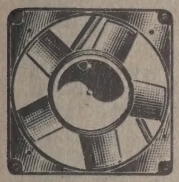
16

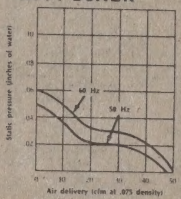
Fans

IMC BOXER FANS

The basic fan is compact, just 4 11/16 inches square by 1½ inches deep. Mounts for either intake or exhaust (flip fan over to reverse air flow) inside or outside the equipment to be cooled. Rugged all metal housing resists breakage and acts as an effective heatsink. Motors are reliable 60/50 Hz shaded pole types. Five bladed aerodynamic impeller (seven bladed in SuperBoxer) is designed for high strength, light weight and maximum air delivery against high impedance. Construction and other features found only in Boxer fans are covered by three US Patents. The standard ball bearing, sleeve bearing, Super Boxer, Mil Spec Boxer, Tandum Boxer, HIFi Boxer and Condor fans are all Underwriter Laboratory Approved. IMC fan are excellent for cooling all types of electronic enclosures helping to reduce the size of the system or enclosure. Effective cooling provided by IMC fans will prolong the life of electronic components and in many cases permit the use of less expensive components in instruments of systems thereby reducing the system cost while at the same time adding reliability. No other fan can offer IMC's metal housing, lubrication system, cooling power, quite operation and long life at the same cost.

HI-FI BOXER



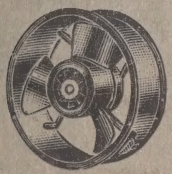


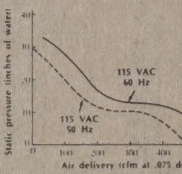
- 50 CFM
- Easy Installation
- Low Cost
- Hardware Included

A high powered exceptionally low-noise fan that will fit into almost any enclosure. It will remove heat quietly, efficiently and extend the life of your Hi-Fi. Comes as a kit including Boxer fan, line cord, mounting brackets, rubber isolators and hardware. Low cost easy to install. Filter & guards available. Frequency: 60/50 Hz. Air delivery: 50 CFM.

Stk. No.	Type	Volt (Vac)	Amps	1-9	10-24	25-49	50-99	100-249
60F1639	WS2107F-9	115	.10	14.15	12.85	11.55	10.25	9.50

CONDOR

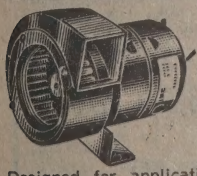


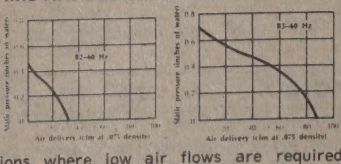


High performance Condor fans provide 575 cubic feet of air per minute for use in relay racks, transmitter packages, computers, periphal equipment, and electronic enclosures where high volume flushing and cooling is required. Lightweight, 10 inches dia. and 3.5 inches depth design makes for easy mounting inside or outside system enclosures. Aerodynamically designed impeller is high strength polycarbonate with integral venturi and skelton assembly of sturdy die-cast aluminum. Condor motor, equipped with long-life stainless ball bearings is matched to the impeller for maximum operating efficiency. Zinc plated steel finger guard available. Standard terminal block, 115 volts 50/60 Hz. Operates over temperature range from -20°F to +140°F. Noise level is held to a minimum less than 49DB (SIL).

Stk. No.	Type	Description	1-9	10-24	25-49	50-99	100-249
60F1645	10	With Standard terminal block	28.70	26.80	25.50	22.45	20.90
62F1574	11	With Quick Disconnect term. block	28.80	26.90	25.60	22.55	21.00
62F1575	12	With 24" lead extension	28.20	26.30	25.00	21.00	20.40

IMC AIR BLOWERS



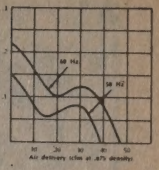


Designed for applications where low air flows are required at relatively high pressures. Compactly designed metal housings will not distort under heat. Continuous duty operation, single phase shaded pole motor with bearing life of 10,000 hours at 125 F. Size B2, 7/8"h x 4¾" w x 3½" d.B3 5⅜" h x 5⅞" w x5"d. For operation from 115 volts, 50-60 cycles.

Stk. No.	Type	CFM	Amps.	1-9	10-24	25-49	50-99	100-249
60F1617	B2	24	.55	13.75	12.75	11.90	11.40	10.90
60F1618	B3	87	.60	26.35	24.75	23.75	22.75	21.80

MINI BOXER

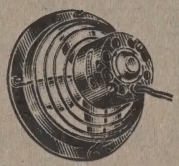
- 3⅝ inch square
- 46 CFM
- Metal housing
- Long life

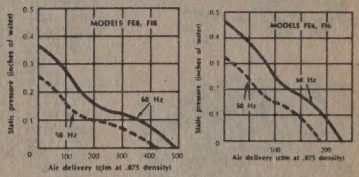


Measuring less than 20 cubic inches (3⅝ inch sq. x 1½ inch deep) with a total unit weight 1.6 lbs. Mini Boxer fans deliver 46 CFM for cooling tape decks, memory stacks, main frames and similar low profile cooling applications. Motors are reliable shaded pole type operating on 115 VAC, 60 Hz 1 phase. Aerodynamic five bladed impeller in high strength, fire retardant polypropylene Venturi housing. Spider and hub are die-cast of rugged zinc alloy. No filter or screen kits are available.

Stk. No.	Type	Bearing	Amps	1-9	10-24	25-49	50-99	100-249
60F1642	MWS2107F	sleeve	.24	14.40	13.00	11.65	10.30	9.60

IMC AIR FANS





For applications where high air flow and low noise operation is required. Precision-built shaded pole motor. Flush mounting with shaft in any operating position. All single phase. Size: Model FE8, F18, 10" dia. x 2½" deep - 5 13/16" with motor clearance. Models FE6, F16 8⅛" dia x 2" deep -4½" with motor clearance. For operation from 115 volts, 50-60 cycles.

Stk. No.	Type	CFM	Amps.	1-9	10-24	25-49	50-99	100-249
60F1613	FE-6	225	.50	16.30	14.80	14.00	13.30	12.50
60F1614	F1-6	225	.50	16.30	14.80	14.00	13.30	12.50
60F1615	F1-8	485	1.0	28.60	27.00	26.00	23.30	22.00
60F1616	FE-8	485	1.0	28.60	27.00	26.00	23.30	22.00

ACCESSORIES

Type 69-95 Boxer Screen Kit
Consists of screen assembly and one set of mounting brackets with screws and nuts.

Type 69-79-1 Mounting Brackets
Cadmium plated steel, positive action mounting brackets allow quick, easy, shock and vibration proof installation. Includes screws, nuts and washers.

Type 69-94 Boxer Filter Kit
Consists of filter panel, filter frame, plus one set of mounting brackets and hardware.

Type 69-93 Slim Line Filter
Compact filter measures just 0.125-inch deep for applications where space is critical and systems must be protected from the environment. One piece all aluminum design is more rugged than plastic frame filters and is alodined for RFI shielding. Supplied oil sprayed, it can be easily washed in solvent or vapor degreaser, or cleaned ultrasonically. Respray with atomized oil after cleaning. Filter may be mounted directly to a panel or to the fan with bolts or self-tapping screws.

Type 69-93-1 Slim Line Screen
Sturdy, all aluminum, flat screen unit, just 0.125-inch thick acts as an effective guard for fingers or other large objects. Mounts directly to the fan or to the panel. Minimal airflow impedance. May be easily removed for cleaning.

Type 65-175 Finger Guard
Bright, zinc plated finger guard ⅜-inch deep, prevents accidental contact with the rotating fan impeller.

Type 69-74 Plug and Cord Set
Fully insulated 24-inch cord with female connector, plugs into fan terminals.

Type 69-74-1 Plug and Cord Set
Fully insulated 36-inch cord set with female plug. Plug can be optionally removed and wires soldered directly to the fan terminals.

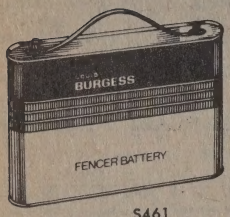
Stk. No.	Type	Net	Stk. No.	Type	Net
60F1607	69-95	1.75	60F1638	69-93-1	1.50
60F1643	69-79-1	.30	60F1624	65-175	.75
60F1606	69-94	3.25	60F1623	69-74	.60
60F1637	69-93	1.50	62F1576	69-74-1	.80

16

Industrial Type Batteries

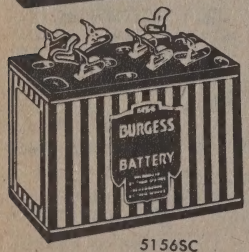
All the batteries listed below are guaranteed fresh when they leave our stock and carry additional manufacturers' guarantees. Made to high standards and fully inspected, these batteries are of the highest quality. All types listed below have binding post terminals, except where U or K in the type number indicate flat terminals. Similarly, PI denotes plug-in, SC screw type terminals. Equivalent NEDA numbers are included in tables for your convenience.

4FH



S461

2F



5156SC

P45

XX150

Stock No.	Burgess Type	Price Each In Std. Pack Std. Pk.	Price Each	Price Broken Package Each	Price Each In Case Lots Quantity Per Case	Each	Volts	LxWxH	Approx. Wt. Lbs.	Eveready Type	NEDA No.
49F1043	410 (4FM)	12	1.25	1.37	12	1.12	1½	2⅝x2⅝x4	1.4	735	900
49F1048	6-Ign. BP	12	1.33	1.46	12	1.20	1½	2½ (diam.)x6⅝	1.9	6 Ign. S	905
49F1051	6-Tel. SC	12	1.33	1.46	12	1.20	1½	2½ (diam.)x6⅝	1.9	6GL	906
49F1049	6-Ind. BP	12	1.33	1.46	4	1.20	1½	2½ (diam.)x6⅝	2.0	6 R.R.	911
49F1044	4F2H	1	4.29	4.29	4	3.86	3	2 2⅜32x2 1 1⁄16x5 1 3⁄32	2.75	W357	901
49F1045	4F4H	1	5.23	5.23	6	4.70	6	8 5⁄16x2 1 3⁄16x5 1 3⁄16	6.5	706	902
49F1050	S461	4	4.81	5.29	4	4.33	6	10½x2¾x7 1 3⁄32	8.25	1461	907
49F1046	4F5H	1	5.97	5.97	4	5.37	7½	7 1 3⁄16x3 3 1⁄32x5 1 3⁄16	7.5	715	903
49F1047	4F6H	1	6.67	6.67	4	6.00	9	8½x3 3 1⁄32x5 1 3⁄16	8.5	716	904
49F811	2F8H	1	4.96	4.96	6	4.46	12	8 5⁄16x2 1 3⁄16x5 1 3⁄16	6.25	.....	.....
49F812	2G8H	1	6.42	6.42	6	5.78	12	10½x2¾x7 1 3⁄32	7.0	1463	922
49F1015	2F	1	1.57	1.57	6	1.41	1½	2 1 3⁄32x1 3⁄8x4 1⁄4	.69	W353	11
49F1053	2FH	5	1.18	1.30	5	1.06	1½	2⅝x1 1 1⁄32x4⅛	.75	.....	.....
49F1054	4F	1	1.48	1.48	12	1.33	1½	2⅝x2⅝x4 3⁄32	1.38	742	4
49F117	422	1	1.68	1.68	6	1.51	3	1 1 1⁄32x2 3 3⁄32x2 5⁄16	.13	750	704
49F1057	F2BP	6	2.24	2.46	6	2.02	3	2 2 1⁄32x1 3⁄8x4 1⁄32	.82	W352	701
49F1056	2F2H	5	3.28	3.61	6	2.95	3	2⅝x2⅝x4 1⁄16	1.5	W356	703
49F1058	432	1	3.38	3.38	1	3.38	4½	1 3 1⁄32x2 1 1⁄32x2 1⁄4	.2	751	705
49F1059	532	1	1.82	1.82	4	1.64	4½	2 1 5⁄32x1 3 1⁄16x2 2 3⁄32	.25	703	706
49F1020	F3	1	2.79	2.79	4	2.51	4½	4x1 7⁄16x4⅛	1.12	736	3
49F1017	Z4	1	2.95	2.95	6	2.66	6	1 3⁄16x1 3⁄16x2 7⁄32	.14	724	2
49F1021	F4PI	1	1.33	1.33	12	1.20	6	2 1 1⁄32x2 2 1⁄32x4⅛	1.5	744	6
49F1018	B5	1	3.19	3.19	6	2.87	7½	3 2 9⁄32x7⅛ x2 2 7⁄32	.5	713	8
49F1019	C5	1	1.48	1.48	6	1.33	7½	2 7⁄32x1 1 5⁄16x3 1⁄32	.69	717	9
49F1080	K10	1	1.87	1.87	6	1.68	15	1¼ x⅞ x1 1 7⁄32	.10	417	224
49F1061	U10	1	1.12	1.12	12	1.01	15	1x 3 3⁄64x1 7⁄16	.05	411	208
49F1062	Y10	1	1.12	1.12	5	1.01	15	1 9⁄32x1 9⁄32x1 2 3⁄64	.03	504	220
49F1065	4156	1	2.20	2.20	5	1.98	22½	3 1 7⁄32x2⅛ x2 2 9⁄32	1.0	763	710
49F1077	5156 SC	1	5.93	5.93	5	5.34	22½	4 7⁄64x2 5⁄8x2 5 5⁄64	1.38	778	708
49F1081	K15	1	2.21	2.21	6	1.99	22½	1¼ x⅞ x2 9⁄32	.14	420	225
49F1063	U15	1	1.30	1.30	12	1.17	22½	1x 3 3⁄64x1 3 1⁄32	.075	412	215
49F1064	Y15	1	1.30	1.30	6	1.17	22½	1 9⁄32x1 9⁄32x1 3 1⁄32	.04	505	221
49F1039	XX15	1	3.32	3.32	6	2.99	22½	1 1 1⁄32x1 5 1⁄16x3⅞	.25	425P	.....
49F1082	K20	1	2.61	2.61	6	2.35	30	1¼ x1 5 1⁄16x2 2 3⁄32	.17	430	226
49F1078	U20	1	1.45	1.45	12	1.31	30	1x 3 9⁄64x2 1 7⁄32	.09	413	210
49F1079	Y20	1	2.76	2.76	6	2.48	30	1 3⁄16x1 9⁄32x1 1 3⁄32	.06	506	223
49F296	Y20S	1	1.67	1.67	6	1.50	30	1 9⁄32x1 9⁄32x2 9⁄16	.06	507	222
49F813	Y20SN	1	2.08	2.08	6	1.87	30	1 9⁄32x1 3⁄64x1 3 7⁄64	.06	.....	.....
49F1001	U30	1	2.05	2.05	6	1.84	45	1 3⁄32x1 9⁄32x3 1 7⁄32	.15	415	213
49F1092	XX30	1	2.75	2.75	6	2.48	45	2 1 7⁄32x3 1⁄32x3 2 1⁄32	.5	455	201
49F1083	XX30PI	1	3.47	3.47	6	3.12	45	2 1 7⁄32x3 1⁄32x4 1⁄32	.5	455p	.....
49F814	W30	1	6.72	6.72	1	6.72	45	3x1¼ x3 2 5⁄32	.7	.....	.....
49F1093	Z30	1	5.73	5.73	6	5.16	45	3x2 5⁄16x4 1⁄16	1.5	738	205
49F1084	Z30NX	5	4.10	4.10	5	3.69	45	3 1⁄32x1 7⁄8 x4 1 9⁄32	1.19	W350	711
49F1091	M30	1	3.55	3.55	6	3.20	45	3 9⁄16x1 3⁄4 x5 1⁄2	2.0	482	202
49F1085	5308	1	4.93	4.93	5	4.44	45	4 1⁄16x2 9⁄16x5 1⁄8	2.6	7625	709
49F1090	B30	2	8.65	8.65	6	7.79	45	4 1⁄16x2 1 7⁄32x5 5⁄16	2.0	484	207
49F1003	P45	1	3.40	3.40	6	3.06	67½	1 2 9⁄32x1x5 3⁄32	.55	477	211
49F1002	XX45	1	2.95	2.95	12	2.66	67½	2 3⁄4 x1 1 1⁄32x3 4 3⁄64	.72	467	200
49F1004	K45	1	3.33	3.33	6	3.00	67½	2 1 1⁄16x1 5 1⁄16x2 1⁄4	.44	457	203
49F1009	UX45	1	3.88	3.88	6	3.49	67½	1 7⁄32x3 1⁄32x3 3 1⁄32	.22	416	217
49F1005	XX50	1	9.10	9.10	3	8.19	75	1 2 7⁄32x1 9⁄16x6 5⁄16	.8	437	212
49F1008	P60	1	4.09	4.09	6	3.68	90	1 2 9⁄32x1x7 1 3⁄16	.75	479	214
49F1006	V60	1	3.79	3.79	6	3.41	90	3 2 3⁄32x1 9⁄32x3 1 1⁄16	1.27	490	204
49F1094	XX69	1	6.34	6.34	3	5.71	.103½	1 1 1⁄32x1 1 1⁄32x1 1 2 3⁄32	1.0	W361	227
49F1089	U200	1	10.63	11.63	3	9.57	300	2¾ x2 3⁄32x3⅜	1.0	493	722
49F1087	10308PI	1	12.32	12.32	6	11.09	45	8 1⁄32x4 1⁄32x7 9⁄16	11.5	W363P	726
49F1088	10308SC	1	12.32	12.32	6	11.09	45	8 1⁄32x4 1⁄32x7 9⁄16	12.0	W363F	716
49F1086	2308SC	1	12.32	12.32	6	11.09	45	8 3⁄32x2 3 1⁄32x7 1⁄4	7.6	W365F	723
49F1000	6TA60	1	13.30	13.30	1	13.30	1½ A, 90B	9 3 1⁄32x2 1⁄4 x4 7⁄16	6.6	.....	410
49F233	5360	1	2.08	2.08	6	1.87	4½	2 1 3⁄32x2 7⁄32x2 2 1⁄32	.25	781	714
49F816	2370	1	2.76	2.76	4	2.48	4½	3 1 9⁄16x1 3⁄8x2⅞	.75	.....	.....
49F234	W5BP	1	6.76	6.76	5	6.08	7½	2 3 1⁄32x2 3⁄32x1 3⁄4	.13	.....	.....
49F235	5540	1	2.79	2.79	5	2.51	7½	4x7⅞ x2 3⁄4	.4	773	713
49F344	720	24	.22	.24	72	.20	1½	1 3⁄32 (diam.)x1 3⁄4	.019	.....	.....
49F1134	*920	24	.22	.24	72	.20	1½	3 5⁄64 (diam.)x1 3 1⁄32	.04	.....	.....
49F1136	XX150	1	8.58	8.58	4	7.72	225	4¼ x2⅝x4 1⁄4	2.5	489	728
49F279	U160	1	8.30	8.30	4	7.47	240	2 9⁄16x1 5 1⁄16x4 1 3⁄32	.8	491	729
49F275	U320	1	15.00	15.00	4	13.50	510	2 1 5⁄16x1 1 7⁄32x5 7⁄16	1.65	497	741

MAKE NEWARK ELECTRONICS YOUR ONE STOP SOURCE FOR INDUSTRIAL ELECTRONICS EQUIPMENT

- **Phone, Write or Wire for Price Quotations on Larger Quantities**
- **Same Day Shipment from On-the-Shelf Stocks**
- **Lowest Prevailing OEM Prices Always Billed**
- **Complete Stocks of All Industrial and Military Types**
- **As New Products Are Released, Newark Will Stock Them**

CONTACT YOUR NEAREST NEWARK BRANCH FOR FAST, DEPENDABLE SERVICE

Stock No.	Burgess Type	Eveready Type	NEDA No.	Price Each In Standard Pack: Std. Pack	Price Each In Standard Pack: Price Each	Price Broken Pkg. Each	Price Each In Case Lots: Quantity Per Case	Price Each In Case Lots: Price Each	Volts	Size, In. L. x W. x H.	Unit Weight (Lbs.)
49F1023	310	.....	910	6	.10	.11	48	.09	1½	7/16 (diam.) 1 1/64	.013
49F1035	930	1015	15	24	.21	.23	144	.19	1½	35/64 (diam.) 1 31/32	.04
49F1034	130	1035	14	12	.24	.27	72	.22	1½	63/64 (diam.) 1 15/16	.10
49F1030	230	1050	13	12	.24	.27	72	.22	1½	1 21/64 (diam.) 2 25/64	.20
49F1024	D6PI	2506	1601	1	4.91	4.91	3	4.42	3, 6, 9	2 1 3/32 x 1 7/16 x 7 27/32	1.5
49F1031	A4	.....	.....	1	3.17	3.17	3	2.85	6	1 9/32 x 1 9/32 x 2 1 1/32	.25
49F1032	D5	707	26	1	2.84	2.84	6	2.56	7½	2 9/16 x 2 x 2 2 3/32	1.0
49F1028	2U6	216	1604	12	.61	.67	36	.55	9	1 x 3 9/64 x 1 7/8	.06
49F1027	XX9	239	1900	1	4.70	4.70	6	4.33	9, 13½	1 (diam.) 2 7/16	.2
49F1026	D6	276	1603	1	1.87	1.87	6	1.68	9	2 9/16 x 2 x 3 5/32	1.0
49F1025	2N6	246	1602	1	1.67	1.67	6	1.50	9	1 3/8 x 1 3/8 x 2 3/4	.38
49F1033	C6X	2356N	1612	1	2.61	2.61	6	2.45	9	2 9/16 x 1 1/32 x 6 1/16	.63
49F1029	P6	226	1600	6	.88	1.30	24	.79	9	1 (diam.) 1 1 5/16	.13
49F1037	D6S	2761N	1608	1	5.63	5.63	3	5.07	9	2 1/4 x 1 1/4 x 7 2 9/32	1.2
49F332	Y6	.....	1606	1	.96	.96	12	.86	9	3/5 x 3/5 x 1 9/10	.04
49F1041	2MN6	222	1604D	12	.76	1.08	24	.68	9	1 x 3 9/64 x 1 3/8	.07
49F340	PM8	228	1810	1	1.32	1.32	12	1.19	12	1 (diam.) 2 7/16	.14
49F1118	2	950	13F	50	.21	.23	200	.19	1½	1 21/64 (diam.) 2 3/8	3.0
49F1119	210	1150	13C	50	.22	.24	200	.20	1½	1 21/64 (diam.) 2 3/8	3.3
49F1014	1	935	14F	24	.22	.23	144	.20	1½	63/64 (diam.) 1 15/16	1.4
49F1122	Z (910)	915	15F	24	.14	.16	144	.13	1½	35/64 (diam.) 1 31/32	.6
49F1123	7	912	24F	24	.18	.20	72	.16	1½	1 3/32 (diam.) 1 3/4	.3
49F1126	TW1	731	918	1	2.76	2.76	6	2.48	6	5 3/8 x 2 7/8 x 4 1 5/16	3.2
49F1128	TW1-X	.....	.....	1	3.48	3.48	6	3.03	6	5 3/8 x 2 7/8 x 4 1 5/16	3.2
49F1127	TW2	732	926	1	3.17	3.17	6	2.85	12	5 3/8 x 2 7/8 x 4 1 5/16	3.2
49F1060	F4BP	510S	915	1	1.34	1.34	12	1.21	6	2 5/8 x 2 5/8 x 4	1.4
49F1125	F4M	509	908	12	1.34	1.48	12	1.21	6	2 5/8 x 2 5/8 x 4 3/8	1.4

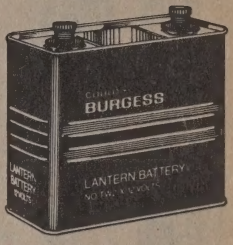
A-4

2MN

RECHARGEABLE 1.25 VOLT CELLS AND BATTERIES

Nickel cadmium. Wide temperature range.

Stock No.	Burgess Type	Eveready Type	Price Each In Standard Pack: Std. Pack	Price Each In Standard Pack: Price Each	Solder Lug Terms.	Size	Approx. Wt. Lbs.
49F1141	CD2	B50	1	1.32	No	.610Dx.236	.01
49F1143	CD4	B225	1	1.49	No	.988Dx.350	.03
49F1144	CD4L	B225T	1	1.73	Yes	.988Dx.375	.03
49F1147	CD6 (AA)	C450	1	2.46	No	.560Dx1.950	.05
49F1148	CD12L	.....	1	3.61	Yes	1.310Dx.2775	.11
49F1150	CD10(D)	CH4	1	8.20	No	1.344Dx2.425	.32
49F1151	CD10L (D)	.....	1	8.35	Yes	1.344Dx2.775	.32



TW1-X

CD25

NICKEL CADMIUM BATTERIES

Stock No.	Burgess Type	Eveready Type	Volts	Dimensions (In Inches)	Approximate Weight (Pounds)	Net Each
49F1152	CD21	.....	6	1.065Dx1.525	¾	10.02
49F1153	CD22	N66	6	1.065Dx1.975	¾	10.60
49F1154	CD23	.....	6	1.800Dx1.725	1	16.05
49F1155	CD30	N67	6	1½x1½x3 13/16	1	33.10
49F1156	CD24	.....	9.6	1.065Dx2.650	¾	15.15
49F1157	CD25	.....	9.6	1.065Dx3.200	¾	15.45
49F1158	CD27	.....	12	1.065Dx2.925	¾	18.32
49F1159	CD28	.....	12	1.065Dx3.600	¾	19.60
49F1160	CD29	.....	12	1.800Dx3.100	1¼	30.09

CD29

ZINC-CARBON BATTERIES

Long-life zinc carbon batteries are most popular for portable power. Available in most standard sizes. For use in industrial, electronic, transistor, and many other applications. Specially sealed to provide protection in handling and against corrosive leakage. Sturdy construction. Long dependable service, even over a wide range of temperatures, plus peak performance at all times.

Stock No.	Type	Price Each	Volts	Size	Wt., Lbs.	Replaces: Eveready	Replaces: NEDA
49F1041	2MN6	.76	9	1x3 9/64x1 7/8" dia.	⅛	222	1604D
49F1025	2N6	1.67	9	1 3/8x1 3/8x2 3/4"	¼	246	1602
49F1028	2U6	.61	9	1x3 9/64x1 7/8"	¼	216	1604
49F1123	7	.18	1½	1 3/4x1 3/32" dia.	¼	912	24F
49F1034	130	.24	1½	1 15/16x63/64" dia.	½	1035	14
49F1030	230	.24	1½	2 25/64x1 21/64" dia.	½	1050	13
49F1035	930	.21	1½	1 31/32x35/64" dia.	½	1015	15
49F1118	2	.21	1½	2 3/8x1 31/64" dia.	⅝	950	13F
49F1023	310	.10	1½	1 11/64x7/16" dia.	⅛	904	910
49F1027	XX9	4.70	9, 13½	1 9/32x2 9/32x2 17/32"	¼	239	1900

INDUSTRIAL BATTERIES

- **Guaranteed and Power-Sealed**
- **Long-Life Service**

Designed for industry's maximum service demands. Long-life service on heavy-duty drain and long periods of consistent use. Industrial batteries are guaranteed and power-sealed. All Burgess Industrial Battery labels show "not designed for retail sales" which in reality is your "private label" which prevents pilferage and non-plant use. *Indicates commercial equivalent.

Stock No.	Type	Volts	*	Quantity	Wt., Lbs. Per Case	Per Case: 1-5	Per Case: 6-20
49F312	1200	1½	D	200	42	32.60	29.35
49F311	800	1½	D	200	41-3/10	27.45	24.70
49F310	700	1½	C	192	21	27.45	24.70
49F308	500	1½	AA	192	7	21.20	19.08

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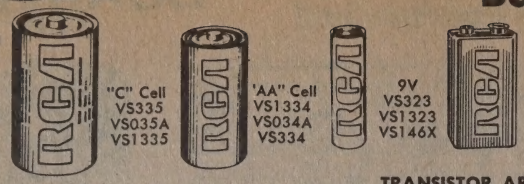
Batteries



ALKALINE, MERCURY, CARBON ZINC SILVER OXIDE AND RECHARGEABLE BATTERIES

RCA's quality line of batteries can be used for industrial and special purpose applications, transistor radios, lighting, photoflash, hearing aids. Includes alkaline, mercury, carbon zinc, silver oxide and rechargeable batteries. Select the battery system with the best cost–pefromance value for your specific needs.

TRANSISTOR APPLICATIONS

*A, alkaline; CZ, carbon zinc; M mercury; AR, alkaline rechargeable; SO, silver oxide. †Used extensively in photo applications also.

Stock No.	RCA Type	Replaces Eveready Type	Voltage	System*	L. x W. x H.	Each Wt. (lbs.)	Price Each In Standard Pack: Pack Qty.	Price Each In Standard Pack: Each	Broken Package Each
48F300	VS9	E9	1.4	M	0.540 dia. x 1.968	.3	4	.72	1.08
48F301	VS12	E12	1.4	M	0.627 dia. x 1.968	.25	2	1.24	1.85
48F302	VS126	E126	8.4	M	0.730 dia. x 2.000	.5	6	1.80	2.70
48F303	VS133	E133	4.2	M	0.666 dia. x 1.965	.5	6	1.80	2.70
48F304	VS146X	E146X	8.4	M	1.031x0.660x1.750	.5	6	1.27	1.95
48F305	VS163	E163	4.2	M	0.662 dia. x 1.327	.15	2	1.97	2.96
48F306	VS164	E164	5.6	M	0.662 dia. x 1.767	.5	6	1.80	2.70
48F307	VS165	E165	7.0	M	0.662 dia. x 2.217	.2	2	2.33	3.50
48F308	VS177	E177	9.8	M	0.546 dia. x 1.902	.3	6	1.80	2.70
49F1095	VS300A	226	9.0	CZ	1.000 dia. x 1.938	.6	6	.79	1.19
49F1098	VS305	246	9.0	CZ	1.406x.1344x2.750	.3	1	1.54	2.25
49F1099	VS306	276	9.0	CZ	2.563x2.031x3.156	.9	1	1.71	2.50
49F1100	VS322	266	9.0	CZ	1.813x1.813x2.438	.4	1	1.36	1.95
49F1101	VS323	216	9.0	CZ	1.031x0.656x1.906	.9	12	.54	.79
49F1104	VS327	206	9.0	CZ	0.750 dia. x 2.000	.1	1	.62	.89
48F312	VS330	2356N	9.0	CZ	2.188x1.156x6.250	1.3	1	2.40	3.50
49F1107	VS332	333	4.5	CZ	0.662 dia. x 1.965	.1	1	.83	1.24
49F1108	VS334	1015	1.5	CZ	0.563 dia. x 1.974	.9	24	.19	.30
49F1110	VS335	1035	1.5	CZ	1.031 dia. x 1.956	2.3	24	.23	.35
49F1112	VS336	1050	1.5	CZ	1.344 dia. x 2.436	5.0	.23	.23	.35
48F309	VS640	E640	1.4	M	0.625 dia. x 0.440	.1	2	.66	1.00
48F310	VS1073†	E90	1.5	A	0.455 dia. x 1.130	.05	2	.41	.64
48F311	VS1074†	E92	1.5	A	0.405 dia. x 1.745	.6	24	.44	.68
48F313	VS1149	523	4.5	A	0.666 dia. x 1.965	6	6	1.36	2.10
48F314	VS1323	.....	9.0	A	1.031x0.660x1.750	.6	6	.98	1.50
48F315	VS1334†	E91	1.5	A	0.555 dia. x 1.940	.3	24	.45	.70
48F316	VS1335†	E93	1.5	A	1.020 dia. x 1.940	1.0	6	.52	.80
48F317	VS1336†	E95	1.5	A	1.315 dia. x 2.377	2.1	6	.65	1.00
					HEARING AID APPLICATIONS				
48F318	VS401	E401	1.4	M	0.455x1.130	.01	3	.72	1.08
48F319	VS625	E625	1.4	M	0.615x0.238	.05	4	.48	.70
48F320	VS675	E675	1.4	M	0.455x0.210	.01	6	.37	.56
48F321	VS1776	S76	1.5	SO	0.455x0.210	.05	6	.53	.80
					FLASHLIGHT AND LANTERN				
48F322	VS034A	915	1.5	CZ	0.563 dia. x 1.966	0.9	24	.16	.25
48F323	VS035A	935	1.5	CZ	1.031 dia. x 1.851	2.1	24	.19	.30
48F324	VS036	950	1.5	CZ	1.344 dia. x 2.441	5.0	24	.19	.30
48F325	VS040C	509	6.0	CZ	2.625x2.625x3.406	1.3	1	1.19	1.78
48F326	VS040S	510S	6.0	CZ	2.625x2.625x4.313	1.4	1	1.19	1.78
48F327	VS073	904	1.5	CZ	0.445 dia. x 1.180	.1	6	.10	.15
48F328	VS074	912	1.5	CZ	0.406 dia. x 1.750	.2	12	.16	.25
48F329	VS139	715	7.5	CZ	8.250x4.062x6.438	7.9	1	5.30	7.95
48F330	VS317	731	6.0	CZ	5.344x2.844x4.938	3.1	1	2.49	3.70
48F331	VS342	732	12.0	CZ	5.344x2.844x4.938	3.2	1	2.85	4.25
48F332	VS343	D99	1.5	CZ	1.344 dia. x 2.436	19.9	48	.23	.35
					PHOTOFLASH AND PHOTOGRAPHIC APPLICATIONS				
48F333	VSPX13	EPX13	1.35	M	0.615 dia. x 0.238	0.1	6	.72	1.08
48F334	VS705	505	22.5	CZ	0.625x0.594x1.975	.04	1	1.20	1.75
48F335	VS797	497	510.0	CZ	3.000x1.594x5.625	1.75	1	13.63	19.90
48F336	VS1073	E90	1.5	A	0.455 dia. x 1.130	.05	2	.41	.64
48F337	VS1074	E92	1.5	A	0.405 dia. x 1.745	.6	24	.44	.68
48F338	VS1334	E91	1.5	A	0.555 dia. x 1.940	.3	24	.45	.70
48F339	VS1335	E93	1.5	A	1.020 dia. x 1.940	1.0	6	.52	.80
48F340	VS1336	E97	1.5	A	1.315 dia. x 2.377	2.1	6	.65	1.00
48F341	VS1339	532	3.0	A	0.666 dia. x 1.670	.2	2	1.24	1.85
48F342	VS1340	EPX825	1.5	A	0.905 dia. x 0.228	.05	2	.52	.80
					INDUSTRIAL AND SPECIAL PURPOSE APPLICATIONS				
48F343	VS006C	6GL	1.5	CZ	2.625 dia. x 6.687	2.1	1	1.20	1.79
48F344	VS006S	61GN	1.5	CZ	2.625 dia. x 6.656	2.0	1	1.20	1.79
48F345	VS029	773	1.5-7.5	CZ	3.90x0.844x3.000	.6	1	2.40	3.50
48F346	VS083	411	15.0	CZ	1.031x0.625x1.453	.05	1	1.00	1.50
48F347	VS084	412	22.5	CZ	1.031x0.625x2.000	.1	1	1.20	1.75
48F348	VS085	413	30.0	CZ	1.031x0.625x2.563	.1	1	1.34	1.95
48F349	VS086	415	45.0	CZ	1.047x0.625x3.688	.1	1	1.88	2.75
48F350	VS102	753	22.5	CZ	3.500x2.094x3.063	1.0	1	1.95	2.96
48F351	VS106	735	1.5	CZ	2.625x2.625x4.406	1.5	1	1.13	1.69
					RECHARGEABLE ALKALINE TYPES				
48F352	VS1513-B	.....	1.5	AR	1.315 dia. x 2.377	4.5	12	2.50	3.70
48F353	VS1514-B	.....	1.5	AR	1.020 dia. x 1.940	2.0	12	2.14	3.20
48F354	VS1515-B	.....	1.5	AR	0.555 dia. x 1.940	.9	12	1.40	2.10
48F355	VS1564	564	13.5	AR	8.313x2.813x5.875	6.0	1	10.99	76.50

49F1114. Model BC-16 charger. Recharges alkaline batteries above. Size, 9¾x4¾x2¾". 117 VAC 1 lb. **6.70**

PORTABLE RADIO "A" & "B"

48F356	VS068	724	6.0	CZ	1.219x1.219x2.344	.2	1	1.50	2.24
48F357	VS345	744	6.0	CZ	2.625x2.625x3.844	1.4	1	1.20	1.75
48F358	VS016	467	67.5	CZ	2.813x1.375x3.703	.8	1	2.70	3.85
48F359	VS055	455	45.0	CZ	2.656x1.000x3.688	.5	1	2.48	3.75
48F360	VS090	490	90.0	CZ	3.719x1.395x3.703	1.0	1	3.25	4.75

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Duracell® Batteries

MALLORY

Duracell batteries offer superior performance, long life and low price. All batteries guaranteed factory fresh. All batteries pass rigid quality control tests. Buy by the box for bigger savings. Mercury and Alkaline batteries are designed for high-drain service applications. These batteries out-perform and outlast standard batteries. Avg. Shpg. wt. 8 oz.

DURACELL MERCURY BATTERY COMPARISON

Stock No.	Type	Replaces Eveready	Replaces Burgess	* B.P.	Std. Pkg.	† S.P.	Volts	Dimension	Use
49F563	RM1	E1	HG1	.79	40	.72	1.4	$\frac{5}{8}$D$\times\frac{21}{32}$	Phys. hndcp.
49F500	RM1R	E1N	HG1R	.97	40	.88	1.35	$\frac{5}{8}$D$\times\frac{21}{32}$	Electronic
49F564	RM1RT	E1NT1	HG1RT	1.02	40	.92	1.35	$\frac{5}{8}$D$\times\frac{21}{32}$	Electronic
49F565	RM1RT2	E1NT2	HG1RT2	1.07	40	.97	1.35	$\frac{5}{8}$D$\times\frac{21}{32}$	Electronic
49F501	RM3R	E3	HG3 R	1.50	20	1.36	1.35	1D$\times\frac{21}{32}$	Electronic
49F502	RM4R	E4	HG4R	1.91	20	1.74	1.35	1.2D$\times\frac{21}{32}$	Electronic
49F504	RM4Z	...	...	1.26	24	1.15	1.4	1.2D$\times\frac{1}{2}$	Electronic
49F530	ZM9	E9	HG9	.77	48	.70	1.4	$\frac{17}{32}$D$\times\frac{131}{32}$	Radio "AA"
49F532	RM12	E12	HG12	1.35	10	1.23	1.35	$\frac{5}{8}$D×2	Tape Rcrdr.
49F505	RM12R	E12N	HG12R	1.53	10	1.36	1.35	$\frac{5}{8}$D×2	Tachometer
49F566	RM12RT	E12NT1	HG12RT	1.55	10	1.41	1.35	$\frac{5}{8}$D×2	Electronic
49F567	RM12RT2	E12NT2	HG12RT2	1.61	10	1.46	1.35	$\frac{5}{8}$D×2	Electronic
49F423	RM42	E42	HG42	3.86	10	3.51	1.4	1.2D×$2\frac{3}{8}$	Elec. "D"
49F506	RM42R	E42N	HG42R	4.18	10	3.84	1.35	1.2D×$2\frac{3}{8}$	Elec. "D"
49F507	RM42RT	E42NT1	HG42RT	4.28	10	3.89	1.35	1.2D×$2\frac{3}{8}$	Elec. "D"
49F568	RM42RT2	E42NT2	HG42RT2	4.33	10	3.94	1.35	1.2D×$2\frac{3}{8}$	Elec. "D"
49F533	TR113R	E113	H113R	2.28	10	2.07	4.05	$\frac{21}{32}$D$\times\frac{53}{64}$	Electronic
49F534	TR114R	E114	H114R	2.50	10	2.28	5.4	$\frac{21}{32}$D$\times1\frac{1}{16}$	Electronic
49F535	TR115R	E115N	H115R	2.86	10	2.60	6.75	$\frac{21}{32}$D$\times1\frac{5}{16}$	Electronic
49F450	TR118	...	...	3.56	20	3.24	11.2	$\frac{21}{32}$D×$2\frac{1}{32}$	Medical
49F570	TR126	E126	H126	1.98	24	1.80	8.4	$\frac{3}{4}$D×2	Radio
49F431	TR132	E132	H132	1.34	10	1.22	2.8	$\frac{21}{32}$D$\times\frac{15}{16}$	Paging
49F508	TR132R	E132N	H132R	1.73	10	1.57	2.7	$\frac{21}{32}$D$\times\frac{15}{16}$	Electronic
49F536	TR133	E133	H133	1.98	24	1.80	4.2	$\frac{21}{32}$D×2	Radio, Pag.
49F571	TR133R	E133N	H133R	2.20	10	2.00	4.05	$\frac{21}{32}$D×2	Radio, Pag.
49F510	TR134R	E134N	...	2.66	10	2.42	5.4	$\frac{21}{32}$D×$2\frac{9}{16}$	Electronic
49F537	TR135R	E135N	H135R	3.16	10	2.88	6.75	$\frac{21}{32}$D×$3\frac{1}{4}$	Electronic
49F538	TR136R	E136N	H136R	3.54	10	3.22	8.1	$\frac{21}{32}$D×$3\frac{29}{32}$	Electronic
49F435	TR137R	E137R	H137R	3.97	10	3.61	9.45	$\frac{21}{32}$D×$4\frac{19}{32}$	Electronic
49F511	TR146X	E146X	H146X	1.39	12	1.27	8.4	1×$1\frac{19}{32}$×$1\frac{13}{16}$	Electronic
49F539	TR152R	152N	H152R	1.49	20	1.36	2.7	$\frac{15}{32}$D$\times1\frac{1}{8}$	Radio
49F541	TR162R	E162	H162R	1.88	10	1.71	2.7	$\frac{21}{32}$D×$\frac{7}{8}$	Electronic
49F542	TR163	E163	H163	2.17	10	1.98	4.2	$\frac{21}{32}$D$\times1\frac{5}{16}$	Electronic
49F544	TR164	E164	H164	1.98	24	1.80	5.6	$\frac{21}{32}$D×$1\frac{3}{4}$	Electronic
49F439	TR164R	E164N	H164R	2.68	10	2.44	5.4	$\frac{21}{32}$D×$1\frac{3}{4}$	Radio
49F546	TR165	E165	H165	2.56	10	2.33	7.0	$\frac{21}{32}$D×$2\frac{3}{16}$	Electronic
49F438	TR165R	E165N	H165R	2.92	10	2.66	6.75	$\frac{21}{32}$D×$2\frac{3}{16}$	TV Tuner
49F426	TR169	E169	H169	4.35	10	3.96	12.6	$\frac{21}{32}$D×$3\frac{61}{64}$	Electronic
49F548	TR175	E175	E175	1.77	10	1.61	7.0	$\frac{31}{64}$D×$1\frac{3}{32}$	Electronic
49F549	TR177	E177	H177	1.98	24	1.80	9.8	$\frac{35}{64}$D×$1\frac{29}{32}$	Radio
49F512	TR233	E233	H233	3.55	10	3.23	4.2	$1\frac{1}{16}$D×$1\frac{31}{32}$	Radio
49F440	TR233R	E22N	...	3.97	10	3.61	4.05	$1\frac{1}{16}$D×$1\frac{31}{32}$	Radio
49F441	TR234	E234N	...	3.27	1	2.98	5.4	1D×$2\frac{19}{32}$	Electronic
49F424	TR234R	E234N	...	5.15	10	4.68	5.6	1D×$2\frac{19}{32}$	Electronic
49F527	TR235N	E235N	...	6.36	1	5.78	6.75	1D×$3\frac{1}{4}$	Electronic
49F442	TR236R	E236N	...	7.54	5	6.85	8.1	1D×$3\frac{3}{4}$	Electronic
49F574	TR289	228	PM8	3.97	6	3.61	12.6	1D×$2\frac{25}{64}$	Electronic
49F425	RM312	E312	HG312	.28	60	.25	1.4	$\frac{19}{64}$D×$\frac{9}{64}$	Radio
49F513	RM400R	E400	HG312	.79	60	.72	1.35	$\frac{29}{64}$D×$\frac{9}{64}$	Phys. Hndcp.
49F514	RM401	E401	HG400R	.79	72	.72	1.4	$\frac{29}{64}$D×$1\frac{1}{8}$	Electronic
49F444	RM401R	E401N	HG401R	.97	20	.88	1.35	$\frac{29}{64}$D×$1\frac{1}{8}$	Electronic
49F550	RM411	...	...	2.29	12	2.08	14.0	1×$\frac{17}{32}$×$1\frac{3}{32}$	Radio "N"
49F551	RM412	...	...	3.07	12	2.79	22.4	1×$\frac{17}{32}$×$1\frac{5}{16}$	Electronic
49F451	RM413	...	...	3.86	12	3.51	28.0	1×$\frac{17}{32}$×$2\frac{1}{2}$	Electronic
49F553	RM415	...	...	5.75	6	5.23	42.0	1×$\frac{17}{32}$×$3\frac{1}{2}$	Electronic
49F452	TR431	...	...	3.97	6	3.61	10.7	$1\frac{1}{16}$×$3\frac{3}{16}$	Electronic
49F554	RM450R	E450	HG450R	.97	40	.88	1.35	$\frac{29}{64}$D×$\frac{9}{16}$	Electronic
49F427	RM502R	E502	HG502R	1.35	10	1.23	1.35	$\frac{1}{2}$D$\times\frac{131}{32}$	Dictation
49F519	RM520	E520	HG520	.20	60	.18	1.4	$\sqrt{2}$D$\times\frac{17}{64}$	Electronic
49F555	RM601R	E601	HG601R	1.35	10	1.23	1.35	$\frac{5}{8}$D$\times\frac{15}{32}$	Phys. hndcp.
49F447	RM625	E625	HG625	.73	40	.67	1.4	$\frac{5}{8}$D×$\frac{1}{4}$	Phys. hndcp.
49F556	RM625R	E625N	HG625 R	.85	40	.78	1.35	$\frac{5}{8}$D×$\frac{1}{4}$	Electronic
49F520	RM625RT	E625	HG625RT	.91	40	.83	1.35	$\frac{5}{8}$D×$\frac{1}{4}$	Phys. hndcp.
49F575	RM625RT2	E625NT1	HG625R	.97	40	.88	1.35	$\frac{5}{8}$D×$\frac{1}{4}$	Electronic
49F559	RM640	640	HG640	.72	20	.66	1.35	$\frac{5}{8}$D×$\frac{1}{16}$	Phys. hndcp.
49F561	RM675	E67	HG675	.41	60	.37	1.4	$\frac{19}{64}$D×$\frac{13}{64}$	Electronic
49F552	PX825	EPX825	APX825	.57	72	.52	1.5	.90D×.220	Photo Battery

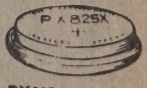
*Indicates broken package. †Indicates standard package

RM42

RM12

TR162R

RM675



PX825

TR112

DURACELL ALKALINE BATTERIES

Stock No.	Mallory Type	Eveready Type	Price Each in Standard Pack: Std. Pack	Price Each in Standard Pack: Price Each	Price Each in Case Lots: Quantity Per Case	Price Each in Case Lots: Price Each	Volts And/Or Size	Dimensions (Inches)	Approx. Wt. Lbs.	NEDA No.
49F1168	Mn9100	E90	2	.64	24	.41	1.5"N"	$\frac{29}{64}$Dx$1\frac{1}{8}$	0.1	910A
49F1169	Mn1500	E91	4	.70	96	.45	1.5"AA"	$\frac{17}{32}$Dx$1\frac{31}{32}$	1.3	15A
49F1170	Mn2400	E92	24	.70	48	.45	1.5"AAA"	$\frac{13}{32}$Dx$1\frac{3}{4}$	0.3	24A
49F1171	Mn1400	E93	6	.80	48	.52	1.5"C"	$\frac{63}{64}$Dx$1\frac{13}{16}$	1.8	14A
49F1173	Mn1300	E95	6	1.10	48	.65	1.5"D"	$1\frac{21}{64}$Dx$2\frac{13}{32}$	3.6	13A
49F1174	Mn1306	523	6	2.10	24	1.36	4.5	$\frac{21}{32}$Dx2	0.1	1306A

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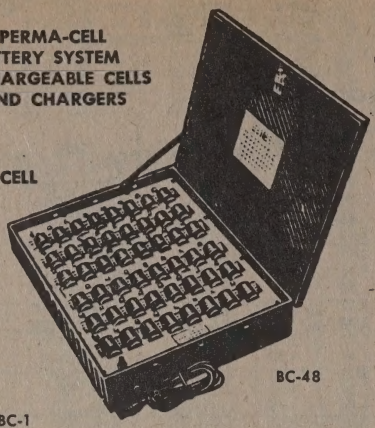
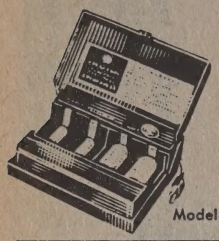
GENERAL ELECTRIC Batteries and Chargers

PERMA-CELL BATTERY SYSTEM RECHARGEABLE CELLS AND CHARGERS

New!
PERMA-CELL


BC-48


Model BC-1

RECHARGEABLE SEALED NICKEL-CADMIUM CELLS

Battery system includes rechargeable sealed nickel-cadmium cells and chargers. Nickel cadmium cells rated 1.25 volts can be recharged up to 1000 times or more. Home consumer uses these cells along with Model BC-1 charger to replace ordinary throwaway batteries. Industrial and commercial firms use C or D cells in larger charger BC-48 or BC-48B. For more energy per charge, GC-4 4.0 amp-hour D size battery is used with the BC-448 charger.

Stk. No.	GE Type	Description	Net
49F990	GC-1	AA Size 0.5 AH Twin Pack	1.75
49F991	GC-2	C Size 1.0 AH Twin Pack	1.97
49F992	GC-3	D Size 1.2 AH Twin Pack	1.97
49F942	GC-4	D Size 4.0 AH Single Unit	5.80
49F993	BC-1	Charger for 2 or 4 GC-1, GC-2, or GC-3 Cells	9.95
49F988	BC-48	Charger for 1 to 48 GC-3 Cells	144.00
49F948	BC-48B	Charger for 1 to 48 GC-2 Cells	144.00
49F949	BC-448	Charger for 1 to 48 GC-4 Cells	192.00

SEALED BATTERY DIMENSION KEY

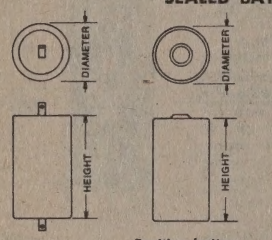


Fig. 1. Battery with solder terminals and insulating sleeve.

Fig. 2. Battery with positive button terminal and insulating sleeve.

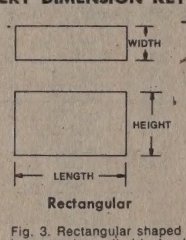


Fig. 3. Rectangular shaped battery using cylindrical cells. Battery case of plastic with two terminals provided.

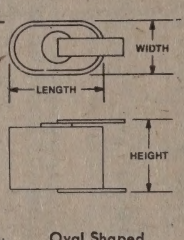


Fig. 4. Oval battery supplied with solder-tab terminals and insulating sleeve.

SEALED CYLINDRICAL AND OVAL CELL BATTERIES

Sealed cylindrical cells and batteries are preferred for most applications requiring long, trouble-free life, high rates of discharge or charge current, complete portability, and safety. Micro-valve resealable pressure relief vent provides this safety by relieving excessive pressure when battery is misapplied or misused. After safety relieving abnormal pressure, vent then reseals and maintains sealed integrity of cell. Edge-welded construction permits very high discharge currents without overheating. Cells with this feature can be operated in ambient temperatures up to 40° C, provided that cell temperature never exceeds 50° C. They are designed for charging at constant current ten-hour of 0.1C rate. Furnished with insulating sleeve and solder tabs.

STANDARD RATINGS AND DIMENSIONS—CYLINDRICAL BATTERIES

Stock No.	Model Number	Cell Type	DC Volts	Capacity Ampere-hour 1 Hr.	Capacity Ampere-hour 10 Hr.	Maximum Overcharge Rate in mA	Maximum Dimensions Diameter Inches	Diameter mm	Height Inches	Height mm	Outline Fig. #	1-99	100-999	1000-9999
48F221	GCB100ST	sub N	1.2	.080	.090	8	.450	11.4	1.015	25.8	1	1.48	1.04	.81
48F222	GCF100ST	1/3 AA	1.2	.100	.110	10	.574	14.6	.702	17.8	1	1.48	1.04	.81
48F112	GCK150ST	1/3 A	1.2	.150	.170	15	.643	16.3	.656	16.7	1	1.50	1.05	.83
48F223	GCL200ST	.....	1.2	.175	.200	20	.673	17.1	.655	16.6	1	1.52	1.06	.84
48F113	GCF250ST	½ AA	1.2	.250	.275	25	.574	14.6	1.28	32.5	1	1.54	1.08	.85
48F224	GCL450ST	.....	1.2	.400	.450	40	.673	17.1	1.12	28.4	1	1.62	1.13	.89
48F123	GCE450SB	AA	1.2	.450	.500	45	.560	14.2	1.978	50.2	2	1.62	1.13	.89
48F114	GCF500ST	AA	1.2	.500	.550	50	.574	14.6	1.952	49.6	1	1.62	1.13	.89
48F225	GCR550ST	½ sub C	1.2	.500	.550	55	.900	22.9	1.045	26.5	1	1.64	1.15	.90
48F115	GCK600ST	A	1.2	.600	.660	60	.643	16.3	1.965	49.9	1	1.66	1.16	.91
48F244	GCT700ST	½ C	1.2	.700	.770	70	.985	26.1	1.028	26.1	1	1.70	1.19	.94
48F117	GCR1.0ST	sub C	1.2	1.0	1.2	100	.900	22.9	1.645	41.8	1	1.80	1.26	.99
48F116	GCT1.0ST	3/5 C	1.2	1.0	1.1	100	1.028	26.1	1.184	30.1	1	1.80	1.26	.99
48F118	GCT1.1ST	2/3 C	1.2	1.0	1.1	110	1.028	26.1	1.30	33.0	1	1.96	1.37	1.08
48F125	GCT1.5SB	C	1.2	1.5	1.8	150	1.028	26.1	1.952	49.6	2	2.60	1.82	1.43
48F119	GCT1.5ST	C	1.2	1.5	1.8	150	1.028	26.1	1.85	47.1	1	2.60	1.82	1.43
48F120	GCW2.0ST	½ D	1.2	2.0	2.3	200	1.29	32.8	1.464	26.9	1	3.40	2.38	1.87
48F126	GCW3.5SB	D	1.2	3.5	4.0	350	1.29	32.8	2.41	61.2	2	5.80	4.06	3.19
48F121	GCW3.5ST	D	1.2	3.5	4.0	350	1.29	32.8	2.311	59.6	1	5.80	4.06	3.19

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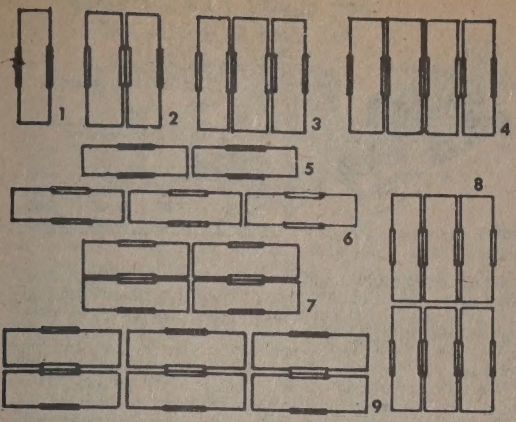
RECTANGULAR AND OVAL BATTERIES

Stock No.	Model Number	Cell Type	DC Volts	Capacity Ampere-Hour 1 Hr.	Capacity Ampere-Hour 10 Hr.	Maximum Overcharge Rate in mA	Maximum Dimensions Width Inches	Width mm	Length Inches	Length mm	Height Inches	Height mm	Outline Fig. #	1-99	100-999	1000-9999
48F238	GR4.0	V04	1.2	4.0	4.4	400	.....	.....	.....	.....	3.05	77.5	3	9.50	6.65	5.25
48F122	GO4.0ST	Oval	1.2	4.0	4.4	400	1.32	33.5	2.14	54.4	1.71	43.4	4	7.24	5.07	3.98
48F230	5GCF500	AA	6	.500	.550	50	.78	19.8	3.01	76.5	2.16	54.9	3	9.80	6.86	5.39
48F234	10GCF500	AA	12	.500	.550	50	1.34	34.0	3.01	76.5	2.16	54.9	3	19.00	13.30	10.45
48F231	5GCR-1.0	Sub C	6	1.0	1.2	100	1.12	28.4	4.71	120	1.84	46.7	3	10.80	7.56	5.94
48F235	10GCR1.0	Sub C	12	1.0	1.2	100	2.02	51.3	4.71	120	1.84	46.7	3	21.00	14.70	11.55
48F232	5GCW2.0	½ D	6	2.0	2.3	200	1.51	38.4	6.68	170	1.67	42.4	3	19.60	13.72	10.78
48F236	10GCW2.0	½ D	12	2.0	2.3	200	2.81	71.4	6.68	170	1.67	42.4	3	38.60	27.02	21.23
48F233	5GCW3.5	D	6	3.5	4.0	350	1.58	40.1	6.75	171	2.62	66.5	3	32.80	22.96	18.04
48F237	10GCW3.5	D	12	3.5	4.0	350	2.88	73.2	6.75	171	2.62	66.5	3	65.00	45.50	35.75

Keystone Battery Holders



ALUMINUM BATTERY HOLDERS

Copper lugs are cadmium plated Fibre insulators moisture proofed. Frame and clip made of 2020 ST4 Aluminum. Custom built holders provided to the customer upon special order. Buyer must call Keystone engineering service directly.

MINIATURE CELL HOLDERS

All Batteries listed below fit all sizes of Type No's.	Stock No.	Type	Cell	Fig.	1-19	20-99	100-Up
Burgess: 7 Eveready: 912	35F1585	137	1	1	.25	.22	.20
	35F1586	138	2	2	.42	.37	.33
	35F1587	169	3	3	.61	.56	.52
	35F1588	170	4	4	.70	.63	.56

PENCELL HOLDERS

Burgess: CD6, 9R, Z, HG9, HG12R, H133, HG502R, 920, 930 Eveready: E9, E12, E91, E133, 333, E502, 515, 915, 1015, N46	35F1589	139	1	1	.25	.22	.20
	35F1590	140	2	2	.40	.35	.32
	35F1591	171	3	3	.55	.50	.44
	35F1592	182	4	4	.70	.63	.56
	35F1593	189	2	5	.50	.40	.36
	35F1595	192	4	7	.70	.59	.56
	35F1596	193	6	8	1.02	.89	.83

"C" CELL HOLDERS

Burgess: 1, P6, 120, 130, H233, 302599 Eveready: 226, E233, 635, 935, 1035, E93	35F1597	173	1	1	.33	.29	.26
	35F1598	174	2	2	.40	.35	.32
	35F1599	187	3	3	.65	.62	.55
	35F1600	185	2	5	.50	.40	.36
	35F1602	196	4	7	.70	.59	.56
	35F1603	197	6	8	1.02	.89	.83

"D" CELL HOLDERS

Burgess: 2, 2R, CD7, 210, 230 Eveready: E42, N56, E95, D99, A100, 950, 1050	35F1604	175	1	1	.33	.29	.26
	35F1605	176	2	2	.40	.35	.32
	35F1606	190	3	3	.72	.68	.61
	35F1607	186	2	5	.51	.41	.37
	35F1609	200	4	7	.72	.61	.57
	35F1610	201	6	8	1.05	.94	.86
	35F1611	205	6	9	.95	.85	.78

1½ VOLT CELL HOLDERS

Burgess: N Eveready: E340, 904	35F1612	154	1	1	.23	.22	.18
	35F1613	155	2	2	.39	.35	.33

9 VOLT CELL HOLDERS

Eveready: 206 Burg.: 2U6; Ever.: 216	35F1618	139A	1	1	.29	.26	.23
	35F1619	203P	1	..	.48	.40	.33

15 VOLT CELL HOLDERS

Burg.: U10; Ever.: 411 #161 mounts vertical #166 mounts horiz. Burgess: Y10 Eveready: 504	35F1622	161	1	1	.33	.29	.26
	35F1623	166	1	1	.33	.29	.26
	35F1624	167	2	2	.42	.37	.33
	35F1625	225	1	1	.21	.20	.18
	35F1626	226	2	2	.35	.32	.30

22½ VOLT CELL HOLDERS

Eveready: 420 Burg.: U15; Ever.: 412 Burg.: Y15; Ever.: 505	35F1628	168	1	1	.33	.29	.26
	35F1629	177	1	1	.33	.29	.26
	35F1630	178	2	2	.42	.37	.33
	35F1631	139A	1	1	.29	.26	.23

30 VOLT CELL HOLDERS

Burgess: U20 Eveready: 413	35F1637	183	1	1	.33	.29	.26
	35F1638	184	2	2	.42	.37	.33

NICKEL PLATED STEEL BATTERY HOLDERS

- MADE OF SAE 1065 CARBON STEEL
- MEETS MIL SPEC. 17919
- STAINLESS STEEL EYELET

STANDARDIZED ALL STEEL BATTERY HOLDERS

Ideal for Nickel Cadmium Alkaline, mercury, and carbon zinc cells. Made of SAE 1065. Carbon Steel to Mil Spec. 17919, heat treated to spring temper and nickel plated .0002 thick. Stainless steel eyelet, moisture proof vulcoid washers and a coated copper solder lug compose the contact assembly. 2 mounting holes. (**) Side by side clips mounted on phenolic 1/16" thick MIL Spec. 3115B. End to end † insulating tubes furnished.

PENCELL HOLDERS—ALL CONTACTS INSULATED

All Batteries listed below fit all sizes of Type No's.	Stock No.	Type	Cells	1-19	20-99	100-249
Eveready: E9, E12, E91, E133, E502, N46, 515, 915, 1015, BA58 Burgess: Z, HG9, CD6, 9 R, HG12R, H133, HG502R 920,930	35F1550	2139	1	.33	.29	.26
	35F1551	2140*	2**	.50	.47	.40
	35F1552	2171*	3**	.77	.72	.61
	35F1553	2182*	4**	.88	.83	.72
	35F1554	2189†	2	.44	.42	.37
	35F1555	2191†	3	.50	.44	.42
	35F1556	2194†	4	.61	.56	.52

"C" CELL HOLDERS

Burgess: 1, P6, 120 130, H233, 302599 Eveready: E93, 226, E233, 635, 935, 1035, BA42	35F1557	2173	1	.39	.36	.32
	35F1558	2174*	2**	.66	.65	.59
	35F1559	2187*	3**	.88	.83	.77
	35F1560	2188*	4**	1.16	1.05	.94
	35F1561	2185†	2	.55	.54	.48
	35F1562	2195†	3	.61	.56	.52
	35F1563	2198†	4	.66	.63	.58

"D" CELL HOLDERS

Burgess: 2, 2R, CD7, 210, 230 Eveready: BA30, E42, N56, E95, D99, A100, 950, 1050.	35F1564	2175	1	.39	.36	.32
	35F1565	2176*	2**	.66	.65	.58
	35F1566	2190*	3**	.94	.88	.83
	35F1567	2192*	4**	1.16	1.05	.94
	35F1568	2186†	2	.55	.54	.48
	35F1569	2199†	3	.66	.62	.56
	35F1570	2162†	4	.72	.68	.61

SPACE SAVER BATTERY CLIPS

Corrosion resistant nickel plated clips with stainless steel contacts. Available with insulated contact or dimple. Clips Carbon Steel, SAE 1065 per mil-S-17919 4. Contact eyelets stainless steel.

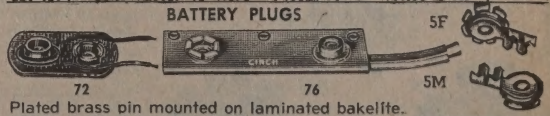
Stock No.	Type	A Dia. Min.-Max.	Steel Thick.	For Cells	1-19	20-99	100-240
35F1573	87	.875 to 1.125	.020	C	.14	.12	.10
35F1574	88	1.187 to 1.350	.020	D	.15	.13	.11
35F1577	100	.531 to .650	.015	AA	.09	.08	.07

BATTERY AND COMPONENT HOLDERS

Clips for secure mounting of round or square battery cells electronic components. Aluminum clips #-per QQ-A-362. †Steel, as above.

35F1578	79	.650 to 1.280	.015†	T146X	.07	.06	.05
35F1579	91	.531 to .656	.020#	AA	.07	.05	.04
35F1571	93	.875 to 1.125	.025#	C	.07	.06	.05
35F1594	94	1.187 to 1.375	.032#	D	.08	.07	.06

BATTERY PLUGS



Plated brass pin mounted on laminated bakelite.

Stk. No.	Type	Mfg. No.	For Use With	1-19	20-99	100-249
39F839	5M	52384	67½ "B"	.12	.11	.09
39F840	5F	52383	67½ "B"	.12	.11	.09
35F1681	72	...	9-volt	.27	.25	.19
35F1683	74	...	67½ "B"	.30	.26	.24
35F1684	77	...	90 "B"	.35	.30	.28
35F1682	76	...	67½ "B"	.35	.28	.26

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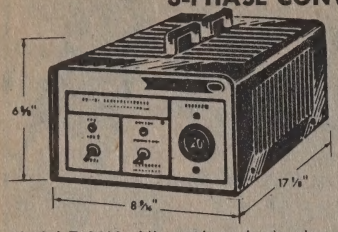
Wanlass Power Supplies

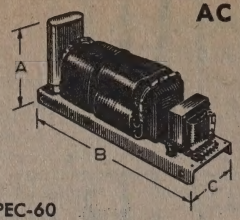
• NEW PHASAC 1-PHASE TO 3-PHASE CONVERTER



- Instantaneous response
- 4-wire wye or 3-wire delta output connections
- 3 output receptacles

Model P-2410. All passive, single-phase to three-phase static converter. Uses inherent primary-to-secondary 90-degree phase shifts to produce quadrative phase signals required by a Scott-T phase converter. Up to 85% efficiency is typical and selectable wye or delta output configurations are provided. AC input 105-125 volts, 1-phase, 60 Hz. AC output 1 KVA; 333 VA per phase, 120° ± between phases, depending upon line and load balance. AC voltage is 3-phase, 120/208 volts (4-wire), or 240 volts (3-wire), 60 Hz. Operates at 0° to 55°C. Unit is protected by input circuit breaker. Weight: 60 lbs.
99F1576. NET..... 475.00

PEC SERIES PARAFORMER AC LINE CONDITIONER



PEC-60

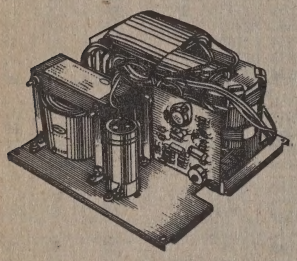
- Instant Response
- 1 μsec Transient Suppression
- Noise Filter

Model	Dimension A	B	C
PEC-60	4.25	9.00	4.00
PEC-150	6.00	12.00	4.00
PEC-500	7.50	17.00	5.00
PEC-1000	7.50	17.00	10.25

PEC series controls and conditions AC power electrically, without mechanical or solid-state elements, by utilizing parametric coupling to eliminate mutual inductance in electrical energy transformation. Parametric coupling enables Paraformer to achieve transient free energy transfer by eliminating flux coupling (mutual inductance). AC input 105-125 volts AC, 1-phase, 60 Hz (50 to 150 VAC depending upon load current). Voltage is 117 ±2 volts AC, 1-phase, 60 Hz. Response time is instantaneous and operates at 0 to 55°C. Regulation line is ±0.5%; load, ±2.0%. Noise attenuation 50 db, 0 to 1 MHz and transients suppress with rise times, 1 μsec.

Stock No.	Type	Power (VA)	Weight (Lbs.)	Fuse (Amps.)	1-9	10-24	25-49	50-99
99F1364	PEC-60	60	9	2	99.75	94.75	89.80	84.80
99F1365	PEC-150	150	21	5	157.50	149.65	141.75	133.90
99F1366	PEC-500	500	50	10	236.25	224.44	212.65	200.80
99F1367	PEC-1000	1000	90	20	446.25	423.95	401.65	379.30

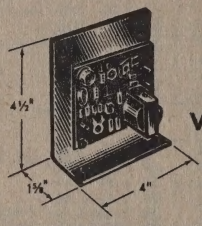
VARAX AC LINE VOLTAGE REGULATOR



Designed to provide filtered and regulated AC line voltages for machines and utility tools operated in plants with poor AC line sources. No SCR's or transistors in power circuits. True rms regulation with closed loop control. Ideal for use during brown-outs. Provides 105-120 VAC output for 90-105 VAC, single phase 50/60 Hz input. Provides 120 VAC, single phase 50/60 Hz input. ±3% voltage adjustment. Power capability 2000 VA. Regulation: line ±1%, load ±1.5% (25% to full load). Power efficiency: 90% at full load. Temperature range: 0 to 55°C. Distortion: 5-20% depending upon line and load conditions. Phase shift: varies with load. Weight, 38 lbs. For purely resistive load, use Model BI-1500 inductor across output for improved operation and regulation.

Stock No.	Type	Description	EACH
99F1347	C474	Standard Model	95.00
99F1348	C474/UL	U.L. Listed Model	110.00
99F1346	BI-1500	Inductor	26.25

MODEL CVR-120 CLIP-AC™ AC LINE VOLTAGE REGULATOR

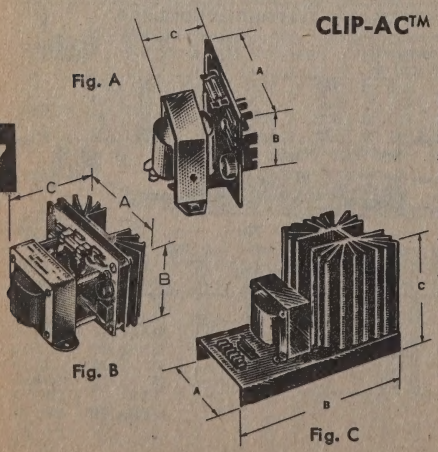


- Response Time 10-50 microseconds
- Input Frequency 47 to 420 Hz
- Line Regulation 0.1 to 1%

Symmetrically clips the peaks of unregulated input voltage, a constant peak to peak output waveform is produced. This voltage can then be transformed into a variety of regulated output voltages through the use of an appropriate transformer. Rectification and passive filtering of these resultant voltages will then produce regulated D.C. output voltages. Type of voltage regulation (peak). Regulation technique peak clipping. Type of reference (Zener Diode). Input 100-130 VAC 47-420 Hz. Output 135 volts peak (270 volts peak-to-peak). Power capability 120 VA. Line regulation (±10% line variation); (1.0%). Load regulation (0 to full load). (1.0%). Power factor regulation (+0.7 to −0.7); (1.0%). Phase shift-none. Response time 10-50 μsec. Temperature coefficient: 0.025% per degree C. Ambient temperature: 0-40°C (higher with derating). Dimensions: 4"Wx4½"Hx2½"D. Weight 10 oz.

Stk. No.	Type	1-9	10-24	25-49	50-99
99F1512	CVR-120	27.85	26.45	25.05	23.65

CLIP-AC™ AC VOLTAGE REGULATOR



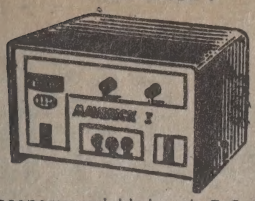
Both a line and load regulator. Ideally suited for photo-optical applications where light intensity must be held constant, in addition to any other application where RMS regulated power is required. Regulation is achieved through a unique clipping circuit which senses RMS and clips output voltage at a fixed RMS level. Regulation covers 100-130V input, 47-420 Hz. Line and Load regulation ±0.5%. ±0.5% power factor regulation from +0.7 to −0.7. No phase shift. Response time 10-50 μa-sec. Ambient operating temperature: 0 to 50°C. Temperature coefficient 0.025% per degree C.

Stock No.	Type	Fig.	Power (VA)	Weight (Lbs.)	Fuse (A)	Dimensions HxWxD	1-9	10-24	25-49	50-99
99F1394	C3003	A	0	1.5	0.4	3"x4"x2⅞"	40.95	38.90	36.86	34.80
99F1395	C3006	B	60	2.5	0.8	x3"x4"	48.30	45.90	43.45	41.05
99F1396	C3012	B	120	3.2	1.5	x4.15"	53.55	50.90	48.20	45.50
99F1397	C3025	C	250	6.5	3	5"x6.12"x9.50"	94.00	89.30	84.60	79.90
99F1398	C3050	C	500	10.25	6	5"x6.12"x10.88"	131.25	124.70	118.15	111.15
99F1399	C3100	C	1000	17.5	12	5"x6.12"x16.00"	220.50	209.45	198.25	187.45

Power Supplies

TELE-DYNAMICS
WANLASS DIVISION OF AMBAC

MAVERICK I

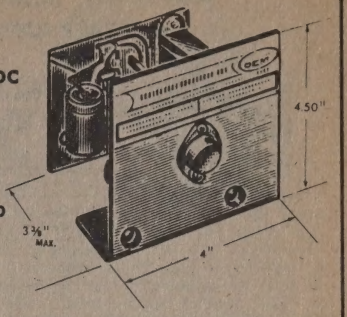


- Remote-Sensing
- Adjustable Current
- Front and Rear Outputs
- Convection Cooling

Regulated economy variable bench. D.C. Power supplies designed especially for integrated circuit, MOS/FET and operational amplifier circuit loads. Provides 0 to 7 volts at 5 amps. A.C. Input: 105-125 volts, 1 phase, 47-63 Hz. D.C. Output: Mav 1 0-7 V @ 5A. Regulation: ±0.1% or 5 Mv for line and ±0.1% or 5 Mv for load. Ripple: 0.01% or 1 Mv RMS maximum. Output impedance features: 10 Milliohms maximum from DC-1 KC, Adjustable automatic current limiting for overload and short circuit conditions.
Adjustable from 0-110% current. Remote sensing with auto-revert to local in the case of a disconnected or broken sense lead. 5 Ft. 3-wire input cord with grounded plug, front and rear output terminals, on-off and meter selector switches on front panel. Combination voltmeter/ammeter, front panel voltage adjust, and front panel current limit adjust. Reset-circuit breaker on rear panel for AC input protection against catastrophic failure. (No fuse to replace). Floating output either positive or negative may be grounded. Natural convection cooling for 0-45°C operating temperature. 8.5" x 5.25" x 8".

Stk. No.	Type	Output V.	1-9	10-24	25-49	50-99
99F1491	Mav I	2-7 V @ 0-5A	93.45	88.80	84.10	79.45

MODEL DPS-4 HIGH VOLTAGE DC POWER SUPPLY



- Regulation: Line ±2% Load ±12%
- Response Time 10 to 50 Microseconds
- Ripple 2% Max.

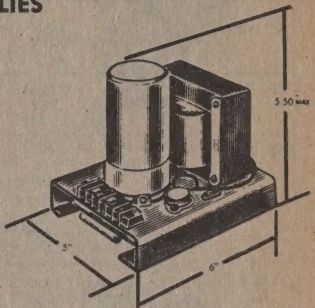
Uses a unique AC line voltage regulator and rectifier to provide regulated DC power for 200-volt nixie tubes and similar circuits. Regulator is a CLIP-AC type peak AC regulator designed specifically for use as regulating component of a DC power supply. By symmetrically clipping peaks of the input waveform, a constant peak amplitude output is produced. Clipped AC signal is used both as an alternate output and as input to a DC rectifier and filter. DC output is regulated by peak clipping AC input to rectifier and filter. Operating temp. 0 to 50° C. Output voltage control adjusts ±2%. AC input 105-125 volts AC, 1-phase, 57, to 63 Hz. Wt. 1.6 lbs.

Stk. No.	Type	1-9	10-24	25-49	50-99
99F1550	DPS-4	37.80	35.90	34.00	32.15

POPULAR OEM SERIES REGULATED POWER SUPPLIES

I-OEM SERIES

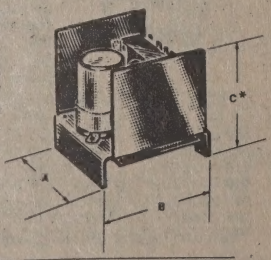
AC input 115/230 volts ±10%, 1-Phase 57 to 63 Hz (derate output current 20% at 50 Hz). Regulation line ±1%; load ±1%. Ripple 0.1% plus 10 mv rms max. Overload protection has foldback current limiting at approx. 120% of rated load. Operating temp. 0 to 50°C (to 70°C with derating). Output voltage adjusts ±5%. Wt. 5.5 lbs.



Stk. No.	Type	Output Voltage	Max. Current Rating For Ambient Temperature 50°C	60°C	70°C	Optional Overvoltage Load Fuse Values	1-9	10-24	25-49	50-99
99F1551	I-OEM-5-5	5V	5.0A	3.8A	2.5A	5 AMP	63.00	59.85	56.70	53.55
99F1552	I-OEM-10-5	10V	5.0A	3.25A	2.0A	5 AMP	63.00	59.85	56.70	53.55
99F1553	I-OEM-12-5	12V	5.0A	3.2A	2.0A	5 AMP	63.00	59.85	56.70	53.55
99F1554	I-OEM-15-4	15V	4.0A	3.0A	2.0A	4 AMP	63.00	59.85	56.70	53.55
99F1555	I-OEM-18-3	18V	3.3A	2.9A	2.0A	4 AMP	63.00	59.85	56.70	53.55
99F1556	I-OEM-24-2.5	24V	2.5A	2.2A	1.7A	3 AMP	63.00	59.85	56.70	53.55
99F1557	I-OEM-28-2	28V	2.1A	2.0A	1.5A	2 AMP	63.00	59.85	56.70	53.55

II-OEM SERIES

Input and output are through a terminal strip on the open-type construction chassis. Operates from any AC input of 105-125V, 1-Phase, 57-63 Hz. Reg. of ±1% for line and ±1% for load. DC output adjustable 3.6 to 60 volts in four ranges, floating. Wt.: 30W, 5 lbs.; 60W, 7 lbs.; 120W, 12 lbs.



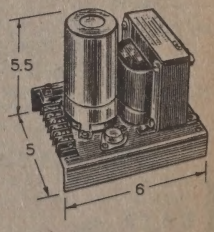
Model	A	B	C
30-OEM	5.0	5.0	5.0
60-OEM	5.0	7.0	5.38*
120-OEM	5.0	10.00	7.00

*7.0 for 60-OEM-4

Stock No.	Power Group	Type	DC Output	1-9	10-24	25-49	50-99
99F1352	30 Watts or 2.5 Amps Max.	30-OEM-1	3.6 to 9V	48.30	45.90	43.45	41.05
99F1353		30-OEM-2	9 to 17V				
99F1354		30-OEM-3	17 to 30V				
99F1355		30-OEM-4	30 to 60V				
99F1356	60 Watts or 5 Amps Max.	60-OEM-1	3.6 to 9V	60.40	57.35	54.35	51.35
99F1357		60-OEM-2	9 to 17V				
99F1358		60-OEM-3	17 to 30V				
99F1359		60-OEM-4	30 to 60V				
99F1360	120 Watts or 10 Amps Max.	120-OEM-1	3.6 to 9V	90.55	86.05	81.50	76.80
99F1361		120-OEM-2	9 to 17V				
99F1362		120-OEM-3	17 to 30V				
99F1363		120-OEM-4	30 to 60V				

III-OEM 60 SERIES

- Response Time 25 μsec
- 0 to 50°C (to 70°C with derating)
- Weight 5.5 lbs.



AC Input 105-125/210-250V, 1-phase, 57-63 Hz. Voltage 5 to 28 volts, floating. Current, 60 watts or 5 amps. Regulation line ±0.1%; load, ±0.1%. Ripple, 0.01% or 1 mv rms max. Overload protection by adjustable current limiting, factory set at 120%. Overvoltage protection: adjustable, crowbar type, factory set at 120%. Controls: Output voltage adjust ±2%; current limit adjust: overvoltage adjust. Operating temperature 0 to 50°C (to 70°C with 2%/°C derating from 50°C). Weight, 5.5 lbs.

Stock No.	Type	DC Output	1-9	10-24	25-49	50-99
99F1477	III-OEM-5.5	5V, 5A	94.00	89.30	84.60	79.90
99F1478	III-OEM-12-5	12V, 5A				
99F1497	III-OEM-15-4	15V, 4A				
99F1498	III-OEM-18-3	18V, 3A				
99F1479	III-OEM-24-2.5	24V, 2.5A				
99F1575	III-OEM-28-2	28V, 2A				

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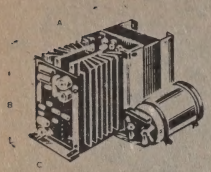
TELE-DYNAMICS
WANLASS DIVISION OF AMBAC

DC Power Supplies

HIGH POWER - ADJUSTABLE DC POWER SUPPLY



- ±0.1% Regulation
- Constant Current
- High Efficency, Low Noise

SIZE CHART

	A	B	C
Model Brute I	6.750	11.000	7.690
Brute II	6.750	12.000	7.650
Brute III	10.000	14.000	11.120

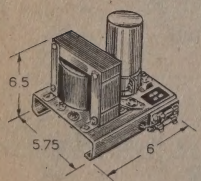
Brute series provides well regulated high current DC that is continuously adjustable over either a 2 to 25 or 5 to 50 volt range. These units can be set for either constant voltage or constant current operation. The wide voltage range makes Brute suitable for many slot supply applications where different supplies would normally be required for each application. In the constant current mode, Brute can be used as a battery charger. Also adjustable damping for inductive loads makes Brute attractive for driving relays, solenoids and motors. Reliable SCR regulators are used to provide precision regulation (±0.1%) with maximum efficiency 75%). A series inductance and a capacitor filter circuit provide low noise operation over all load and line conditions. AC input is 105-130/210-260V AC, 1-phase, 47 to 63 Hz. Controls include current limit adjust 0 to 100%; output voltage adjust 10 to 100%; ripple adjust. WT.: 300W, 20 lbs.; 600W, 30 lbs.; 1200W, 50 lbs.

Stock No.	Type	Range Power	DC Output	1-9	10-24	25-49	50-99
99F1493	Brute I	300 Watts	5-50/2-25V 6/12A	170.00	162.00	153.00	145.00
99F1494	Brute II	600 Watts	5-50/2-25V 12/24A	220.00	209.00	198.00	187.00
99F1495	Brute III	1200 Watts	5-50/2 25V 25/50A	395.00	375.00	356.00	336.00

OPTIONS

Stock No.	Type	Description	1-9	10-24	25-49	50-99
99F1529	K1	Fine Voltage Adjust Kit	21.00	19.95	18.90	17.85
99F1530	K2-1/ K2-2	Ripple Reductior Kit Brute I-II	26.25	24.95	23.65	22.30
99F1531	K2-3	Ripple Reduction Kit Brute III	52.00	44.65	46.80	44.20
99F1532	K3	OVP-1 Overvoltage Protection	54.60	51.85	49.15	46.40

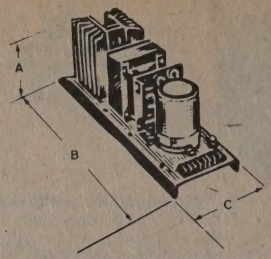
MODEL C214 ECONOMY DC RELAY SUPPLY



Specially designed for driving relays, solenoids, motors and other surge type loads. Provides a DC output of 28 volts at 2.5 amperes from 105-125/210-250 volts, 57 to 63 Hz. 1-phase AC input. Regulation: ±2% and ±2% for load and ripple is 0.1% + 10 mV RMS. Operating temperature: 0 to 40°C. Can be used up to 70°C with derating. Dimensions: 6.5" High x 5-3/4" Wide x 6.5" Long. Wt. 5.5 lbs.

Stock No.	Type	1-9	10-24	25-49	50-99
99F1452	C-214	48.30	45.90	43.45	41.05

ALL SILICON SOLID STATE DC POWER SUPPLIES "IC" - DC POWER SUPPLIES



Designed specifically for IC, OP-AMP, and MOS applications. Provides a very sensible solution to system DC powering of integrated circuits, operational amplifiers and MOS circuits. Operating from an AC input of 100 to 130 volts, 47 to 63 Hz. single phase, units are available in ratings from 3.6 to 60 volts and 1 to 25 amperes. Output voltage: adjustable, a minimum of +5% from the nominal output. Registration accuracy for "IC" ±0.25% for line and +0.25% for load. Ripple: 5 millivolts RMS maximum with recovery time of 50 to 100 microseconds. Standard features including "foldback" current limiting and remote sensing. *Maximum output current.

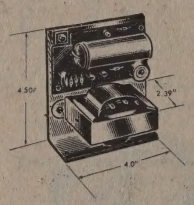
SIZE AND WEIGHT CHART

Model	A	B	C	Weight
.60-IC	5.75	11.50	5.22	11 lbs.
120-IC	6.75	15.50	5.22	16 lbs.
200-IC	8.00	17.00	6.22	27 lbs.

Stk. No.	Type	Output Voltage	Output Max. Watt.	1-9	10-24	25-49	50-99
99F1453	60-IC-1	3.6-6.3	7.5A*	131.25	124.70	118.13	111.55
99F1455	60-IC-2	12-15-18	60	131.25	124.70	118.13	111.55
99F1457	60-IC-3	24-28-36	60	131.25	124.70	118.13	111.55
99F1459	60-IC-4	48-60	60	131.25	124.70	118.13	111.55
99F1461	120-IC-1	3.6-6.3	15A*	178.50	169.60	160.65	151.75
99F1463	120-IC-2	12-15-18	120	178.50	169.60	160.65	151.75
99F1465	120-IC-3	24-28-36	120	178.50	169.60	160.65	151.75
99F1467	120-IC-4	48-60	120	178.50	169.60	160.65	151.75
99F1469	200-IC-1	3.6-6.3	25A*	236.25	224.45	212.65	200.80
99F1471	200-IC-2	12-15-18	200	236.25	224.45	212.65	200.80
99F1473	200-IC-3	24-28-36	200	236.25	224.45	212.65	200.80
99F1475	200-IC-4	48-60	200	236.25	224.45	212.65	200.80

Optional only. 3.6 to 6.3 VDC overvoltage protection crowbar for use with -1 units. Model 2A OVP.
99F1481 ..... **21.00**

MODEL DPS-DC POWER SUPPLY



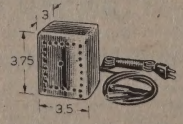
AC input 105-125V, 1-phase, 57-63 Hz (derate 20% for 400 Hz operation). DC output voltage 5-6, 12-15 & 24V floating, power, 20W. Reg. line ± .25%; load ± .25%. 0.3% +10mV RMS ripple. Automatic recovery, foldback current limiting provides overload and short circuit protection Temp. 0 to 40°C (derate current 2% C° over 40°C). Wt.: 1.9 lbs.

UL LISTED
Recognized Component

Stk. No.	Type	DC Output	Power Group	Fuse	1-9	10-24	25-49	50-99
99F1486	DPS-1	5/6V@3/2.5A	20watts	3A	25.60	24.30	23.05	21.75
99F1487	DPS-2	12/15V@1.5/1.2A	20watts	2A	25.60	24.30	23.05	21.75
99F1488	DPS-3	24V@0.8AJ*	20watts	1.5A	25.60	24.30	23.05	21.75
99F1516	OVP-2-53	Overload pro-	DPS-1		9.45	9.00	8.50	8.05
99F1521	OVP-2-122	tection device	DPS-2		9.45	9.00	8.50	8.05
99F1526	OVP-2-241	for use with	DPS-3		9.45	9.00	8.50	8.05

*Rated at 1-amp over 115-125 volt AC line voltage

BATTERY ELIMINATOR - 12 VOLT DC POWER SUPPLY



Model BE 12. Designed especially to drive auto radios, stereos, tape decks and cassettes requiring up to 1.8 amps. AC input 105-125V, 1-phase 60 Hz. DC output voltage 13.OV floating; current, 1.8 amps. Reg. line, ±2%; load ±6%. Ripple. o.1% or 12 mv, RMS Overload protection: Automatic recovery foldback current limiting provides overload and short circuit protection. Not internally fused, do not short circuit output for long periods of time. Temp. 0 to 40°C. Wt.: 1.9 lbs.

Stock No.	Type	D.C. Output	1-9	10-24	25-49	50-99
99F1490	BE-12	12V @ 1.8A	26.50	25.20	23.85	22.50

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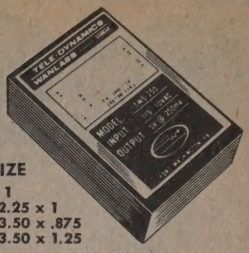
Power Supplies

TELE-DYNAMICS
WANLASS DIVISION OF AMBAC

TW/TWD MINIATURE DC POWER SUPPLIES

Stock No.	Model	Output Volts	Output ma	Regulation Line (%)	Regulation Load (%)	Ripple (mv rms)	Temp. Coeff.	Case Size	1-24	25-49	50-99
99F1630	TW 5-250	5.0	250	±0.05	±0.1	1.0	0.05	1	35.00	31.50	29.75
99F1631	TW 5-500	5.0	500	±0.05	±0.1	1.0	0.05	3	44.00	39.60	37.40
99F1632	TW 5-1000	5.0	1000	±0.05	±0.1	1.0	0.05	4	65.00	58.50	55.25
99F1633	TW 3.6-250	3.6	250	±0.05	±0.05	0.5	0.05	1	38.00	34.20	32.30
99F1634	TW 6-200	6.0	200	±0.05	±0.05	0.5	0.05	1	38.00	34.20	32.30
99F1635	TW 10-120	10	120	±0.05	±0.05	0.5	0.02	2	25.00	22.50	21.25
99F1636	TW 12-120	12	120	±0.05	±0.05	0.5	0.02	2	25.00	22.50	21.25
99F1637	TW 15-100	15	100	±0.05	±0.05	0.5	0.02	2	25.00	22.50	21.25
99F1638	TW 18-65	18	65	±0.05	±0.05	1.0	0.02	2	25.00	22.50	21.25
99F1639	TW 20-60	20	60	±0.05	±0.05	1.0	0.02	2	25.00	22.50	21.25
99F1640	TW 24-50	24	50	±0.05	±0.05	1.0	0.02	2	25.00	22.50	21.25
99F1641	TW 28-40	28	40	±0.05	±0.05	1.0	0.02	2	25.00	22.50	21.25
99F1642	TW 170-10	170	10	±1.0	±1.0	15	0.2	1	40.00	36.00	34.00
99F1643	TW 180-10	180	10	±1.0	±1.0	15	0.2	1	40.00	36.00	34.00
99F1644	TWD 12-120	±12	120	±0.02	±0.02	0.5	0.02	3	49.00	44.10	41.65
99F1645	TWD 12-240	±12	240	±0.02	±0.05	1.0	0.02	4	73.00	65.70	62.05
99F1646	TWD 15-25	±15	25	±0.2	±0.2	2.0	0.02	3	23.00	20.70	19.55
99F1647	TWD 15-65	±15	65	±0.04	±0.02	1.0	0.02	3	37.00	33.30	31.45
99F1648	TWD 15-100	±15	100	±0.03	±0.02	1.0	0.02	3	48.00	43.20	40.80
99F1649	TWD 15-200	±15	200	±0.02	±0.05	1.0	0.02	4	73.00	65.70	62.05
99F1650	TWD 18-65	±18	65	±0.02	±0.05	1.0	0.02	4	49.00	44.10	41.75
99F1651	TWD 24-50	±24	50	±0.02	±0.05	1.0	0.02	3	49.00	44.10	41.75
99F1652	TWD 26-45	±26	45	±0.02	±0.05	1.0	0.02	4	49.00	44.10	41.75

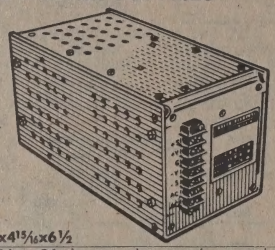


CASE SIZE
1—2 x 3 x 1
2—1.75 x 2.25 x 1
3—2.50 x 3.50 x .875
4—2.50 x 3.50 x 1.25

The following general specifications apply to all TW and TWD series DC power supplies. Input voltage: 115 ±10 VAC. Input frequency, 50-400 Hz. Input Isolation, 50 megohms. Output impedance, 0.2 ohms at 10 kHz. Output voltage setting, ±2% of rated voltage. Storage temperature, −25 to +85°C. Operating temperature, −25 to +71°C. Output current vs temperature: Each output is rated for full current at temps. between −25 and +70°C with no derating.

NEW HR SERIES MODULAR POWER SUPPLIES

- **Overload and Short Circuit Protection, Current Cutback**
- **Remote Sensing, Remote Programming**
- **Voltage Adjust**
- **Input and Output Connections Via Heavy Duty Terminal Block**

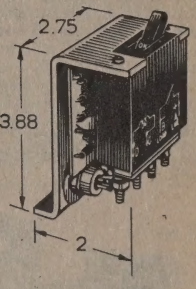


SPECIFICATIONS

AC Input:
105-125/210-250/AC
45-440 Hz—derate at 400 Hz
Regulation: Line and Load ±0.05%.
Ripple: 1 mV, RMS
Storage Temperature: −55°C to +85°C

Stock No.	Model	Fixed Volt. Range VDC	Max. Amps. At Ambient Of: 40°C	50°C	60°C	71°C	1-9	10-24	25-49	50-99
CASE SIZE "B" 3 3/16 x 4 13/16 x 6 1/2										
99F1653	HR5-3.7	5±5%	3.7	3.2	2.5	1.5	113.00	107.00	102.00	96.00
99F1654	HR12-2.5	12±5%	2.5	2.3	2.1	1.3				
99F1655	HR15-2.2	15±5%	2.2	2.0	1.8	1.3				
99F1656	HR18-2.0	18±5%	2.0	1.8	1.7	1.3				
99F1657	HR24-1.4	24±5%	1.4	1.3	1.2	1.1				
99F1658	HR28-1.3	28±5%	1.3	1.2	1.1	1.0				
CASE SIZE "C" 3 3/16 x 4 15/16 x 9 3/8										
99F1659	HR5-5.1	5±5%	5.1	4.3	3.4	2.4	132.00	125.00	119.00	112.00
99F1660	HR12-40	12±5%	4.0	3.5	2.9	1.9				
99F1661	HR15-3.5	15±5%	3.5	3.2	2.8	1.9				
99F1662	HR18-3.2	18±5%	3.2	3.0	2.7	1.9				
99F1663	HR24-2.5	24±5%	2.5	2.4	2.2	1.5				
99F1664	HR28-2.3	28±5%	2.3	2.1	2.0	1.4				
CASE SIZE "CC" 4 15/16 x 4 15/16 x 9 3/8										
99F1665	HR5-10.5	5±5%	10.5	9.0	8.0	5.5	169.00	161.00	152.00	144.00
99F1666	HR12-7.3	12±5%	7.3	6.8	5.9	4.7				
99F1667	HR15-6.0	15±5%	6.0	5.6	5.1	4.3				
99F1668	HR18-5.5	18±5%	5.5	5.1	4.6	4.0				
99F1669	HR24-4.0	24±5%	4.0	3.7	3.4	3.0				
99F1670	HR28-3.5	28±5%	3.5	3.4	3.1	2.8				
CASE SIZE "D" 4 15/16 x 7 1/2 x 9 3/8										
99F1671	HR5-12.6	5±5%	12.6	10.8	9.2	6.1	199.00	189.00	179.00	169.00
99F1672	HR12-10.0	12±5%	10.0	9.2	8.3	5.7				
99F1673	HR15-9.0	15±5%	9.0	8.4	7.9	5.3				
99F1674	HR18-7.9	18±5%	7.9	7.4	6.9	5.2				
99F1675	HR24-6.7	24±5%	6.7	6.3	5.8	4.8				
99F1676	HR28-6.0	28±5%	6.0	5.6	5.2	4.7				
CASE SIZE "E" 4 15/16 x 7 1/2 x 11 3/4										
99F1677	HR5-20.0	5±5%	20.0	18.0	16.4	10.0	256.00	243.00	230.00	218.00
99F1678	HR12-15.0	12±5%	15.0	13.6	12.3	9.5				
99F1679	HR15-14.0	15±5%	14.0	12.7	11.5	8.6				
99F1680	HR18-13.0	18±5%	13.0	11.8	10.6	8.6				
99F1681	HR24-11.0	24±5%	11.0	10.0	9.0	7.6				
99F1682	HR28-10.0	28±5%	10.0	9.0	8.0	7.1				

OVERVOLTAGE PROTECTION DEVICE



OVP-1

- **DC Current Range: 0.5 to 50 Amps DC (200 Amps Peak With 8-Millisecond Surge)**
- **DC Voltage Range: 3.6 to 50 vdc**
- **Trip Voltage Range (Adjustable) 6.5 to 60 vdc**

Contains a circuit breaker with solid-state sensing and control circuitry. Can be connected for local or remote sensing and for breaker operation in power supply AC input line or DC output line. Circuit breaker operation is controlled by a silicon controlled rectifier (SCR) and PC board circuitry; trip voltage is adjustable within a 6.5 to 60 volt range. Shipped wired for local sensing and DC output line breaker operation. In this application, circuit breaker switch is connected in series with positive output line of DC power supply and load, and same circuit is connected across DC output. SCR and circuit breaker trip coil are connected in series with switch (across load).

99F1683. NET.....54.60

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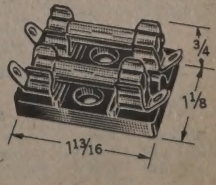
OVP-2 OVERVOLTAGE PROTECTION DEVICE

The OVP-2 Overvoltage Protection Device is designed specifically for I-OEM and DPS series power supplies to provide overvoltage protection for loads if power supply fails. Protects load in 2 μsec. Blows fuse at 120-150% of rated voltage. Tolerance of rated trip voltage is ±5.0%. Protects power supply and line in 10 milliseconds.

Stock No.	Type-OVP	Fuse-Amp	For	Stock No.	Type-OVP	Fuse-Amp	For
99F1516	2-53	3.0A	DPS-1	99F1523	2-152	2.0A	DPS-2
99F1517	2-55	5.0A	I-OEM 5-5	99F1524	2-154	4.0A	I-OEM 15-4
99F1518	2-62	3.0A	DPS-1	99F1525	2-183	4.0A	I-OEM 18-3
99F1519	2-65	5.0A	I-OEM 6-5	99F1526	2-241	1.5A	DPS-3
99F1520	2-105	5.0A	I-OEM 10-5	99F1527	2-242	3.0A	I-OEM 24-2.5
99F1521	2-122	2.0A	DPS-2	99F1528	2-282	2.5A	I-OEM 28-2
99F1522	2-125	5.0A	I-OEM 12-5				

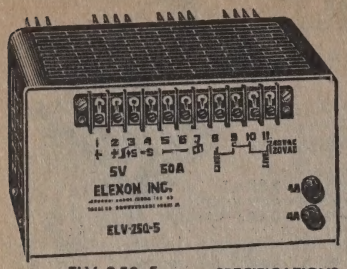
1-9	10-24	25-49	50-99
9.45	9.00	8.50	8.05



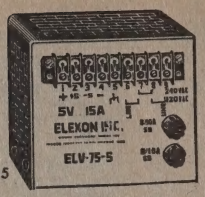
ELEXON POWER SYSTEMS
ELPAC

Solid-State Power Supplies

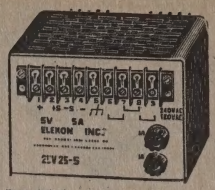
COMPUTER GRADE ELV SERIES



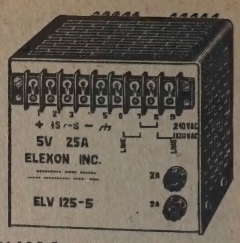
ELV-250-5



ELV 75-5



ELV 25-5



ELV 125-5

SPECIFICATIONS

Input Voltage	120/240 VAC, ±10%, single phase, 47-420 Hz.
Output Regulation	±.1% for line variation of ±10%, ±.1% for 0 to full load.
Noise and Ripple	Less than ±0.1% peak to peak
Output Voltage. Adj.	±5% at nominal line, full load
Temperature Range	0-55° C ambient operating. No additional cooling required.
Isolation	100 Meg DC; electrostatic shielded transformer

Reliable source of regulated DC voltage for commercial, educational, and service applications. Smooth acting controls permit adjustment to exacting requirements. Computer grade, all-silicon solid state DC power supplies include integrated circuit regulators for precise regulation. **Standard Features Include:** Fully enclosed ventilated black and gold anodized aluminum cases, barrier strip terminals, short circuit protection, adjustable over-voltage protection, and remote voltage sensing. Floating output permits either positive or negative terminal to be grounded.

SERIES ELV-25 POWER SUPPLIES

Stock No.	Type	Output Volts	Output Amps	Dimensions, Inches	Net Each 1-9	Net Each 10-24
62F2873	ELV-25-5	5	5	4x5½x6½	76.00	72.20
62F2874	ELV-25-12	12	3	4x5½x6½	76.00	72.20
62F2875	ELV-25-18	18	2	4x5½x6½	76.00	72.20
62F2876	ELV-25-24	24	1.5	4x5½x6½	76.00	72.20

SERIES ELV-75 POWER SUPPLIES

62F2877	ELV-75-5	5	15	5⅛x5¾x8	100.00	95.00
62F2878	ELV-75-12	12	7	5⅛x5¾x8	100.00	95.00
62F2879	ELV-75-18	18	5	5⅛x5¾x8	100.00	95.00
62F2880	ELV-75-24	24	4	5⅛x5¾x8	100.00	95.00

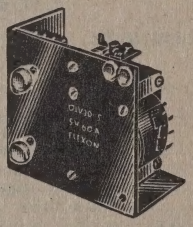
SERIES ELV-125 POWER SUPPLIES

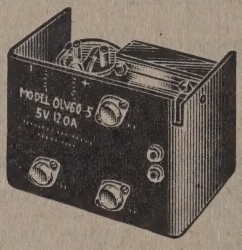
62F2881	ELV-125-5	5	25	6x6½x11	158.00	150.00
62F2882	ELV-125-12	12	12	6x6½x11	158.00	150.00
62F2883	ELV-125-18	18	8	6x6½x11	158.00	150.00
62F2884	ELV-125-24	24	6	6x6½x11	158.00	150.00

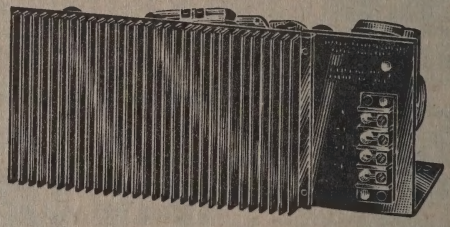
SERIES ELV-250 POWER SUPPLIES

62F2885	ELV-250-5	5	50	6x10½x11	200.00	195.00
62F2886	ELV-250-12	12	20	6x10½x11	200.00	195.00
62F2887	ELV-250-18	18	14	6x10½x11	200.00	195.00
62F2888	ELV-250-24	24	10.4	6x10½x11	200.00	195.00

NEW! SERIES OLV ECONOMY GRADE POWER SUPPLIES







- **Integrated Circuit Regulator**
- **Short Circuit Protected**
- **Remote Voltage Sensing**
- **Floating Output**

Economy grade, all-silicon DC power supplies include integrated circuit regulator for precision regulator. Open frame construction, black anodized chassis. Output connections made via solder terminals, OLF-15 and OLV-30; screw terminals for the high current OLV-60 and OLV-120 series. Standard features include short circuit protection, electrostatic shielded transformer and remote voltage sensing. Floating output permits positive or negative operation.

Input Voltage: 120/240 VAC, ±10% single phase, 47-420 Hz (47 Hz optional for OLV-15)
Output Regulation: ±0.1% for line variation of ±10%; ±0.1% for 0 to full load.
Noise and Ripple: Less than ±0.1% peak to peak.
Output Voltage Adj.: ±5% at full load.
Temperature Range: 0 to 55°C ambient oper. temp. Optional adjustable overvoltage protection available (listed below).

OVERVOLTAGE PROTECTION FOR OLV SERIES

Stock No.	Type	Description	Net Each 1-24
62F2847	OVP-1	For series OLV-15, -30	6.00
62F2848	OVP-2	For series OLV-60	8.00
62F2849	OVP-3	For series OLV-120	12.00

SERIES OLV-15 POWER SUPPLIES

Stock No.	Type	Output Volts	Output Amps	Dimensions, Inches	Net Each 1-9	Net Each 10-24
62F2890	OLV-15-5	5	3	4x4½x2¼	24.95	23.70
62F2891	OLV-15-12	12	1.5	4x4½x2¼	24.95	23.70
62F2863	OLV-15-15	15	1.2	4x4½x2¼	24.95	23.70
62F2892	OLV-15-18	18	1	4x4½x2¼	24.95	23.70
62F2893	OLV-15-24	24	0.75	4x4½x2¼	24.95	23.70

OLV-15 with 47 Hz option—add $2.00 ea.

SERIES OLV-30 POWER SUPPLIES

62F2864	OLV-30-5	5	6	4⅞ x5x3	44.00	42.00
62F2865	OLV-30-12	12	4	4⅞ x5x3	44.00	42.00
62F2866	OLV-30-15	15	3.3	4⅞ x5x3	44.00	42.00
62F2867	OLV-30-18	18	2.6	4⅞ x5x3	44.00	42.00
62F2868	OLV-30-24	24	2	4⅞ x5x3	44.00	42.00

SERIES OLV-60 POWER SUPPLIES

62F2869	OLV-60-5	5	12	4¼ x4⅜x7	75.00	72.00
62F2870	OLV-60-12	12	8	4¼ x4⅜x7	75.00	72.00
62F2871	OLV-60-15	15	6.6	4¼ x4⅜x7	75.00	72.00
62F2872	OLV-60-18	18	5.2	4¼ x4⅜x7	75.00	72.00
62F2889	OLV-60-24	24	4	4¼ x4⅜x7	75.00	72.00

SERIES OLV-120 POWER SUPPLIES

62F2894	OLV-120-5	5	24	5⅜x6¼x13	129.00	122.50
62F2895	OLV-120-12	12	16	5⅜x6¼x13	129.00	122.50
62F2896	OLV-120-15	15	13.2	5⅜x6¼x13	129.00	122.50
62F2897	OLV-120-18	18	10.4	5⅜x6¼x13	129.00	122.50
62F2898	OLV-120-24	24	8	5⅜x6¼x13	129.00	122.50

17

Power Supplies and Inverters

CORNELL DUBILIER

BATTERY DRIVEN INVERTER POWER SUPPLIES

Changes DC to 115VAC at 60 Hz. Operates electrical appliances. Take 20% overload on ¼-duty cycle. Features remote control jack, voltage selector, on/off switch and replaceable fuse for overload protection. Frequency tolerance of ½ cps on items rated 100 watts and up to 2 cps on lower power units. CAUTION: avoid applications such as compressors, which have heavy starting load characteristics.

12ESW25

12TV12

POWERCON INVERTER—SINE WAVE OUTPUT

For all voltage and/or wave-form sensitive loads like TV, radio, phono, Hi-Fi, recording, counting, testing and warning devices. Features automatic load regulation: 15% input change alters output only 5%. Operates loads with any power factor of 25% or more. Maintains output voltage of 110-120 VAC. Ideal for small motor-driven appliances (less than 1/10 hp), fluorescent lights. Only inverter widely approved by TV set manufacturers for operation of portable sets.

Stock No.	Type	Typical Applications	Input VDC	Watts Cont.	Watts Int.	Size, Inches	Wt. Lbs.	1-9	10-Up
66F219	12DSW10	Portable TV, small appliances	12	100	125	10⅜x9⅞x5½	22	96.50	76.50
66F222	12ESW25	Any B&W TV, entertainment appl.	12	250	300	12¼x9⅞x5½	26	129.00	101.00

POWERCON INVERTERS—SQUARE WAVE OUTPUT

Economy AC power at nominal ratings. Use with power factor of 70% and up. Linear voltage regulation (1%:1%). Two-tone gray baked enamel finish and integral finger holes provided, except (*) one color, less finger holes, supplied with cigarette lighter cord.

Stock No.	Type	Typical Applications	Input VDC	Watts Cont.	Watts Int.	Size, Inches	Wt. Lbs.	1-9	10-Up
66F220	12TV12	Shaver, tools, radio,	12	120	140	8¾x7⅝x3⅞	16	47.50	37.00
66F211	12D22	portable tape recorder, etc.	12	220	250	10⅜x9⅞x5½	31	99.00	77.50
66F214	110D25	Small vessels, apart. houses	110	250	300	10⅜x9⅞x5½	26	75.50	59.00

REPLACEMENT VIBRATORS FOR ABOVE

Stk. No.	Type	Repl. For	1-24	25-49	50-Up
48F087	6567	12A4	7.49	6.69	5.31
48F088	12VB6H	12DSW10, 12TV12	17.85	12.55	10.24

Stk. No.	Mfg. No.	Repl. For	1-24	25-49	50-Up
48F089	12VD6H	12D22, 12ESW25	27.75	19.52	15.90
48F084	110VB6H	110S15, 22F025, 110H25	17.85	12.55	10.24

EPSCO

For use in design, development, testing of transistor circuitry. For servicing and operating auto, aircraft, marinecraft radio, electronic equipment. For production line testing, industrial and educational laboratory work and many other applications. Features include: Voltage regulation, AC ripple filtering, adjustable output voltage, large easy-to-read meters, isolated output terminals, 1-year warranty. Input—Regulated Models: 105-125 VAC, 60 Hz. Industrial and General Purpose Models: 117 VAC, 50/60 Hz. Note: (‡)—Rack mounted version. (*)—No-load to full-load unless otherwise specified. (†)—Output voltage change for each ampere of output current change, except on regulated units, % applies for either line or load. (††)—All 2% accuracy except 5% for general purpose units. Rectifiers: Selenium and Silicon. (**)—From 105-125 VAC.

Fig. A

Fig. B

Fig. C

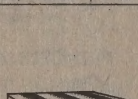


Fig. D

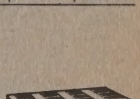


Fig. E

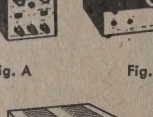


Fig. F

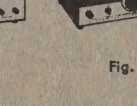


Fig. G

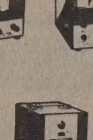


Fig. H

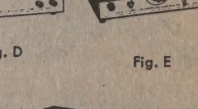


Fig. J

REGULATED

Stock No.	Model	Volts Output	Amps. Output	Fig.	Line Reg.**	Load Reg.*	Max. Ripple, RMS	Meters	DC Imp. Ohms*	Size (HxWxD) Inches	Wt. lbs.	NET
66F454	PSR-12-25	0-25	0-500mA	A	0.01%+2mV	0.01%	100μV	0-30V/600mA	.006	5¼ x3⅛x10	7	99.50
66F455	PSR-12-50	0-50	0-250mA	A	0.01%+2mV	0.01%	100μV	0-60V/300mA	.02	5¼ x3⅛x10	7	99.50
66F269	PSR-500-32	2-32	0-15A	B	0.1%	1.0%	0.5%	0-50V, 0-25A	.02	9¾x14¼x14¼	66	395.00
66F270	PSR-500-55	2-55	0-10A	B	0.1%	1.0%	0.5%	0-75V, 0-15A	.06	9¾x14¼x14¼	68	395.00

INDUSTRIAL

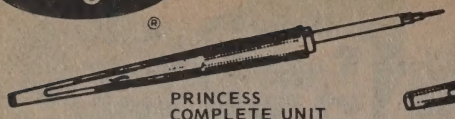
Stock No.	Model	Voltage Output	Amps. Output	Fig.	Load Reg.* (V/A)†	Max. Ripple %	Meters††	DC Imped., Ohms*	Size (HxWxD) Inches	Weight lbs.	NET
66F272	EF	4-28	0-5	C	0.9 (1-5A)	1.0	0-50V, 0-6A	0.9 (1-5A)	7x12x8½	22	137.50
		2-14	0-5		0.6 (1-5A)	1.0		0.6 (1-5A)			
66F145	EFB	0-32	0-4	C	1.25	0.1	0-40/20V, 0-10A	1.25	7x12x8½	28	192.50
		0-16	0-8		1.0	0.1		1.0			
66F146	EFBR‡	0-32	0-4	.....	1.25	0.1	0-40/20V, 0-10A	1.25	8¾x19x8½	34	225.00
		0-16	0-8	.....	1.0	0.1		1.0			
66F273	GFLR‡	0-125	0-5	.....	1.5	0.5	0-150V, 0-5A	1.5	10½x19x14¼	100	385.00
66F118	NFB	0-32	0-15	D	0.4	0.75	0-50V, 0-25VA	0.4	9¾x14¼x14¼	84	310.00
66F275	NFBR‡	0-32	0-15	.....	0.4	0.75	0-50V, 0-25A	0.4	10½x19x14½	97	345.00
66F260	PS-5	0-55	0-10	D	0.8	0.5	0-75V, 0-15A	0.7	9¾x14¼x14¼	70	355.00
66F276	PS-5R‡	0-55	0-10	.....	0.8	0.5	0-75V, 0-15A	0.7	10½x19x14¼	89	385.00
66F277	PS-1000-2	0-32	0-30	F	0.2	0.75	0-50V, 0-30A	0.2	9¾x14¼x19¼	113	460.00
66F278	PS-1000-55	0-55	0-20	F	0.5	0.5	0-75V, 0-30A	0.5	9¾x14¼x19¼	113	465.00
66F456	PS-1000-125	0-125	0-8A	F	1.0	Less than 1%	0-150V, 0-10A	1.0	9¾x14¼x19¼	113	465.00

GENERAL PURPOSE

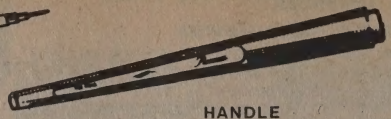
66F119	D-612T	0-16	0-10	E	0.44 (3-10A)	{ 0.5 @ 5A }	0-20V, 0-10A	0.44 (3-10A)	7x12x8½	20	99.50
		0-8	0-10		0.3 (3-10A)	{ 2 @ 10A }		0.3 (3-10A)			
66F120	H	12 (adj.)	0-10	E	0.23 (3-10A)	5	0-20V, 0-30A	0.23 (3-10A)	7x12x8½	30	130.00
		6 (adj.)	0-20		0.15 (3-20A)	5		0.15 (3-20A)			
66F261	EC-2	0-16	0-5	H	1.8	0.5	0-20V, 10A	1.8	10¾x4⅜x6½	11	74.50
66F279	PS-50	12 (adj.)	0-50	G	0.17	0.5	0-20V, 0-50A	0.17	9¾x14¼x19¼	106	370.00
66F457	3301	0-16 DC	0-3	J	1.8 (1-3A)	0.5	0-20V, 0-5A DC	2.4 DC	4¾x10¾x6½	12	115.00
		0-20 AC	0-3				0-20V, 0-5A AC	0.5 AC			

17

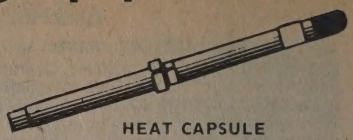
Princess® Line Soldering Equipment



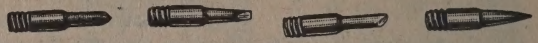
PRINCESS COMPLETE UNIT



HANDLE



HEAT CAPSULE



6950, 6960 | 6951, 6961 | 6952, 6962 | 6953, 6963

HANDLES

Model 6902. Polyvinyl chloride insulated cord. 120 V AC/DC. 5" L x ½" dia. Wt. 3 oz.

Model 6903. Same except cord is 22 gauge flexible stranded w/molded NEMA plug. Capsule grounded.

Stk. No.	Type	Handles	1-9	10-49	50-Up
32F899	6902	2-Wire	4.40	3.80	3.25
32F898	6903	3-Wire	5.95	5.15	4.55

HEAT CAPSULES

For 120 Volts AC/DC operation. Heating section threaded to accept series of ⅛" "Princess" soldering Nibs. Length: 3¾". Ship. wt. 2 oz.

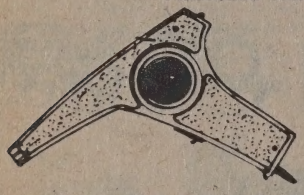
Stk. No.	Type	Watts	Temp.	1-9	10-49	50-Up
32F896	6910	10	575- 650°F	5.35	4.65	4.15
32F897	6915	15	700- 775°F			
32F894	6918	18	775- 850°F			

ASSEMBLED PRINCESS SOLDERING IRON

Includes: 6902 handle, 6910, 10 watt heat capsules, 6950 pencil nib, 6951 screwdriver nib, 6952 spade nib. Shpg. wt. 14 oz.

Stk. No.	Type	Description	1-9	10-49	50-Up
32F885	6975	Assembled	10.21	8.88	7.85

PRINCESS HEAT GUN



Feather light for greater accuracy and easier handling. Delivers 750°-800° F air flow temperature at nozzle in seconds. Air stream width ⅜". On/Off switch. Hot or cold air setting. Self-standing on work bench. Oil resistant Hypalon cord. Molded glass polyester housing. UL listed. 250Watts, 120Volts, AC only. Shipping weight: 18 oz.

Complete kit, in 2 or 3 wire model, includes 4 baffles, one reducing baffle to reduce air flow at nozzle to .200" and three reflectors for shrink tubing applications. Handles all polyvinyl, olefins, silicone rubber and TFE materials. One reflector ½"L x ¾"dia. for solder sleeves and small tubing. One reflector 1¼"L x ¾"dia. for larger shrinking applications. One solder sleeve adaptor to shrink most solder sleeve materials, especially low temperature.

35F3072. Model 6955. Complete with 2 wire cord. **NET**.....39.95

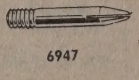
35F3074 Model 6966. Complete, 3 wire cord, NEMA plug. **NET.** 42.00

35F3075 Model 6965. Heat Gun Holder. **NET**.....3.00

DE-SOLDERING TIPS

6948

6945



6947

Fit Princess 6939 and Ungar 535, 1235, and 4035. May also be used with 3-wire models 127, 135 and 145.

Stk. No.	Type	Description	1-9	10-49	50-Up
35F3076	6948	Tip-in-line IC's	2.90	2.50	2.25
35F3055	6943	Tip- "To" .600" dia.	2.50	2.15	1.95
35F3056	6944	Tip- "To" .500" dia.	2.50	2.15	1.95
35F3057	6945	Tip- "To" .375" dia.	2.50	2.15	1.95
35F3058	6946	Tip- "To-" .280" dia.	2.50	2.15	1.95
35F3059	6947	Lead straightener	2.10	1.80	1.60

IRON HOLDER—SPONGE

"Princess" soldering iron holder has plastic case with metal cage and sponge. Shipping weight: 3 oz.

Stk. No.	Type	Description	1-9	10-49	50-Up
32F883	6990	Holder	4.15	3.60	3.20
32F882	6991	Sponge	.63	.55	.48

SOLDERING NIBS

Made of copper alloy; also available in iron clad and gold plated (24K.) Four types of soldering nibs threaded (⅛") to fit princess Heat Capsules.

Stk. No.	Type	Shape	Size	Plated	1-9	10-49	50-Up
32F893	6950	Pencil	.68x⅛"	Copper	.45	.39	.35
32F892	6951	Screw dr.	.68x⅛"	Copper	.45	.39	.35
32F891	6952	Spade	.61x⅛"	Copper	.45	.39	.35
32F890	6953	Point	.61x⅛"	Copper	.90	.77	.69
32F889	6960	Pencil	.62x⅛"	Gold	.85	.72	.64
32F888	6961	Screw dr.	.62x⅛"	Gold	.85	.72	.64
32F887	6962	Spade	.62x⅛"	Gold	.85	.72	.64
32F886	6963	Point	.61x⅛"	Gold	1.58	1.37	1.21

Also for use with Standard Line Tiplets: PL-331, PL-332, PL-333, PL-338, PL-340, 7154, 7155, and 7062.

PRINCESS SOLDERING IRON

Includes: 6902 handle, 6910 10 watt heat capsule, 6951 screwdriver nib, 6990 "Princess" soldering iron holder equipped with 6991 re-fill sponge, 6950 pencil nib, 6952 spade nib. Shpg. wt. 1 lb.

Stk. No.	Type	Description	1-9	10-49	50-Up
32F884	6900	Station	14.95	12.95	11.35

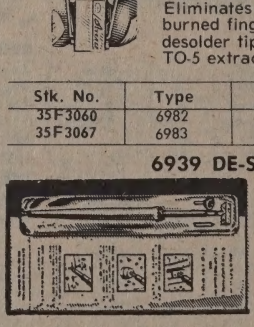
IC EXTRACTORS

- Fast Release
- Push-Button Simplicity
- Eliminates damaged leads

Dual in-line IC and TO-5 extractors. Unique spring loaded action locks on. Instantly releases TO-5 Cans and up to 16 pin dual in-line IC's. Eliminates damaged leads, circuit destruction, burned fingers. For use w/Ungar's 6948 & cup desolder tips 6943, 6944, 6945, 6946. Type 6983 is TO-5 extractor.

Stk. No.	Type	1-9	10-49	50-Up
35F3060	6982	2.21	1.92	1.70
35F3067	6983	2.55	2.29	1.98

6939 DE-SOLDERING KIT



A complete De-Soldering kit containing lightweight 3 wire grounded pencil handle with full length, extra flexible insulated cord; ideally suited for 1/32" or under. 18 watt heat capsule (UL listed). 3 tips—6945 for most transistor pads, .375" diameter, iron clad, nickel plated; 6947 Slotted lead straightener melts and straightens bent tabs and leads; 6948 Tip-in-line IC's.

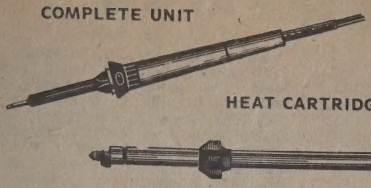
Stk. No.	Type	1-5	6-11	12 Up
35F3051	6939	17.45	15.15	13.45

PRINCESS® MICRO LINE

- DESIGNED FOR MICRO-ELECTRONICS
- PERFECTLY BALANCED, LIGHTWEIGHT
- STAY COOL IN EXTENDED USE
- PRECISE FINGERTIP CONTROL
- COMPONENT PARTS THREAD EASILY
- COMPLETE LINE OF ACCESSORIES

Imperial® Line Soldering Equipment

Ungar



IMPERIAL® HANDLES

Diameter at grip-0.8". Length 4.7" (including heat sink) Turquoise colored. Rated at 115 volts AC-DC. less cord set. Shpg. Wt. 1 oz.

Stk. No.	Type	Cord Set	1-9	10-99	100-Up
32F900	6100-	None	2.00	1.65	1.50
32F903	6102-	2 wire	2.90	2.20	1.75
32F906	6103-	3 wire	4.25	3.45	3.20

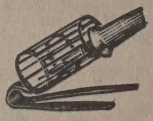
IMPERIAL HEAT CARTRIDGES

Made of a temperature resistance stainless steel body and copper alloy heat collector. Threaded end of the collector is designed and engineered to provide maximum heat transfer. All cartridges fit the IMPERIAL PERMA-COOL handle and can be changed at the bench with easy slip-in, twist-lock action. Use on tight, high-density circuitry requiring precision tip temperatures and extreme care in soldering. Ideal for heavy-duty plant service maintenance but light enough for fatigue-free production line use.

Stock No.	Type	Heat Range	Dia.	Watts	Weight	1-9	10-49	50-Up
32F914	6202	600-800F	0.363"	25	1.1 oz.	5.35	4.35	4.05
32F913	6201	650-850F	0.363"	35	1.1 oz.	5.35	4.35	4.05
32F912	6200	750-950F	0.363"	45	1.1 oz.	5.35	4.35	4.05
32F966	6203	850-1150F	0.363"	55	1.1 oz.	6.35	5.15	4.75

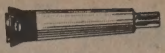
IMPERIAL® "SAFETY-GUARD" HOLDER

Type 6800. Avoids handle damage while protecting operators against hot tip burns. Attaches quickly to work bench. Black with special black cage guard.



Stk. No.	Type	1-9	10-49	50-Up
32F957	6800	2.45	2.00	1.85

CORD SET


6100 HANDLE

6304

6316

6318

MINI-TIPS FOR 25, 35, 45, 55 WATT CARTRIDGE

Designed for multileads, joints and microminiature connections. Material: —Iron Clad, chrome plate, pre-tinned; *Copper alloy. Av. shpg. wt., 3 oz.

Stock No.	Type	Shape	Size	1-9	10-49	50-Up
32F915	6304	Mic-chisel	3/64 x 1/2"	1.40	1.13	1.05
32F916	6305	Micro-spade	3/64 x 1/2"	1.40	1.13	1.05
32F917	*6312	Pencil	1/8 x 3/4"	.61	.50	.46
32F918	6313	Pencil	1/8 x 3/4"	1.40	1.13	1.05
32F920	6316	Pencil Offset	1/8 x 3/4"	1.40	1.13	1.05
32F921	*6318	Long Taper Chisel	1/8 x 3/4"	.61	.50	.46
39F923	*6324	Long Taper Pyr.	1/8 x 3/4"	.61	.50	.46
39F924	6325	Long Taper Pyr.	1/8 x 3/4"	1.40	1.13	1.05
32F926	6331	Screwdriver	1/8 x 3/4"	1.40	1.13	1.05
32F927	6333	X-long Screwdriver	1/8 x 3/4"	1.40	1.13	1.05
32F931	6366	Long Taper Chisel	3/16 x 3/4"	1.65	1.33	1.23
32F959	6481	Tap. Screwdriver	3/4 x 3/32"	1.40	1.13	1.05
32F960	6482	Micro-Spade Stepped	3/32 x 11/16"	1.40	1.13	1.05
33F042	*6368	Long Taper Pyr.	3/4 x .187	.75	.61	.56
33F044	*6473	Long Taper Chisel	3/4 x .375	.75	.61	.56

45-WATT ALL-PURPOSE SOLDERING IRON

Model 6010. Features the most popular IMPERIAL components used in production, development and service. Consist of one type 6100 handle, one type 6102 two-wire cord, one type 6200 45-watt heat cartridge. Delivers 750°F. to 950°F tip temperature. Comes with three multi-purpose MINI-TIP thread-on soldering tips.

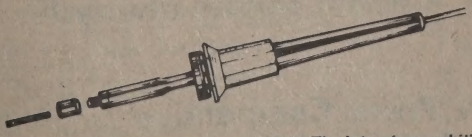
Stk. No.	Type	1-5	6-11	12-Up
32F971	6010	10.50	8.40	7.90

KLEEN-TIP SPONGE, TRAY AND REFILL

Specially processed Kleen-Tip sponge for removing oxidation and excess solder from tips. Assures proper heat flow and solder wetting. Other materials used for this purpose cause contamination or destroy plating.

Stock No.	Type	Description	1-9	10-49	50-Up
33F683	400	Sponge and tray	1.40	1.15	1.05
33F684	455	Refill sponge	.56	.46	.42

3-WIRE SOLDERING IRONS



Designed to eliminate static induced currents. Useful for all general purpose and voltage sensitive components. Meets military, NASA, and other government contracter standards. Accepts more than 40 nibs, tips, tiplets, and de-soldering tips from Standard and Princess line. Ideal for MOSFET, IC components. UL listed heat cartridge available in 3 wattages. Protective coating on threads to reduce tip seizure. Lightweight handle. Octagonal grip. 3-wire cord approved for grounding soldering irons. 120V, 50-60Hz.

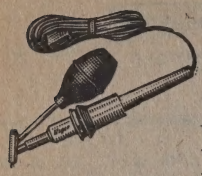
- •Multi-Tip Interchangeability
- •Approved 3-wire cord for soldering irons
- •Ideal for MOSFET and IC Components

Stk. No.	Type	Watts	Tip Temp.	1-5	6-11	12-Up
35F3077	127	27	650°-750°F	6.66	5.47	5.00
35F3078	135	35	750°-850°F	6.66	5.47	5.00
35F3079	145	45	900°-1000°F	6.66	5.47	5.00

Soldering Equipment

Ungar®

HOT-VAC PRINTED CIRCUIT DESOLDERING AND CLEANING TOOL



De-solder 50% faster...reduce PC repair and rework time. HOT-VAC melts and removes solder in one operation with one hand. Other hand is free to lift components. Solder reservoir is easily emptied. #7800 HOT-VAC comes complete with #777 Clean-Room Handle, #4037 Heating Unit and non-clogging #7806 Tip.

Stock No.	Type	1-5	6-11	12-up
32F974	7800	14.25	7070	10.70

HOT-VAC REPLACEMENT TIPS

New Copper HOT-VAC replacement tips, with special liner, prevent sticking and clogging.

Stock No.	Type	Hole Dia.	1-9	10-49	50-Up
33F036	7806	.057"	.96	.79	.73
33F034	7812	.033"	1.35	1.10	1.01

MODEL 7805 SOLDER-OFF BULB

Vacuum action lifts solder from board. Ungar's desoldering bulb with a TFE* tip for safe, easy removal of components from printed circuit boards.

High heat resistant *fluorocarbon material used in the tip will not scratch or damage delicate PC boards. Tip is easily removed for cleaning solder from the bulb. For use with all Ungar soldering irons.

Stock No.	Type	1-9	10-49	50-Up
32F975	7805	1.60	1.30	1.20

HOT KNIFE ATTACHMENT

Model 7910. Set consists of collet holder and 3 knife blades with ¼" tang. (Handle/heating unit not included.) Cuts and forms styrofoam, rubber, thin-film epoxy, snythetics and plastics. For use with Standard Line heating unit #4307, 3-wire irons #127, #135, #145.

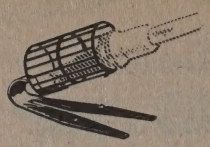
Stock No.	Type	1-9	10-49	50-up
35F259	7910	1.55	1.25	1.20

ALL PURPOSE SOLDERING KIT

Model 7070. Incorporates Model 1237 heating unit with No. 777 light polypropylene handle. Unit supplies 42 watts, 750°F to 800°F for medium to heavy-duty soldering. Handle features special cooling grip for ease and comfort while unit is in operation. Three interchangeable tips: pencil, chisel, and pyramid that feature thread on threads for quick change. Shipping weight, 2½ lbs.

Stk. No.	Type	1-5	6-11	12-Up
32F972	7070	6.25	5.15	4.70

SOLDERING IRON HOLDER



Model 8000. A low-cost, ruggedly built soldering iron holder designed to assure safer and more efficient production soldering.

Provides the exclusive double safety guard design that (1) fully protects the operator against accidental "hot tip" burns, and (2) protects the iron against breakage. Keeps the soldering iron cradled safely and securely...ready for easy, instant use. Built for day-in, day-out production line use, the heavy duty holder attaches quickly to top, side, or underside of bench. Shpg. wt. 1 lb.

33F687 NET. 2.40

ANTI-SEIZE LUBRICANT

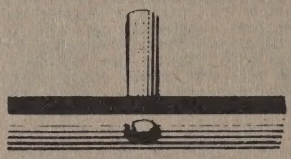
Type 8001. Designed for use on metals operating at high temperatures. Helps reduce seizure and resultant tip and heating unit breakage. Wt. 4 ounces.

Stk. No.	Type	1-9	10-49	50-Up
33F688	8001	.95	.80	.70

DESOLDERING TIPS

FOR USE WITH

- **Standard Line #4045 Heating Unit**
- **3-WIRE IRONS #127, "135, #145**



858

857

These specially designed tips will help you remove components faster and easier than regular soldering tips. Desoldering tips avoid radiation, lug breaking, shorting, and printed circuit board rupturing.

TYPE 857. Slotted tip. 1" x 3/16" diameter, 1/16" slot opening. Used for straightening tube tabs. Also melts and removes excess solder on wire connections.

TYPE 858. Bar tip. 1½" x ⅜". Melts solder on all multiple straight line network components.

Stk. No.	Type	Style	1-9	10-49	50-Up
33F098	857	Slotted	1.05	.86	.78
33F638	858	Bar			

SAVE WORK! Make Newark your Complete

1-Point Stock Source

SAVE TIME! At Newark — fast, efficient service always!

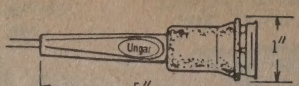
SAVE MONEY! Quantity Prices Competitive

with Manufacturer

Standard Line Soldering Equipment

Ungar®

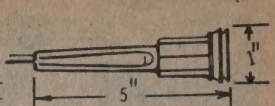
776 CORK GRIP HANDLE



Popular red handle with comfortable cork grip and flexible UL listed 2-wire integral cord. Stainless steel heat deflector. Designed for all heating units, tips, and tiplets. Grip dia. 1". Handle length: 5". For best results use with #8000 iron holder and #400 sponge and tray. Shpg. wt. 5 oz.

Stk. No.	Type	Watts	1-9	10-49	50-Up
33F071	776	47½	2.15	1.80	1.65

TYPE 777 CLEAN ROOM SOLDERING HANDLE

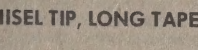


Clean room grip. Comfortable lightweight, fatigue free design of popular 776 handle. Features a heat stabilized polypropylene grip, convection cooled, easy to the touch. Perfect balance, stainless steel heat deflector, extra flexible cord. Complete line of soldering tips, heating units, thread in and thread-on soldering tips used with the 776 handle also fit this blue pastel handle.

Stk. No.	Type	1-9	10-49	50-Up
33F030	777	2.15	1.80	1.65

INTERCHANGEABLE SOLDERING TIPS AND INTEGRAL HEATING UNITS

CHISEL TIP, LONG TAPER

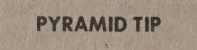


4033
1233
533

533 is rated 27 watts; 650-700°F. 1233 rated 42 watts; 750-800°F. 4033 rated 50W; 850-1000°F. 120V AC-DC. Tellurium copper iron clad, silver plated.

Stk. No.	Model	1-9	10-49	50-Up
33F086	4033	3.95	3.25	2.95
33F646	1233	2.70	2.25	2.05
33F657	533	1.85	1.55	1.40

PYRAMID TIP

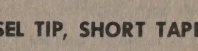


4036
1236
536

536 rated 27 watts; 650-700°F.; tellurium copper. 1236 is 42W; 750-800°F; silver pltd. Armco iron. 4036 is 50 W; 850-1000°F; silver pltd. iron clad copper.

Stk. No.	Model	1-9	10-49	50-Up
33F087	4036	3.95	3.25	2.95
33F078	1236	2.70	2.25	2.05
33F072	536	1.85	1.55	1.40

CHISEL TIP, SHORT TAPER



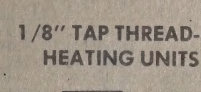
4039
1239
539

539 rated 27 watts with 650-700°F tip temperature; tellurium copper. 1239 rated 42 W; 750-800°F; solid Armco iron, silver plated. 4039 rated 50 W; 850-1000°F; silver pltd., iron clad tellurium copper.

Stk. No.	Model	1-9	10-49	50-Up
33F088	4039	3.95	3.25	2.95
33F079	1239	2.70	2.25	2.05
33F076	539	1.85	1.55	1.40

INTERCHANGEABLE HEATING UNITS & TIPS

1/8" TAP THREAD-IN HEATING UNITS

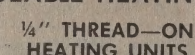


4035
1235
535

Alum. silicon bronze body; ⅛" tap. For all series 300 thread-in tiplets. 535 rated 27W, 600-650°F. 1235 rated 42W, 700-750°F. 4035 rated 50W, 800-850°F. AC-DC.

Stk. No.	Model	1-9	10-49	50-Up
33F089	4035	3.95	3.25	2.95
33F085	1235	2.70	2.25	2.05
33F081	535	1.85	1.55	1.40

¼" THREAD—ON HEATING UNITS



4037
1237
537

Alum. silicon bronze body; ⅛" tap. For all series 100 thread-on tips. 537 rated 27 W, 600-650°F. 1237 rated 42W, 700-750°F. 4037 rated 50W, 800-850°F. AC-DC.

Stk. No.	Model	1-9	10-49	50-Up
33F677	4037	3.95	3.25	2.95
33F678	1237	2.70	2.25	2.05
32F977	537	2.10	1.70	1.60

3/16" TAPPED HEATING UNIT

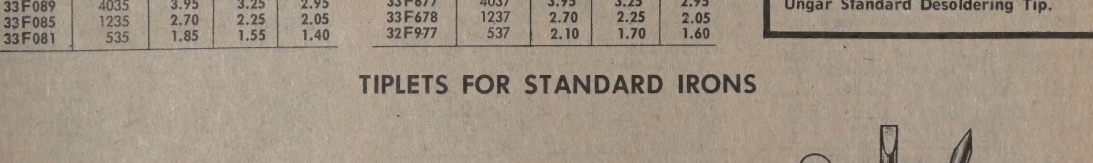
4045

Alum. silicon bronze body, 3/16" tapped for all series 800 thread-in tiplets. Rated 50 watts, 800-850°F tip temperature.

Stk. No.	Model	1-9	10-49	50-Up
33F029	4045	3.95	3.25	2.95

This Heating Unit Also For Use With Ungar Standard Desoldering Tip.

TIPLETS FOR STANDARD IRONS



PL331 | PL332 332 | PL333 333 | 7154 | 7155 | 7062 | PL338 | PL340 | PL111 111 | PL113 113 | PL116 116 | PL114 | PL833 | PL834 | PL823 823 | PL824 824

"PL" tiplets are iron clad tellurium copper, and silver plated.
No prefix indicates unplated copper alloy.

Stk. No.	Type	Description	Lgth. x Dia. x Pt.	Size	1-9	10-49	50-Up
33F093	PL331	Pencil	.870 x .135 x .015	⅛"	.76	.63	.57
33F094	PL332	Offset Pencil	.970 x .135 x .015	⅛"	.76	.63	.57
33F095	PL333	Chisel	.870 x .135 x .135	⅛"	.76	.63	.57
33F083	332	Offset Pencil	.970 x .135 x .005	⅛"	.31	.26	.23
33F084	333	Chisel	.870 x .135 x .125	⅛"	.31	.26	.23
33F689	7154	Pencil	.870 x .135 x .015	⅛"	.76	.63	.57
33F690	7155	Chisel	.870 x .135 x .068	⅛"	.76	.63	.57
33F038	7062	Precision Pt.	.770 x .125 x .005	⅛"	1.41	1.14	1.06
33F686	PL338	Tiplet	.930 x .135 x .050		.76	.63	.57
33F685	PL340	Spade Tiplet	.562 x .135 x .054	⅛"	.76	.63	.57
33F679	PL111	Pencil	.750 x .132 x .015	¼"	1.00	.82	.75
33F680	111	Pencil	.750 x .125 x .005	¼"	.48	.40	.36

Size column tells what heating unit is used.

Stk. No.	Type	Description	Lgth: x Dia. x Pt.	Size	1-9	10-49	50-Up
33F681	PL113	Chisel	.750 x .135 x .135	¼"	1.00	.82	.75
33F682	113	Chisel	.750 x .125 x .125	¼"	.48	.40	.36
33F693	PL116	Pyramid	1.060 x .322 x .015	¼"	1.00	.82	.75
33F691	116	Pyramid	1.060 x .312 x .005	¼"	.48	.40	.36
33F692	PL114	Micro Spade	.530 x .135 x .056	¼"	1.00	.82	.75
33F641	PL833	Long Chisel	1.750 x .195 x .195	3/16"	1.18	.97	.88
33F099	PL834	Tip	1.750 x .195 x .199	3/16"	1.18	.97	.88
33F642	PL823	Pyramid	1.000 x .195 x .017	3/16"	.88	.72	.66
33F643	823	Pyramid	1.000 x .187 x .005	3/16"	.36	.30	.27
33F644	PL824	Long Chisel	1.000 x .195 x .199	3/16"	.88	.72	.66
33F645	824	Long Chisel	1.0000 x .187 x .187	3/16"	.36	.30	.27

Weller

Soldering Tools

SOLDERING KIT

MODEL D-550PK. Heavy duty, dual heat 240/325 watt gun. Soldering tip, smoothing tip, cutting tip, tip changing wrench. All purpose 60/40 Rosin Coresolder. UL Listed.

Stk. No.	Part No.	1-2	3-11	12-Up
33F132	D550PK	14.95	13.45	11.95

D SERIES SOLDERING GUNS

Guns give instant heat with no waste. Dual switch from high to low. Exclusive tip-grip. Eliminates resistance. Dual spotlights on both models. Replaceable tips. UL Listed. Shpg. Wt. 3¾ lbs.

HEAVY DUTY

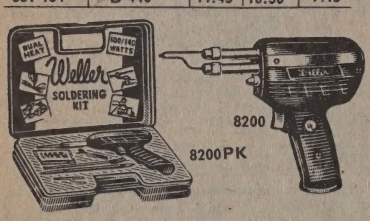
Dual heat 240/325 watts. Twin spotlight illumination. UL listed. Shpg. Wt. 3½ lbs.

Stk.	Part No.	1-2	3-11	12-Up
33F129	D-550	12.30	11.05	9.85

STANDARD

As above exc. 145/210 W. Wt. 3¾ lbs.

Stk.	Part No.	1-2	3-11	12-Up
33F131	D-440	11.45	10.30	9.15



MEDIUM DUTY SOLDERING KITS

Kit includes: Three copper long life soldering tips, tip changing wrench, flux brush, soldering aid, and all purpose solder. Contains 100/140 watt soldering gun. U.L. Listed. Shipping weight 3 lbs.

Stk. No.	Part No.	1-2	3-11	12-Up
335158	8200 PK	9.95	8.95	7.95

DUAL HEAT SOLDERING GUN

Dual heat, instant switching to 140 or 100 watts. Pure copper soldering tip. Spotlight illumination. AC only. UL Listed. 2½ lbs.

Stk. No.	Part No.	1-2	3-11	12-Up
33F148	8200	8.30	7.45	6.65

"MARKSMAN" SOLDERING IRON

Model SP-23K. Includes soldering iron, three different pretinned nickel-plated copper tips, soldering-aid tool, 5 ft. 60/40 rosin core solder, and instructions for soldering. Pencil type, feather weight, soldering iron with removable tip. Plastic handle remains cool. Develops up to 750° F. Long reach stainless steel barrel. U.L. Listed. Iron wt. ⅛lbs. Kit wt. ⅜lbs.

Stock No.	Type	Description	1-11	12-47	48 Up
33F183	SP-23K	Kit	4.60	4.15	3.70
33F801	SP-23	Iron Only	3.10	2.80	2.50

TIPS FOR SP-23 SOLDERING IRON 2 PER CARD

Stock No.	Type E	Description	1-11	12-49	50-Up
33F993	MT-1	Cone Shaped	.70	.63	.56
33F994	MT-2	Screwdriver			
33F995	MT-3	Chisel			
33F996	MT-4	Spade			

SOLDERING IRONS PENCIL TYPE

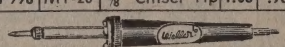
SP-40. 40 W. pencil type soldering iron. ¼" dia. plated copper tip. 2 per card. U.L.

Stock No.	Type	Description	1-11	12-47	48-Up
33F802	SP-40	40 Watt Iron	4.10	3.70	3.25
33F997	MT-10	¼" Chisel Tip	1.08	.98	.87

HEAVY DUTY

SP-80. 80 W. heavy duty pencil type soldering iron. ⅜" dia. plated copper tip. U.L. Listed. Wt. 4 oz.

Stock No.	Type	Description	1-11	12-47	48-Up
33F803	SP-80	80 Watt Iron	5.00	4.50	4.00
33F998	MT-20	⅜" Chisel Tip	1.08	.98	.87



PENCIL IRON

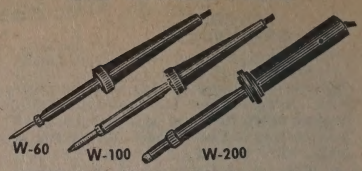
Model WP-25. Light weight soldering iron with 1/16" tip and cord set. 3 screwdriver-shape tip sizes with premium plating; plastic handle. 25 watts at 115 V; 7⅞" long, 7/16" Dia. Max, temp 860° F. U.L. listed.

Stock No.	Part No.	1-11	12-49	50-Up
33F175	WP-25	5.15	4.65	4.15

ACCESSORIES FOR MODEL WP-25

Stock No.	Part No.	Description	1-14	15-49	50-Up
33F176	ST-1	1/16" tip only	.88	.79	.71
33F177	ST-2	3/32" tip only	.88	.79	.71
33F178	ST-3	⅛ tip only	.88	.79	.71
33F180	CS-2	Cord set (2-wire)	.85	....	....
33F181	KN-3	Knurled tip nut	.20	....	....

TEMPERATURE CONTROLLED LINE VOLTAGE TOOLS



TYPE W-60, W60-3. 15-100 W spectrum. For high idle rate situations select lower temperature tips for optimum tip and tool life. Includes 700°F, ¼" screw driver tip, 60W, 120V. 7½" long. UL listed. Weight: 2½ ounces. W60-3 has 3 wire cord.

TYPE W-100, W100-3. For medium duty work. 50-159 W spectrum. Used for direct line voltage operations. Includes 700° F screwdriver tip. 100 W, 120 V. 8 ¼" L. UL. Wt: 3½ oz. W100-3: 3 wire cord.

TYPE W-200, W200-3. Ideal for heavy duty work where bulk of other tools makes operations clumsy. 150-200 W spectrum. Includes 700° F, 1/2" chisel tip. 9 ½" long. UL. Wt: 10 oz. W200-3: 3 wire cord.

Stock No.	Type	1-11	12-47	48-UP
33F348	W60	12.60	11.40	10.15
35F3329	W60-3	13.60	12.30	10.95
33F349	W100	15.80	14.25	12.65
35F3330	W100-3	16.80	15.15	13.50
33F350	W200	21.90	19.80	17.60
35F3333	W200-3	23.00	20.75	18.50

W-60 Replacement tips (Screwdriver type)

600°F Stk. No.	700°F Stk. No.	800°F Stk. No.	Type	Size
35F2564	35F2565	35F2566	CT5A	1/16"
35F2567	35F2568	35F2569	CT5B	3/32"
35F2570	35F2571	35F2572	CT5C	1/8"
35F2573	35F2574	35F2575	CT5D	3/16"
35F2576	35F2577	35F2578	CT5E	1/4"

1-24: 1.05 | 25-99: .95 | 100-Up: .85

W100 Replacement tips (Screw driver type)

600°F Stk. No.	700° Stk. No.	800°F Stk. No.	Type	Size
35F2579	35F2580	35F2581	CT6C	1/8"
35F2582	35F2583	35F2584	CT6D	3/16"
35F2585	35F2586	35F2587	CT6E	1/4"
35F2588	35F3331	35F3332	CT6F	3/8"

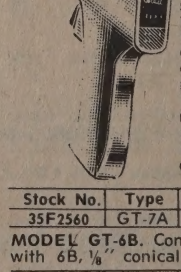
1-24: 1.65 | 25-99: 1.50 | 100-UP: 1.35

W-200 Replacement tips

600°F Stk. No.	700°F Stk. No.	800°F Stk. No.	Size	Type
35F2589	35F2590	35F2591	1/4" scrw	CT2E
35F2592	35F2593	35F2594	3/16" scrw	CT2F
35F2595	35F2596	35F2597	7/16" chis	CT2G
35F2598	35F2599	35F3303	1/2" chis	CT2H

1-24: 2.50 | 25-99: 2.25 | 100-UP: 2.00

SOLDERING TOOL



MODEL GT-7A. Fast heating. Trigger action. Exclusive temperature controlled powerhead. For light and heavy soldering. Long reach stainless steel barrel. Convenient ejector facilitates quick changing of powerheads. Includes 3/16" chisel point, 700°F, 150 watt. Ideal for service repairs, PC boards, models and hobbies. U.L. Listed. Weight 7 ounces.

Stock No.	Type	1-2	3-11	12-Up
35F2560	GT-7A	12.50	11.25	10.00

MODEL GT-6B. Controlled soldering tool with 6B, ⅛" conical point, 600°F. 150 watt.

Stock No.	Type	1-2	3-11	12-Up
35F2561	GT-6B	12.50	11.25	10.00

REPLACEMENT POWERHEADS

MODEL 7A 3/16" chisel point, 700°F 35F2562. NET **8.75**

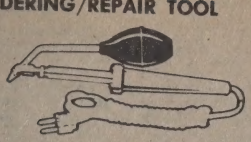
MODEL 6B. ⅛" conical point, 600°F 35F2563. NET **8.75**

GUN REPLACEMENT TIPS AND PARTS

Stk. No.	Type	Description	Net
33F149	8125	Plated tip for 8200, 8100B	.85
33F139	8125N	One 8125 tip and two tip nuts	
33F124	7135	2 Copper tips for D-440,8100, 8100B, 8200, WS-100, WD-135, S-400	
33F140	7135N	One 7135 tip and 2 tip nuts	
33F125	7250	Copper tip for D-550, 825A, WS-200, WR-250, S-500	
33F141	7250N	One 7250 tip and 2 tip nuts	
33F135	6110	Cut tip D-440, 8100, 8200, 8100B, WS-100, WD-135, S-400, w/ Tip nuts.	
33F136	6120	Smooth tip D-440, 8100, 8200, 8100B, WS-100, WD-135, S-400 w/tip nuts	
33F137	6130	Cutting tip for D-550, 8250A, WS-200, WD-250, S-500, w/ Tip nuts.	
33F138	6140	Smoothing tips for D-550, 825A, WS-200, WD-250, S-500 w/tipnuts	
33F127	7300	2 copper tip for S-107, D-207	
33F162	7323	Switch for single-heat models	.80
33F163	7324	Switch for all dual-heat models	
33F392	7409	Cord set (all models)	
33F396	725R8200	Right housing for 8200	1.10
33F397	726L8200	Left housing for 8200	
33F166	725R440	Right housing for D-440	
33F167	726L440	Left housing for D-440	
33F168	725R550	Right housing for D-550	
33F169	726L550	Left housing for D-550	

Soldering Tools

PROFESSIONAL DESOLDERING/REPAIR TOOL



Model DS40

For servicing modern printed circuit boards and solid state electronics. Complete tool includes handle, vacuum bulb, desoldering assembly and tip with .063" opening. 40W, 120V, 2 wire cord.

DS40. Desoldering tool with DST4 .063" desoldering tiplet. Wt. ½ lb.

33F1250..... EACH: 1-2 **12.65** 13-11 **11.40**

DS40-3 As above with three wire cord. Wt. ¾ lb.

33F1251..... EACH: 1-2 **13.90** 3-11 **12.50**

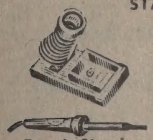
DS 40 TOOL TIPS/REPLACEMENT PARTS

Stk. No.	Type	Description	Each
33F1252	DSF40	Iron frame incl. element, barrel, handle, cord set, 40W. 2 wire	6.00
33F1253	DSF40-3	As above except 3 wire cord.	6.75
33F1254	DSH40	Head with DST4 tip	6.25
33F1255	HA1B2	Handle/Cord Set 2 wire	1.45
33F1256	HA1B3	Handle/Cord Set 3 wire	3.60
33F1257	VB40	Vacuum Bulb	.85
35F3329	KN60A	Barrel Nut	.35
33F1258	RR40	Retaining Ring	.10
33F1259	HEDS40	Heating Element w barrel, flange	4.60
33F1260	SD1	Stand	.10

DST SERIES TIPLETS For DS-40

Stock No.	Type	Size Hole Dia.	1-11	12-47	48 Up
33F1262	DST1	.038	.88	.79	.71
33F1263	DST2	.046"	.88	.79	.71
33F1264	DST3	.059"	.88	.79	.71
33F1265	DST4	.063"	.88	.79	.71
33F1266	DST5	.078"	.88	.79	.71
33F1267	DST6	.090"	.88	.79	.71

BENCH/SIDE RAIL SOLDERING TOOL STANDS



Bench Stand

Side Rail Stand

Bench stands have heavy non-sliding cast bases with sponge receptacle and non-sinking spring stand funnel. Side rail stands comprised of spring and funnel only. For irons with barrel diameters.

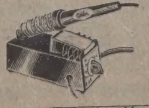
Bench Stand

Stk. No.	Type	Description		1-11	12-47	48-Up
35F3347	PH60	W60	15/32	5.30	4.80	4.25
35F3345	PH100	W100	19/32	6.40	5.75	5.15

Side Rail Stand

35F3348	SFA1	TCP1⅜		1.60	1.45	1.25
35F3349	SFA60	W60	15/32	1.60	1.45	1.25
35F3350	SFA100	W100	19/32	2.35	2.10	1.85

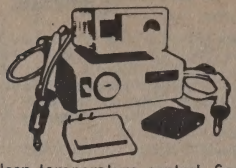
TEMPERATURE CONTROLLED SOLDERING PENCIL



MODEL — W-TCP2. For use with solders with melting points below 300° F. Continuously variable range of tip temperatures, 200 - 450° F. Ship wt. 4 lbs.

Stk. No.	Type	1-11	12-23	24-Up
35F2523	W-TCP2	72.30	65.35	58.05

DS-100 POWER VACUUM DESOLDERING TOOL



Closed loop temperature control. See-thru solder collector. Non-burnable cord. Operates from factory air and line voltage. Complete with foot switch, indicating light/on-off switch, twin safety tool holder, vacuum adjustment and gauge, tip and sponge holder, five assorted tips.

Stk. No.	Type	Description	Each
33F1268	DS100	Complete Unit	225.00
33F1269	DS101	Soldering Iron	14.65
33F1270	DS102	Desoldering Iron	19.90
33F1271	DS103	Collector Tube	.95
33F1272	DS104	Clean Out Tool	1.50
33F1273	DS105	Sponge Holder with Sponge and Tool	6.00
33F1274	DS106	Sponge	.40
33F1275	DS107	Tool Holder	10.50
33F1276	DS108	Retainer Springs	1.05
33F1277	DS109	Power Unit with Foot Switch	185.00

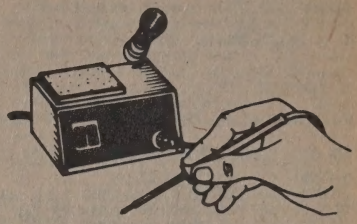
DS 100 REPLACEMENT TIPLETS

Stk. No.	Type	O.D.	I.D.	L.	E.
33F1278	DS110	.060	.025	.50	2.00
33F1279	DS111	.090	.025	.50	2.00
33F1280	DS112	.076	.036	.50	2.00
33F1281	DS113	.094	.045	.50	2.00
33F1282	DS114	.125	.071	.50	2.00
33F1283	DS115	.060	.025	.75	2.00
33F1284	DS116	.098	.045	.75	2.00

PARTS FOR DS100

Stk. No.	Type	Description	Each
33F1285	DS201	Fuses	.40
33F1286	DS202	Installation Kit	17.25
33F1287	SW60	Switch Assembly	3.40
33F1288	HE60	Heating Element	3.10
33F1289	BA60	Barrel Nut Assem.	1.45
33F1290	DS209	Desolder Head 700° with spring	12.00

NEW! MP SERIES SOLDERING STATION WITH PLUG-IN PENCIL UNIT



Designed for printed circuits and fast, economical soldering. Closed loop temperature control. Non-burnable cord. Low voltage output to iron. Units can be changed in seconds. Operates from line voltage with built-in step down transformer. Housings are impact resistant Complete with tip, three-wire power cord, power unit, sponge, soldering pencil and specification sheet. UL listed.

MP SERIES KIT/ACC

Stk. No.	Type	Description	1-11	12-23
33F12911	MP116	650° Station	39.85	35.85
33F1292	MP117	750° Station	39.85	35.85
33F1293	MP101	Power Unit	24.90	22.45
33F1294	MP106	650° Pencil	14.95	13.40
33F1295	MP107	750° Pencil	14.95	13.40
33F1296	MP202	Sponge	.40	.40
33F1297	MP203	Funnel	.40	.40
33F1298	MP204	Holder Assem.	.90	.90

REPLACEABLE TIPS

Stk. No.	Type	Description	1-24	25-99	100-Up
35F3368	MP2C	1/32 chisel	1.05	.95	.85
35F3369	MP3C	3/64 chisel			
35F3400	MP5C	5/64 chisel			
35F3401	MP8C	1/8 chisel			
33F1170	MP1MP	.020 pt.			
33F1171	MP2S	1/32" spade			
33F1172	MP3S	3/64" spade			

TEMPERATURE CONTROLLED "LOW VOLTAGE" SOLDERING STATIONS

15-100 watt spectrum eliminates need to stock many tools of various wattages. Interchangeable tips give you choice of 600°, 700°, 800°F tip idling temperature. Pencils weigh only ¾ oz. for ease of operation. Flexible, light weight, burn proof silicone rubber cord leads to pencil. Wide variety of tips available. 60W, 120 V, 50/60Hz.

Model W-TCP-L. TCP-1 pencil, PU-2 power unit, with ind. light, on/off switch. 3 wire cord, PTA7 1/16" 700°F. screwdriver tip. Wt: 4 lbs.

Model W-TCP. Same as above except PU-1A power unit. No light or switch. Wt: 4 lbs.

Model PU-1A. Power Unit. 60W, 120 V, 50/60Hz. 3 wire power cord.

Model PU-2. Same as above but with indicator light and on/off switch.

Stk. No.	Type	1-11	12-23	24-Up
35F3309	W-TCPL	30.15	27.25	24.20
35F2521	W-TCP	26.15	23.65	21.00
35F3310	PU-1A	9.60	.....	.....
33F1261	PU-2	13.05	.....	.....

TEMPERATURE SENSING TIPS

Stock Numbers 600°F	700°F	800°F	Description	Style	1-24	25-99	100-Up
35F2525	35F2526	35F2527	1/16" Screwdriver	PTA	1.05	.95	.85
35F2529	35F2530	35F2531	3/32" Screwdriver	PTB			
35F2533	35F2534	35F2535	1/8" Screwdriver	PTC			
35F2537	35F2538	35F2539	3/16" Screwdriver	PTD			
35F2541	35F2542	35F2543	1/32" Screwdriver	PTH			
35F2545	35F2546	35F2547	3/64" Screwdriver	PTK			
35F2549	35F2550	35F2551	5/64" Screwdriver	PTL			
35F2553	35F2554	35F2555	3/32" Spade	PTBB			
35F2557	35F2558	35F2559	1/8" Spade	PTCC			
35F3311	35F3312	35F3357	1/16" Spade	PTAA			
35F3351	35F3352	35F3353	3/16" Spade	PTCC			
35F3354	35F3355	35F3356	1/32" Conical	PTP			
35F3358	35F3359	35F3360	1/32" Conical	PTF			
35F3361	35F3362	35F3363	13/64" Screwdriver	PTE			
35F3313	35F3314	35F3364	1/8" Screwdriver	PTM			

American Beauty Soldering Pots and Accessories

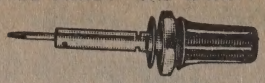
"LITTLE DANDY" 3110 25-WATT IRON

Model 3110. Light weight, easy handling iron for production use. Tenite® finger grip. Lexan handle wipes "white room" clean. 3/16" nickel plated screwdriver tip supplied. Shpg. wt., ½ lb.
32F987. NET 4.70

PARAGON CLAD TIPS FOR 3110 ABOVE

Stk No.	Type	Tips Clad.	Price
32F990	604	1/16 Trnd. Chisel	2.00
32F991	605	1/8 Trnd. Long chis.	
32F992	607	1/8 Trnd. Screwdvr.	
32F995	613	3/32 Trnd. Screwdvr.	
32F996	615	1/16 Trnd. Screwdvr.	
32F997	617	3/32 Screwdriver	

"LITTLE DANDY" 3112 40-WATT IRON



Lightweight iron ideal for production use. Cool handling Tenite® finger grip prevents fatigue. May be used with a wide variety of easy-to -change Paragon "Quality" clad tips (below). Shipped complete with ¼" diameter tip and 2-wire neoprene cord. 110-120 volts AC. Wt., ½ lb.
35F126. NET 9.68

PARAGON CLAD TIPS FOR 3112 ABOVE

Stk. No.	Type	Description	Each
35F127	704	¼" Chisel	2.16
35F131	701	⅛" Turned Screwdvr.	
35F132	710	⅛" Turned Diamond	
35F133	709	¼" Diamond	

3158 MEDIUM-DUTY 200-WATT IRON

For medium-heavy factory and production work. 13⅝" long. With cord stand and ⅝" tip. For 110-120 volts, 50-60 Hz AC-DC. Shpg. wt., 3 lbs.
33F002. NET 16.24

3178 HEAVY-DUTY 300 WATT IRON

Rugged design with higher heat capability. For use on light commutators, service, production work. 14¾" long. ⅞" tip. 117 VAC. 4 lbs.
33F004. NET 21.28

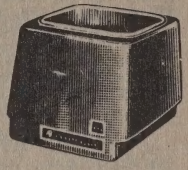
MODEL 3138 100 AND 150 WATT IRONS

For work on radio chassis, switchboards, and other electrical uses. 12⅞" long. ⅜" diamond point tip. Nickel-plated metal parts. With stand. 6-ft. cord and tip. For 110-120 V., AC-DC. Wt., 2¼ lbs.

Stk. No.	Type	Watts	Each
33F001	3138	100	13.12
32F986	3138	150	13.12

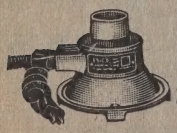
SOLID-STATE ULTRA-SONIC CLEANERS AND ACCESSORIES

Save time and money with an industrial quality ultrasonic cleaner. Fast-acting, easy-to-use and simple-to-operate. Has single pilot-lighted on/off switch. All models are self-contained and self-tuning—never need adjustment. There is a size for almost any work situation in your plant. Cleans virtually any small item or assembly. Eliminates the necessity of carrying small items to a central point for cleaning. Sound is introduced into liquid in the cleaner tank, creating millions of microscopic bubbles which expand and collapse. These implosions act like millions of tiny scrub brushes, driving into virtually every area to be cleaned. The action invades any surface where liquid can go, even by capillary action. Uses any cleaning solution applicable to other cleaning methods now in use. For operation from 110-120 volts, 50-60 Hz AC.

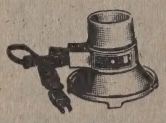


Stk. No.	Type	Dimen.	Tank Size	Cleaning Power *	Input	Shpg. Wt.	NET
35F138	S-30	7¼x7¼x6"	5x5x3"	50W	75W	7	72.80
35F139	S-50	12x7½x9"	5x9x4"	100W	125W	14	120.40
35F140	S-70	14x8½x9"	6x11x6"	150W	185W	17	252.00

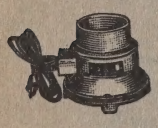
ESICO SOLDERING POTS



MODEL 12-200 WATTS
Ideal for small parts. Inside Dimensions: 1 9/16" dia., 1¼" deep. Max. Temp. 750°. Solder cap. ¾ lb. Wt. 4 lbs.



MODEL 36-250 WATTS
Inside Dim: 2½" dia., 1¾" deep. Max. Temp: 750°. Solder cap: 2¼ lbs. Wt. 4⅛ lbs. 36T. With thermostat. 650° max. Wt. 6⅓ lbs.



MODEL 37-600 WATTS
Inside Dimensions: 3½" dia., 1¾" deep. Max. Temp: 800°. Solder Cap: 5 lbs. Wt. 7¼ lbs. 37T. 659 Watts. 650° max. temp. With thermostat. Wt. 9⅛ lbs.

MODEL 75T-650 WATTS
Large capacity pot. Inside Dim: 4¾" sq., 1¾" deep. Max. Temp: 650°. Solder Cap: 11¾ lbs. Wt. 9⅛ lbs.

33F321 Model 12. NET 12.50
33F325 Model 37. NET 19.00
33F326 Model 37T. NET 34.50

33F323 Model 36. NET 14.00
33F324 Model 36T. NET 29.00
33F320 Model 75T. NET 36.50

NEWARK Carries complete lines of top quality electronic equipment. Newark can supply all your needs, whether or not they are listed in this catalog.

WAAGE SOLDERING POTS

ROUND SOLDER MELTING POTS

Round solder melting pots for melting solder, tin, lead-type metal and babbitt with temperatures up to 1000°F. Melting crucible of heavy cast iron. Replaceable heating elements are clamped to bottom of crucibles for even heat distribution. Fiber glass and air insulation reduces heat loss to a minimum. Furnished with 6', 115 VAC 3-conductor, grounded cordset.

550 DEGREES FAHRENHEIT

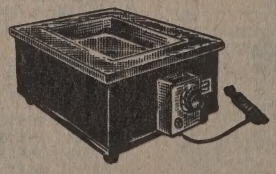
Stock No.	Type	Cap. Lbs.	Watts	Inside Dia.	Inside Depth	Control	NET EACH
60F1501	MP1A	1	200	1½	1½	Auto.	35.00
60F1502	MP4A	4	300	3	1½	Auto.	38.50
60F1503	MP10A	10	500	3½	2½	Auto.	45.00

1000 DEGREES FAHRENHEIT

60F1504	MP1X	1	400	1½	1½	1 heat	38.50
60F1506	MP1XFR*	1	400	1½	1½	Auto.	55.00
60F1507	MP4XFR*	4	800	3	1½	Auto.	58.00

*Includes pot and Inf. 120 infinite control

RECTANGULAR SOLDER MELTING POTS



Wide open top area with shallow depth offers maximum dipping efficiency of flat or edge dipped circuit boards. Circuit boards can be dipped manually or the standard Waage Tanks can be easily integrated into a completely automatic assembly system. Easy mounting of assembly jigs for accurate production dipping.

550 DEGREES FAHRENHEIT

Stock No.	Type	Cap. Lbs.	Watts	Inside Dimens.	Control	Shpg. Wt	Net Each
60F1508	RSP1	10	600	4x4	Auto.	15	55.00
60F1509	RSP2	20	1200	4x8	Auto.	23	75.00

700 DEGREES FAHRENHEIT

60F1510	RSP3	30	1500	4x12x2"	Auto.	35	110.00
60F1511	RSP7	70	1600	9x12x2"	Auto.	52	145.00

Soldering Equipment

KESTER SOLDERS

"44" RESIN CORE SOLDER

- Instant Wetting Action
- Electrically Non-Conductive Residue
- Completely Non-Corrosive Residue

Featuring fast-acting, instant wetting, non corrosive, non-conductive flux. Meets all applicable MIL and Federal standards. Makes soldering faster than ever before and provides a stronger, longer lasting bond. Flux residue is immune to fungus growth, resistant to oxidation and organic decomposition, completely non-corrosive and electrically non-conductive. 3.85% flux core.

Alloy					1 - 10		11 - 24		25 - Up	
Tin	Lead	Stk. No.	Dia	GA	1-lb	5-lb	1-lb	5-lb	1-lb	5-lb
40	60	33F1133	125	11	2.30	.....	2.06	.....	1.82	.....
40	60	33F1134	125	11	.....	11.10	.....	9.95	....	8.80
40	60	33F1102	062	16	2.55	.....	2.28	.....	2.01	.....
40	60	33F1103	062	16	.....	12.45	.....	11.15	....	9.85
50	50	33F1104	125	11	2.78	.....	2.64	.....	2.36	.....
50	50	33F1105	125	11	....	12.85	....	11.50	....	10.15
50	50	33F1106	062	16	3.00	.....	2.69	.....	2.37	.....
50	50	33F1107	062	16	....	14.75	....	13.20	....	11.65
60	40	33F1108	062	16	3.36	.....	3.01	.....	2.66	.....
60	40	33F1109	062	16	....	16.55	....	14.80	....	13.05
60	40	33F1110	031	21	4.18	.....	3.74	.....	3.30	.....
60	40	33F1111	031	21	....	19.00	....	17.00	.....	15.00

KESTER BAR SOLDER—Uniform distribution of tin-lead alloy in bar provides for more efficient and easy application. Freedom from oxide is virtually assured.

Alloy		Stk. No.	1-10	11-24	25-49	50-99	100-Up
40% Tin	60% Lead	33F1100	2.46	2.34	2.09	1.85	1.64
50% Tin	50% Lead	33F598	2.88	2.74	2.45	2.16	1.92
60% Tin	40% Lead	33F599	3.38	3.21	2.87	2.54	2.25
63% Tin	37% Lead	33F1101	3.62	3.44	3.08	2.72	2.41

KESTER SOLDERING FLUXES—Use on all metals except aluminum. Kester Soldering Fluxes remain stable even under extreme conditions.

Formula No.	Stk. No.	Pts.	Stk. No.	Qts.	Stk. No.	Gals.
1544	33F1135	2.50	33F1136	4.20	33F1137	10.90
1587	33F1141	2.50	33F1142	4.20	33F1143	10.90

TV RADIO SOLDER. 1 oz. coil. 1/16" dia.
33F200 NET ..... .39

All Kester solder can be supplied in Fed. Spec. QQ-S571D.

Alloy					1 - 10		11 - 24		25 - Up	
Tin	Lead	Stk. No.	Dia	GA	1-lb.	5-lb.	1-lb.	5-lb.	1-lb	5-lb.
40	60	33F205	093	13	2.68	....	2.40	....	2.12	....
40	60	33F219	093	13	....	13.20	....	11.80	....	10.45
50	50	33F207	093	13	3.17	....	2.84	....	2.51	....
50	50	33F220	093	13	....	15.60	....	13.95	....	12.30
60	40	33F221	093	13	3.61	....	3.23	....	2.85	....
60	40	33F222	093	13	....	17.75	....	15.90	....	14.05
40	60	33F213	062	16	2.79	....	2.50	....	2.21	....
50	50	33F215	062	16	....	13.70	....	12.25	....	10.80
50	50	33F216	062	16	3.31	....	2.96	....	2.61	....
60	40	33F217	062	16	....	16.25	....	14.55	....	12.85
60	40	33F218	062	16	3.72	....	3.33	....	2.94	....
63	37	33F1117	062	16	....	18.35	....	16.40	....	14.50
63	37	33F1118	062	16	3.90	....	3.49	....	3.08	....
60	40	33F1119	050	18	....	19.00	....	17.00	....	15.00
60	40	33F1120	050	18	4.16	....	3.72	....	3.29	....
63	37	33F1121	050	18	....	19.40	....	17.35	....	15.30
60	40	33F1123	040	19	4.31	....	3.86	....	3.41	....
60	40	33F1124	040	19	4.37	....	3.91	....	3.45	....
63	37	33F1125	040	19	....	19.95	....	17.85	....	15.75
60	40	33F223	031	21	4.52	....	4.05	....	3.57	....
60	40	33F224	031	21	4.54	....	4.06	....	3.59	....
63	37	33F1127	031	21	....	20.80	....	18.60	....	16.45
63	37	33F1128	031	21	4.71	....	4.22	....	3.72	....
60	40	33F1129	025	23	....	21.65	....	19.40	....	17.10
63	37	33F1131	025	23	5.32	....	4.76	....	4.20	....
63	37	33F1132	025	23	5.74	....	5.13	....	4.53	....

ERSIN MULTICORE SOLDER

Special Alloy Industrial Solders. Low-melting pt. type (L.M.P.) is 62% tin, 36% lead, 2% silver. High melting point (H.M.P.) type is 5% tin, 93.5% lead, 1.5% silver. Eutectic 63/37 alloy, melts at 361°F. Shpg. wt., 1-lb. spool, 1¾ lbs.; 28-lb. carton, 32 lbs. SWG size 22=.028"

Stk. No.	Type	Gauge	1-19	20-Up
33F310	L.M.P.	16	6.92	5.54
33F311	L.M.P.	18	7.22	5.78
33F312	L.M.P.	22	8.92	7.14
33F313	H.M.P.	16	4.80	3.84
33F314	H.M.P.	18	5.00	4.00
35F1012	H.M.P.	22	5.90	4.72
33F315	Eutectic	16	4.18	3.34
33F316	Eutectic	18	4.38	3.50
33F317	Eutectic	20	4.78	3.82
35F1013	Eutectic	22	5.28	4.22

P.C. PAK

Contains 22 swg. (.028") wire rosin cored solder in 60/40 alloy for printed circuit boards, diodes and transistor work. Flame proof aluminum pak has advantage of not burning which is important when working in close proximities.
35F1015. NET ..... .79

SAVBIT COPPER-LOADED INDUSTRIAL SOLDER

Alloy that lengthens the life of copper tips. Melting pt., tensile; shear strength same as tin-lead alloys. Shpg. wt. 13/4 lbs.

1 POUND SPOOLS

Stk. No.	Gauge	1-19	20-79
33F239	14(.080")	3.74	2.99
33F240	16(.064")	3.84	3.07
33F241	18(.048")	4.04	3.23
33F238	20(.036")	4.34	3.47
35F1014	22(.026)	4.74	3.79

1 POUND REELS

Stk. No.	Alloy	Gauge	1-19	20-79
33F226	40/60	16	3.07	2.46
33F229	50/50	16	3.70	2.96
33F228	60/40	16	3.99	3.19
33F230	60/40	18	4.19	3.35
33F231	60/40	20	4.59	3.67

Made with non-corrosive extra-active flux. 5-core design guarantees continuity of flux stream, faster melting, and same % of flux-to-solder as with single core types. SWG wire gauge sizes: 16=.064", 18=.048", 20=.036". Shpg. wt., 1 lb. carton 1¾ lbs.

ALLOY 60/40 ½ LB. REELS

Stk. No.	Gauge	Net
33F344	24(.022")	3.79
33F345	28(.014")	4.89
33F346	32(.0108")	6.49
33F347	34(.009")	7.69

ALLOY 63/37 ½ LB. REELS

33F339	22(.028)	2.88
33F340	24(.022")	3.98
33F341	28(.014")	5.08
33F342	32(.0108")	6.68

High Purity SOLID BAR SOLDER 1-lb. Reel

Stk. No.	Alloy	1-27	28-Up
35F1010	60/40	2.87	2.23
35F1011	63/37	2.95	2.30

You Can Depend on NEWARK for Complete Stocks Lowest Prices—Fastest Service

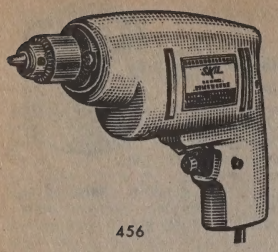
SOLDER SIPPER

Removes molten solder from electrical connections or any place where solder is concentrated in a small mass. Teflon tube gives long dependable life under normal use. Not recommended for use over 500°F. Small, lightweight. Shpg. Weight 5 oz.

33F487 NET 1.29

SKIL and THOR Power Tools

SKIL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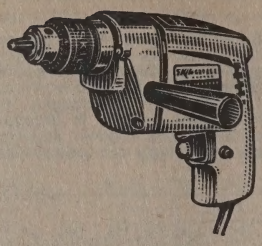
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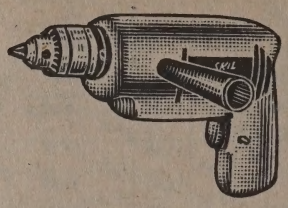
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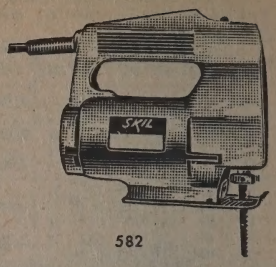
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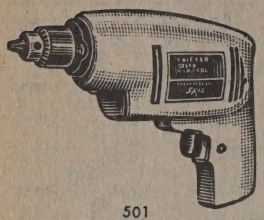
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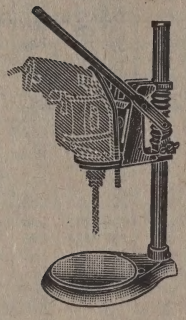
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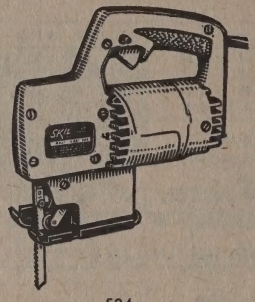
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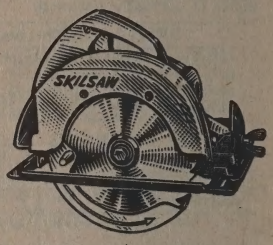

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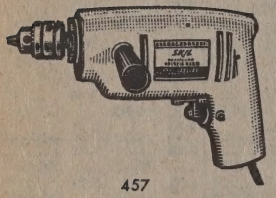

457

DRIVE-R-DRILL

Model 598. ½". Operates from 0-500 rpm forward/reverse, with adj. trigger speed control. Lightweight. Powerful 3 amp motor. Multi-thrust bearing on chuck, double reduction gears. Removable side handle, 3-wire cord and plug. 4½ lbs.
64F407. NET **49.95**

DOUBLE INSULATED DRIVE-R-DRILL

Model 456. ¼". 0-2100 rpm forward/reverse. Trigger squeeze controls drill speed. Preset any maximum speed with adjusting knob. Drill in wood, metal, or masonry. Powered by 2.5 amp burnout protected motor. Double insulated. Shpg. wt. 4 lbs.
64F435. NET **32.99**

DOUBLE INSULATED TSC DRILL

Model 501. ¼". Operator squeezes trigger for any forward speed from 0 to 2000 rpm. Drill or drive screws in wood, metal, plastics, masonry—even glass without center punching. Drill into curved or irregular surfaces without bit skidding. 2.5 amp motor, helical gears. Shpg. wt. 4 lbs.
64F401. NET **19.99**

DOUBLE INSULATED DRIVE-R-DRILL

Model 457. ⅜". 0-1000 rpm forward/reverse, with adj. trigger speed control. Double insulated. 2-prong plug. 3 amp motor. Extra chuck capacity for larger bits. Removable side handle. Shpg. wt. 4½ lbs.
64F436. NET **36.99**

REVERSIBLE DRIVE-R-DRILL

Model 597. ⅜". 0 to 750 rpm forward/reverse. Extra power 3 amp motor. Extra chuck capacity. 3-wire plug. Removable side handle. Shpg. wt. 4½ lbs.
64F406. NET **39.95**

DOUBLE INSULATED TSC DRILL

Model 569. ⅜". 0-1000 rpm forward, trigger speed control. Double insulated; 2-prong plug. 3 amp motor, double reduction gears, removable side handle. 3¾ lbs.
64F437. NET **24.99**

VERTICAL DRILL STAND

Model 45136. Converts most ¼", ⅜", ½" electric drills to lever operated drill press. Shpg. wt. 5½ lbs.
64F424. NET **12.95**

DELUXE 2-SPEED JIG SAW

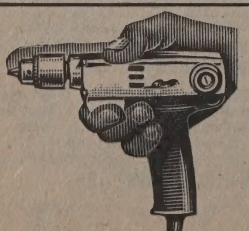
Model 524. 2.3 amp motor delivers 4000 spm for wood, plastic, composition; 3000 spm for metal. Orbital action cuts on upstroke, clears on down-stroke. Automatic blower. Bevel gears, ball thrust, mounted anti-friction bearings. Trigger switch. AC. With splinter free cutting attachment, 3 blades, 3-wire cord and plug. Shpg. wt. 5½ lbs.
64F418. NET **36.88**

JIG SAW

Model 582. Single speed. 2.5 amp burnout protected motor delivers 3500 spm. Change blade for metal, composition, wood. Splinter resistant foot, automatic blower. Includes blade. Shpg. wt. 5½ lbs.
64F434. NET **19.99**

7¼" DOUBLE INSULATED POWER SAW

Model 559. Ball bearing saw. Cuts 2⁷⁄₁₆" at 90°, 1⅞" at 45°. Bevel, height adj. controls. X-long lower guard; safety adj. rip fence; cord guard. 10 amp motor develops over 1¾" hp. 11½ lbs.
64F439. NET **54.99**



- **Ultra-compact, Powerful Drill**
- **Shock-proof Gearing**
- **Full-Wave Diode Circuit**

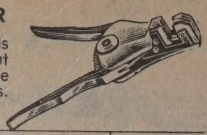
THOR ¼" INDUSTRIAL HAND DRILL

Type E-110. Compact size and light weight, yet can do the job of standard-size ¼" drills. Powerful 1250 rpm motor. Full-wave diode circuit for high efficiency, trouble-free permanent-magnet stator. Heat-proofed armature with welded commutator leads and high-temperature insulation. Splined armature shaft. Bearings: three ball and three bronze. Three-jaw geared chuck and key. Spindle offset ¹⁹⁄₃₂". Length, 6⁷⁄₁₆". Shpg. wt. 3 lbs.
33F330. NET **38.50**

Wire Strippers & Heat Shrink Tools

IDEAL®

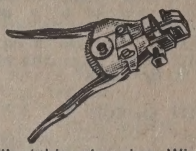
STRIPMASTER



Automatic single-squeeze feature, holds jaws open for removing wire without crushing end. For stripping lighter gauge wires, 6 holes, except 14-22, with 4 holes. Shipping weight 14 oz.

Stock No.	Type	AWG Gauge	NET
58F553	45-093	No. 14 to 22 wire	7.65
58F554	45-097	No. 16 to 26 wire	7.65
58F555	45-098	No. 20 to 30 wire	7.65

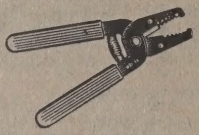
CUSTOM STRIPMASTER®



Unique blade construction and extreme holding power of broad jaws permit fast, accurate stripping. Designed to strip without nicking or scraping wire, without marking insulation to meet the most rigid inspection standards. One-squeeze operation. Just insert wire between blades to desired strip length, squeeze handle and release. Includes short stop latch and adjustable wire stop. Wt. 14 oz.

Stk. No.	Mfg. No.	AWG Gauge	NET
58F550	45-186	No. 10 to 14 Wire	26.35
58F551	45-187	No. 16 to 26 Wire	26.35
58F552	45-188	No. 26 to 30 Wire	26.35

T-TYPE WIRE STRIPPER



For clean stripping of wires used in electronic instruments and appliances. Sturdy, compact, constructed of hardened steel for rugged duty and long service. Comfortable plastic grips for sure handling and safety. Wt. 3 lbs.

Stk. No.	Mfg. No.	AWG Gauge	NET
58F586	45-120	No. 10 to 18 Solid	2.65
58F587	45-121	No. 16 to 26 Stranded	2.65
59F1103	45-125	No. 22 to 30 Solid	2.90

ALL-PLASTIC WIRE CONNECTORS

A-0 A-1 A-3

A low cost screw-on connector for OEM production. Long skirt of high dielectric plastic is knurled for easy application by hand or power driver. Designed for appliance and fixture manufacturers. U.L. and C.S.A. listed for 300V max.; temp. rating 105°C. max. (On connections with wires smaller than No. 18, U.L. and C.S.A. requires submission of finished product for listing.) Average shipping wt. 1¾ lbs./1000.

Stk. No.	Model	Mfg. No.	Min. & Max. Wire Combin.	Net Per 1000
35F2458	A-0	30-140	2#24, 2#18	4.70
35F2459	A-1	30-141	2#18, 1#16 & 2#18	4.70
59F1104	A-3	30-143	2#18, 3#16	5.60

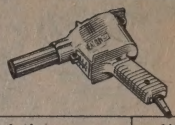
WIRE-NUT® WIRE CONNECTORS

71B 73B 76B

Screw-on connector for fast, economical production line use. Tapered spring insert. Threads and twists wires into a secure, low-resistance splice that won't pull apart or vibrate loose. 71B, and 72B models are listed as 300V Fixture-Type splicing connectors. 73B is listed as 600V. Larger models 74B and 76B are listed as 600V Pressure-Type connectors for Cu/Cu, A1/A1 and Cu/A1 wire connections. Temp. rating: 71B and 72B 150° C.; 73B, 74B and 76B, 105°C.

Stk. No.	Model	Mfg. No.	Min. & Max. Wire Combin.	Net per 100	Net per 1000
35F2450	71B	30-071	.....	1.10	.....
35F2451	71B	30-171	2#18, 2#16	.....	9.40
59F1111	72B	30-072	2#18, 3#16	1.30	.....
59F1112	72B	30-172	2#18, 3#16	.....	11.30
35F2452	73B	30-073	2#18, 3#16	1.65	.....
35F2453	73B	30-173	1#18	.....	13.80
35F2454	74B	30-074	1#14 & 1#18	2.00	.....
35F2455	74B	30-174	2#14 & 3#16	.....	16.75
35F2456	76B	30-076	1#12 & 2#18	3.75	.....
35F2457	76B	30-176	2#10 & 1#12	.....	28.05

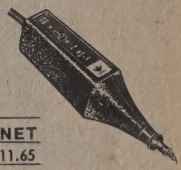
NEW PORTABLE ELECTRIC HEAT GUN



Choice of three heat range nozzles: gold for most standard shrinkables; green for Mylar and red for Teflon. Heating nozzles can be changed in seconds. Low air volume, low current consumption. For hand-held or bench-top use. Shpg. wt.: 2 lbs.

Stock No.	Type	Description	NET
59F1113	46-013	Heat gun with gold nozzle only	34.95
59F1114	46-921	Green Nozzle	4.95
59F1115	46-922	Gold Nozzle	4.95
59F1116	46-923	Red Nozzle	4.95

ELECTRIC MARKER



Marks metal, glass, stone, ceramics, plastics, hard rubber, wood, etc. Vibrates at 7200 strokes per minute. Unique internal construction greatly reduces "bouncing" tendency.

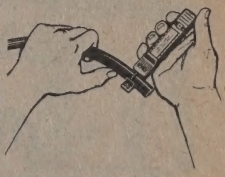
Stock No.	Type	Description	NET
58F583	11-111	w/carbide tipped point	11.65

PRECISION ROTARY WIRE STRIPPER

Precision, nick-free production stripping of stranded and solid wire from 16 to 28 guage. Operator inserts wire, pulls it out and it's automatically stripped. Maximum precision is insured by the unique blade-spring design. Strips overall wire diameters up to ¼". Stand. unit is equipped w/45° blade for general purpose stripping. Shpg. wt.: 11¼ lbs.

Stock No.	Type	Description	NET
58F894	45-150	Precision Rotary	262.00

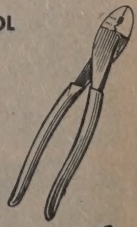
"SWIVEL-BLADE" CABLE STRIPPER



Strips most types of cable quickly, easily, accurately. Cuts outer sheathing without damaging inner conductors or insulation. Can be used on coaxial and power cables from 3/16" to 1⅛" O.D. Adustable blade strips insulation up to 5/32" thick. Easy to use by simply inserting cable in stripping guide, rotating tool for circular cut and then pulling along cable for axial cut. Unique "swivel-blade" automatically turns to direction in which tool is moved. Shipping weight: 4 oz.

Stock No.	Type	Description	NET
35F2460	45-127	stripper w/utility knife for 5/16" to ¾" O.D.	6.95
35F2461	45-128	stripper for 5/16" to ¾" O.D.	5.95
59F1117	45-129	stripper for ¾" to 1½" O.D.	7.95

COMBINATION CRIMP TOOL



Five tools in one! Crimps, strips, cuts wire, cuts screws and bolts and cleans and chases threads. Lightweight 8-inch hardened steel tool.

Stock No.	Type	Description	NET
59F1118	30-428	Combination Crimp Tool	5.25

MULTI-CRIMP TOOL

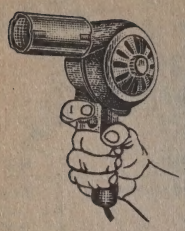
Multiple use tool. . .long enough to provide solid leverage for sure, easy crimping and cutting. Installs both bare and insulated terminals.

Stock No.	Type	Description	NET
59F1119	30-429	Multi-Crimp Tool	6.50

Heat Guns and Tools

MASTER APPLIANCE

AIR HEAT GUN



A handy, quick, safe way to get instant heat in the laboratory or for plant production. Ideal for fitting heat shrinkable insulation and wire markers. The Master Heat Gun, Model 751, delivers up to 1000°F, without the dangers of open flames. Its many features include an adjustable air intake for controlling the air-blast temperature; a double jacketed heater housing; a sturdy die-cast aluminum housing and an 8 ft. neoprene-jacketed 3-wire cord and plug that is oil and grease resistant. Turbo type fan blade is efficient and quiet in operation. All models for 115V A.C. or D.C. operation. Equipped with adaptor for 2 prong receptacle. 230V models available on special order. Shipping wt. 5 lbs.

Stk. No.	Model	Amp.	Temp. F	Net Each	3 or More Net Ea.
37F1442	HG201	5	200/300	44.30	39.87
37F1437	HG301	12	300/500	44.30	39.87
37F415	HG501	14	200/750	49.90	44.91
37F422	HG751	20	750/1000	59.95	53.96

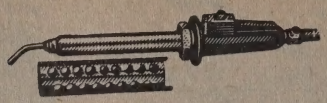
ACCESSORIES

A-100-HG. Air Flow Adaptor. Placed in nozzle to adapt for easy insertion of baffle plate below.
37F1197. Net **2.95**

A-145-HG. Baffle Plate. Used with heat guns listed above to aid in concentration of heat flow. for tubing up to ¾" O.D.
37F1199. Net **2.75**

A-150-HG. Baffle Plate for shrink tubing up to 1¼" O.D.
37F424. Net **2.95**

FLAMELESS HEAT TORCH



Model FHT-1. Compressed air, flameless heat torch with ⅛" dia. opening on nozzle. Welds all PVC's Polyethylenes and Polypropylenes. Works off conventional air compressors or inert gas. Concentrates a flameless heat precisely where it is needed at a predetermined pressure and temperature. Elements can be changed from one rating to another. Stocked with shield. Plugs into wall socket. shpg. wt: 1 lb. for 115VAC

WITH SHIELD

Stk. No.	Type	Rating	Temperature	NET
37F1443	FHT-1-250	250 watts	250° to 500°	89.50
37F1444	FHT-1-350	350 watts	350° to 700°	89.50
37F1494	FHT-1-450	450 watts	450° to 850°	89.50
37F1495	FHT-1-550	550 watts	550° to 1050°	89.50

ELEMENT KITS

Each Element Kit includes 1 element, 1 mica insulation, 2 element lead nuts, 1 element anchoring screw, 1 mounting washer, 1 nozzle screen, 1 screen retaining ring, and instruction sheet. for 115VAC

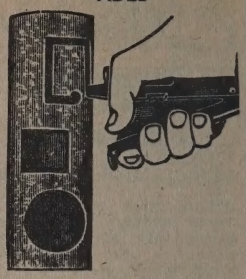
HAS-017K Element Kit for HG201.
37F1767 NET 4.50

HAS-018K. Element Kit for HG301
37F1769. Net 4.50

HAS-011K Element Kit for HG 501
37F1772. Net 6.30

HAS-015K. Element Kit for HG 751.
37F1774. Net 6.30

ADEL

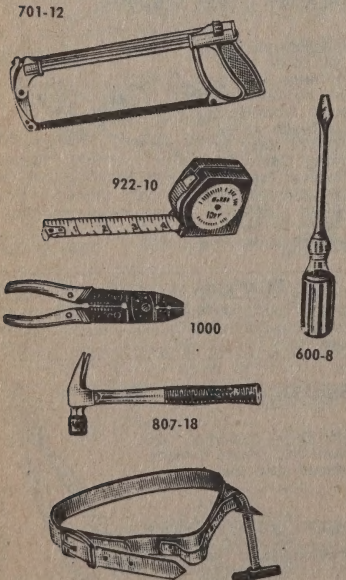


HAND NIBBLING TOOL

Now you can make any size or shape hole over 7/16" dia. in any type of sheet metal! Bites right through 18-gauge steel or 1/16" aluminum, copper or plastic. Takes sharp angles and tight curves with ease. Leaves safe smooth flat edges. Minimum hold size 7/16" diameter. Durable construction; punch is replaceable. Shipping weight 8 oz.

33F670.
NET 1-11 . . EACH **4.50**
12-71 ..... EACH 4.00
72 up ..... EACH 3.80
Replacement Punch for above
33F671. NET 2.50

KLEIN TOOLS



HACK SAW

Fingers protected by closed handle. Storage chamber provided for six extra blades inside of tube. Frame is die cast zinc. Saw provides front end grip for two hand operation. Length of blade is 12 in.

34F180 Type 701-12. Net. 1-5 ..... **4.40**
6-Up 3.67

HACK SAW BLADES-CARBON STEEL

Stk. No.	Type	Length	Teeth	1-99	Box of 100
34F181	1218C	12in	18T	.25	.15
34F182	1224C	12in	24T	.25	.15
34F183	1232C	12in	32T	.25	.15

HIGH-SPEED STEEL

34F184	1218HS	12in	18T	.88	.54
34F185	1224HS	12in	24T	.88	.54
34F186	1232HS	12in	32T	.88	.54

"CUSTOM" GRIP SCREWDRIVERS

Made of alloy tool steel, chrome plated. Cushion grip provides 50%greater torque. Heavy duty blade.

Stk. No.	Type	Des.	Blade	1-5	6-up
34F100	600-4	Sq.Shk.	4x¼"	1.40	1.26
34F102	600-8	Sq.Shk.	8x⅜"	2.09	1.88
34F103	602-3	Rd.Shk.	3x3/16"	.95	.86
34F104	602-4	Rd.Shk.	4x¼"		
34F105	602-6	Rd.Shk.	6x5/16"	1.07	.97
34F106	602-8	Rd.Shk.	8x⅜"	1.16	1.06
34F107	601-3	Rd.Shk.	3x3/16"	.95	.86
34F108	601-6	Rd.Shk.	6x3/16"	1.07	.97
34F109	601-8	Rd.Shk.	8x3/16"	1.16	1.06
34F111	603-3#1pt.	S. Phillips	3x3/16"	.95	.86
34F112	603-4#2pt.	S. Phillips	4x¼"	1.12	1.01

TAPE RULE

Tape rule is positive locking and smooth running. Control knob for easy operation. Rule has belt or pocket clip on back of case. Mylar clad, replaceable blade. Black numerals on yellow blade.

Stk. No.	Type	Length	Width	1-5	6-70
34F187	922-10	10ft.	¾in.	3.09	2.78
34F188	922-12	12ft.	¾in.	3.37	3.07

ELECTRICIAN'S TOOL

TYPE 1000. Strips six wire sizes 10-22 gauge; crimps terminals; stripping holes provide wire gauge. Wire cutter and stud gauge #4- "stamped on face of tool. Lgth. 7½". Shpg. wt. 8 oz.

30F998 NET 1-5 ..... **5.20**
6-Up 4.80

TYPE 1002. Same as above with terminal locator that insures proper location of crimp Length. 8½". Shpg. wt. 8 oz.
34F244 NET 1-5 ..... **6.16**
6-Up 5.56

ELECTRICIAN'S HAMMER

TYPE 807-18. Long neck; 1" dia. striking face. Straight claw pattern head of drop forged steel. Comfortable fiberglass cushion gripped handle. Head wt. 18 oz. 14" long. Shpg. wt. 2 lbs.

34F178. NET **6.17**

ELECTRICIAN'S WAIST BELT

Lightweight electrican belt, made of strap leather with tool loops and chain tape thong.

34F041 Type 5207M. 32-40" **3.87**
34F042. Type 5207L. 38-46" 4.13

TYPE 2100-5 5" Scissors designed for electrician and mechanic. Made of high-grade tempered steel to withstand continued hard work. Screw hinge allows adjustment. Nickel plated finish. Wt. 6 oz.

34F023 NET **3.28**

ELECTRICIAN'S KNIFE

TYPE 1550-2. Two-blade knife and screwdriver made of high-grade cutlery steel, with durable plastic handle. Locking feature on screwdriver. Shpg. wt. 5 oz. Nominal length of blade 2½"; length of screwdriver 3".
34F022 NET 1-5 ..... **2.37**
6-Up 2.14

All have dipped plastic handles. All pliers are forged from a high grade steel, heads are highly polished. Pliers and cutters with coil springs have plated coil spring to hold jaws open. Average Shpg. Wt 9 oz.

NON-COIL SPRING PLIERS

Stk. No.	Type	Fig.	Handle Color	Description	1-5	6-Up
34F249	D213-8Ne	E	Blue	8½" high leverage pliers	5.23	4.71
34F016	D302-6	D	Yellow	6¼" curved nose plier	3.71	3.34
34F114	D314-8	B	Yellow	8" long nose plier	3.81	3.43
34F225	D326-5	A	Yellow	5 3/16" spring adj. plier. Inside jaws polished	4.31	3.88

COIL SPRING PLIERS

Stk. No.	Type	Fig.	Handle Color	Description	1-5	6-Up
34F008	D301-5C	A	Yellow	5 9/16" long nose plier	3.04	2.74
34F009	D301-6C	A	Yellow	6⅝" long nose plier	3.11	2.80
34F010	D301-7C	A	Yellow	7⅛" long nose plier	3.32	2.99
34F025	D307-5½C	A	Yellow	5 13/16" slim long nose plier	3.09	2.78
34F095	D321-4½C	C	Yellow	4¾" long nose plier	2.79	2.51
34F113	D322-4½C	C	Blue	4¾" long nose plier	2.97	2.67
34F226	D323-4½C	A	Yellow	4¾" flat nose plier. Jaws Polished	2.93	2.64
34F123	D318-5½C	A	Yellow	5 13/32" long needle nose plier	3.43	3.09
34F128	D310-6C	A	Yellow	6⅝" slim long nose plier	3.41	3.07
34F227	D211-6C	.....	Red	6½" flush end cutting trimmer plier	5.08	4.57
34F228	D317-5C	C	Yellow	5¼" chain nose plier	3.11	2.80
34F229	D327-5½C	A	Blue	5 13/16" slim nose plier	3.47	3.12
34F230	D338-5½C	.....	Blue	5½" curved needle nose plier. No knurl	4.31	3.88
34F236	D306-5½C	.....	Yellow	5 3/16" duck bill plier	3.55	3.20
34F237	D230-4C	G	Red	4 3/16" hi-hardness plier	5.05	4.55
34F239	D221-5½C	A	Yellow	5 13/16" long needle nose side cutting plier	3.67	3.30

COIL SPRING CUTTERS

34F011	D203-5C	.....	Yellow	5 9/16" long nose side cutters	3.37	3.03
34F012	D203-6C	.....	Yellow	6⅝" long nose side cutters	3.53	3.18
34F013	D203-7C	.....	Yellow	7⅛" long nose side cutters	3.97	3.57
34F018	D202-5C	K	Red	5½" narrow nose oblique cutter	3.57	3.21
34F019	D202-6C	K	Red	6 1/16" narrow nose oblique cutter	3.71	3.34
34F020	D210-6C	K	Red	6 1/16" flush oblique cutter	4.16	3.74
34F021	D210-5C	K	Red	5½" flush oblique cutter	4.03	3.63
34F027	D052-C	.....	Red	5⅛" oblique cutter for printed circuits	4.03	3.63
34F044	D208-6C	.....	Red	6⅝" slim long nose cutting shear	3.53	3.18
34F028	D209-5C	G	Red	5" ptd. nose semi flush cutting, oblique cutter	3.99	3.59
34F231	D209-4C	G	Red	4 3/16" ptd. nose, semi flush cutting, oblique cutter	3.61	3.25
34F091	D224-4½C	H	Red	4⅝" semi-flush transverse end cutter	3.68	3.31
34F093	D257-4C	J	Red	4 3/16" semi-flush cutting oblique cutter	3.15	2.84
34F126	D229-5C	.....	Red	5" flush cutng., wire gripping oblique cutter	6.17	5.55

NON-COIL SPRING CUTTERS

Stk. No.	Type	Fig.	Handle Color	Description	1-5	6-Up
34F001	D201-8NE	E	Blue	8½" streamlined cutter	4.75	4.28
34F117	D228-8	F	Red	8" hi-lever oblique cutter	3.75	3.38

TYPE 502 — PUMP PLIERS

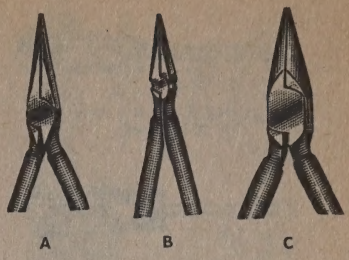
Jaws are positioned and locked into place for desired size opening by engaging a tongue in proper groove. With yellow plastic handles. Av. shpg. wt. 2 lbs.

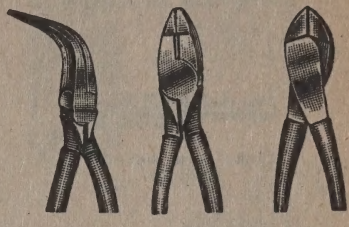
Stk. No.	Type	Length	Max. Cap.	1-5	6-Up
34F235	D502-6	6 in.	1 in.	2.40	2.16
34F097	D502-10	10 in.	1¾ in.	3.21	2.89
34F098	D502-12	12 in.	2⅛ in.	3.79	3.41
34F099	D502-16	16 in.	4¼ in.	5.29	4.76

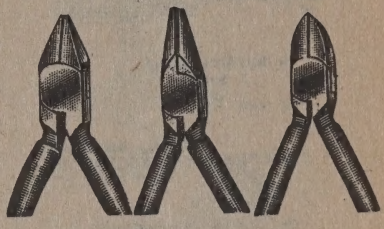
ADJUSTABLE WRENCHES

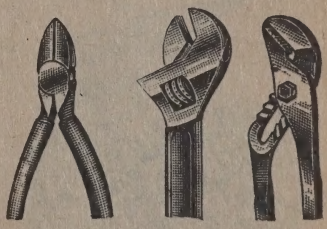
Type 500. Adjustable wrenches. Drop forged, chrome plated with yellow plastic handles.

Stk. No.	Type	Description	1-5	6-Up
34F129	D500-4	½" capacity x 4"	2.99	2.69
34F037	D500-6	1¾" capacity x 6"	3.09	2.78
34F038	D500-8	1 5/16" capacity x 8"	3.47	3.12
34F039	D500-10	1⅛" capacity x 10"	4.39	3.95
34F040	D500-12	1 5/16" capacity x 12"	6.40	5.76









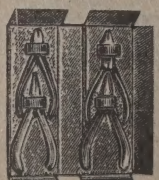
COMBINATION TOOL POUCH

Type 5127 Has gusseted utility pocket, three plier pockets, two screw driver pockets and knife snap. May be used with 5207 waist belt. 7"x10". Wt. 12 oz.
34F086 NET 5.48

4 PIECE PLIER KIT

Type No. 1305-4. All-purpose kit containing 4 top quality drop forged high grade alloy tool steel pliers. Each individually fitted, tempered, adjusted and tested for maximum performance. Kit includes: 1 No. D-257-4 Oblique Cutting Pliers, 1 No. D224-4½ End Cutting Pliers, 1 No. D321-4½ Long Nose Pliers, 1 No. D-323-4½ Duck Bill Pliers. Top grade leatherette case. Shpg. wt. ¾ lb.

Stk. No.	Type	1-5	6-Up
34F127	1305-4	13.20	11.88



POCKET TOOL ROLL

Type 1305-33A. 1 pr. side cutting pliers, nose and oblique cutting pliers, electrician's tweezers. Also file, screwdriver, electrician's knife. Size rolled: 8x2½". Wt.

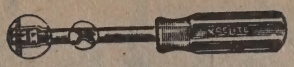
Stk. No.	Type	1-5	6-Up
34F047	1305-33A	20.66	18.59

Type 1305-33A

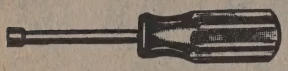
NEWARK—For All Your Electronic Needs

Top-Quality Drivers and Tools

XCELITE®



Hollow Shaft Nut Driver
HS Series

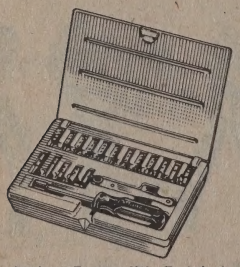


Solid Shaft Nut Driver

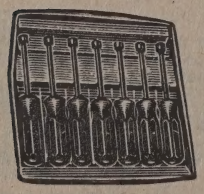
Pocket Style NutDriver
P Series

Phillips Screwdriver
X Series

Shock Proof Screwdriver



Midget Reversible Ratchet
Offset Screwdriver Set



Tray Bien NutDriver
Sets

XL 70 Ratchet Screwdriver

HOLLOW SHAFT NUT-DRIVERS

Ideal for use where nuts must be installed or removed over protruding bolts. Finely-tempered and finished steel. (*)Volume control wrench. Shpg. wt. 6 oz.

Stk. No.	Type	Nut Size	Handle	1-4	5-Up
34F319	HS-8	1/4"	red		
34F320	HS-10	5/16"	amber		
34F321	HS-11	11/32"	green	1.18	1.05
34F322	HS-12	3/8"	blue		
34F323	HS-14	7/16"	brown	1.38	1.23
34F324	HS-16	1/2"	red	1.38	1.23
34F325	HS-18*	9/16"	orange	1.41	1.26
34F326	HS-20*	5/8"	amber	1.62	1.44

SOLID SHAFT NUT-DRIVERS

Most popular sizes. 6" long over all. Made of hardened and polished tool steel. Color coded plastic handles. 4-oz.

Stk. No.	Type	Nut Size	Handle	1-4	5-Up
34F300	6	3/16"	black		
34F301	7	7/32"	brown		
34F302	8	1/4"	red		
34F303	9	9/32"	orange	1.04	.93
34F304	10	5/16"	amber		
34F305	11	11/32"	green		
34F306	12	3/8"	blue		
34F307	14	7/16"	brown	1.31	1.17
34F308	16	1/2"	red		

MAGNETIC HEXNUT DRIVER

Holds fasteners for one hand driving or retrieving. Interchangeable shanks fit Series 99 handles, ratchet and regular. Amber except (+) Red

Stk. No.	Type	Blade Length	Hex Opening	1-4	5- Up
35F201	99-8-M	1 1/4"	1/4"	1.24	1.11
35F202	99-10M	3 5/8"	5/16"	1.24	1.11
35F203	10-M	3"	5/16"	1.65	1.47
35F204	A-8-M+	6"	1/4"	2.09	1.86
35F205	A-10M	6"	5/16"	2.09	1.86

POCKET STYLE NUTDRIVERS

All handles are color coded. Pocket Clip.

Stk. No.	Type	Nut Size	Handle	1-4	5-Up
34F330	P4	1/8"	Red		
34F331	P5	5/32"	Amber		
34F332	P8	1/4"	Red	.64	.57
34F333	P10	5/16"	Amber		
34F334	P12	3/8"	Blue		

PHILLIPS SCREWDRIVERS

Precision made. Feature bright, nickel chrome blades with specially treated, black-oxide "super-tru" finished tips for ultimate in dimensional control. Closer fit improves wear and reduces damage to screw head recesses. All equipped with black plastic (UL) handles.

Stk. No.	Type No.	Point Size	Total Length	1-4	5-Up
35F1433	XST-100	0	4 5/8"	.77	.69
35F1434	XST-101	1	6 5/8"	1.11	.99
35F1435	XST-102	2	8 1/8"	1.38	1.23

PHILLIPS SCREWDRIVERS

Special alloy steel. Av. wt., 5 oz. ‡Stubby types. *Pocket clip.

Stk. No.	Type	Point Size	Blade Size	1-4	5-Up
34F290	X-101	1	3"	.94	.84
34F291	X-102	2	4"	1.14	1.02
34F292	X 103	3	6"	1.68	1.50
34F293	X 104	4	8"	2.12	1.89
34F294	X 108	1	6"	1.11	.99
34F295	X 1010	1	10"	1.41	1.26
34F296	X-1020	2	10"	1.58	1.41
34F287	SX-101‡	1	1 7/16"	.87	.78
34F288	SX-102‡	2	1 5/16"	.97	.87
34F289	P-12S*	0	2"	.57	.51

SCREWDRIVERS

Tips ground to rectangle shape. Handles are amber plastic. (*)Have 1/2" dia. handles. (†)Have 13/8" dia. handles, stubby types. 8 oz.

SQUARE BLADES

Stk. No.	Type	Blade Size	1-4	5-Up
34F276	S-141†	1/4x1 1/4"	.74	.66
34F275	S-3161†	3/16x1 1/4"	.67	.60
34F203	S-3163	3/16x3"	.87	.78
34F204	S-3164	3/16x4"	.97	.87
34F205	S-3166	3/16x6"	1.08	.96
34F206	S-3168	3/16x8"	1.24	1.11
34F207	S-31610	3/16x10"	1.51	1.35
34F208	S-142	1/4x2"	1.04	.93
34F209	S-144	1/4x4"	1.18	1.05
34F210	S-146	1/4x6"	1.31	1.17
34F211	S-148	1/4x8"	1.41	1.26
34F212	S-5162	5/16x2"	1.14	1.02
34F1426	S-5164	5/16x4"	1.31	1.17
34F213	S-5166	5/16x6"	1.48	1.32
34F214	S-5168	5/16x8"	1.65	1.47
34F217	S 388	3/8x8"	2.36	2.10
34F218	S-3812†	3/8x12"	3.20	2.85
34F219	S-3818†	3/8x18"	3.54	3.15

ROUND BLADES

Stk. No.	Type	Blade Size	1-4	5-Up
34F250	R-3322*	3/32x2"	.43	.39
34F251	R-3323*	3/32x3"	.47	.42
34F252	R-3324*	3/32x4"	.50	.45
34F254	R-182†	1/8x2"	.50	.45
34F253	R-183*	1/8x3"	.47	.42
34F255	R-184†	1/8x4"	.57	.51
34F256	R-186†	1/8x6"	.64	.57
34F257	R 188†	1/8x8"	74	.66
34F258	R-1810†	1/8x10"	.84	.75
34F259	R-5323†	5/32x3"	.64	.57
34F260	R-5324†	5/32x4"	.64	.57
34F261	R-5325†	5/32x5"	.67	.60
34F262	R-5328†	5/32x8"	.84	.75
34F263	R-3163	3/16x3"	.81	.72
34F264	R-3164	3/16x4"	.87	.78
34F265	R-3166	3/16x6"	.97	.87
34F266	R-3168	3/16x8"	1.11	.99
34F267	R-31610	3/16x10"	1.31	1.17
34F269	R-144	1/4x4"	1.14	1.02
34F270	R-146	1/4x6"	1.24	.99
34F271	R-148	1/4x8"	1.35	1.20
34F272	R-1410	1/4x10"	1.41	1.26
34F273	R-5166	5/16x6"	1.41	1.26
34F274	R-5168	5/16x8"	1.51	1.35
34F277	R-181*	1/8x2"	.43•	.39

DUAL PURPOSE SCREWDRIVERS

Handy Screwdrivers with reversible blades. Type CR1 is for 3/16" and No. 1 Phillips screws; Type CR2, 1/4" and No. 2 Phillips screws; CR3 for 5/16" and No. 3 Phillips screws. Overall length 7 1/4".

Stk. No.	Type	Blade Size	1-4	5-Up
34F298	CR1	3/16"		
34F299	CR2	1/4"	1.89	1.68
34F297	CR3	5/16"		

"TRAY BIEN" NUTDRIVER SETS

Nutdrivers have carbon steel shafts. Case hardened sockets. Plastic (UL) handles color coded. Features lightweight plastic case. Wall mounting holes. Compact, easily stacked.

Model 127TB. Solid shaft nutdriver set. Hex openings range from 3/16" to 3/8" in 1/32" steps.
34F366 ..... **7.13**

Model 137TB. Solid and hollow shaft nutdriver set. Hex openings from 3/16" to 5/16". Similar to 127TB.
34F367 ..... **8.03**

Model 147TB. Hollow shaft nutdriver set. Hex openings of 1/4" to 1/2".
34F368 ..... **8.94**

XL-70 OFFSET RATCHET SCREWDRIVER SET

19 piece reversible screwdriver set. For all work involving Allen Hex type, Phillips, and slotted screws. All driver bits 1/4" hex shank. With ordering card for free initials for personalizing the case.
35F200 ..... **9.73**

XCELITE

REVERSIBLE BLADES SCREWDRIVER SETS

Blades have two different size tips. For handles #25(1 1/8 x 4 1/8") & #26(1 3/16 & 2"). UL listed.

BLADE CHART

Type	DESCRIPTION
RB1	#1 Phillips, 3/16" slotted 6 1/4"
RB2	#2 Phillips, 1/4" slotted 6 1/4"
RB3	#3 Phillips, 5/16" slotted 6 1/4"
GB1	3/16" and 5/32" G Clutch 6 1/4"
GB2	5/16" and 1/4" G Clutch 6 1/4"
SB1	#1 Phillips, 3/16" slotted, "Stubby" 3 1/8"
SB2	#2 Phillips, 1/4" slotted "Stubby" 3 1/8"

Stk. No.	Type	1-4	5-Up
35F3102	RB1	1.11	.99
35F3103	RB2	1.11	.99
35F3104	RB3	1.11	.99
35F3105	GB1	1.35	1.20
35F3106	GB2	1.35	1.20
35F3107	SB1	1.01	.90
35F3108	SB2	1.01	.90

Kit 600. Combination Screw driver-Nut-driver Set. Two hex nut openings in handle, 1/4 and 7/16", serve as nutdrivers. Includes RB1 blade. wt 3 oz.
35F1421. NET 1-4 ..... 2.02 5-Up 1.80

Kit CK-3. Three blades, RB1, RB2, and RB3, with No. 25 plastic handle in a convenient roll-up pouch for storage.
34F394. NET **4.43**

CK-20. Number 25 handle with two sets of blades, RB1 and RB2. Packaged in clear plastic pouch with zip-top closure. Shpg. wt. 6 1/2 oz.
35F1423. NET **3.15**

Kit CK23. Has plastic handle and three blades, choice of six tips: #1,2 and 3 Phillips tips and 3/16", 1/4" and 5/16" slotted blades. In plastic zipper case.
35F1424. NET **4.13**

Kits HSC-1. Interchangeable nut driver set with plastic carrying case. Includes plastic handle and 8 interchangeable shafts with hex sizes 5/32", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2" and 9/16 inch. Shpg. wt. 14 3/4 oz.
3F1425. NET **9.75**

Kit HS6 - 18. Kit contains ten hollow shaft nut-drivers with hex openings 3/16", 7/32", 1/2", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", and 9/16". Packaged in a sturdy, plastic case. Shpg. weight 2 lbs.
34F376. NET **12.30**

COMPACT NUTDRIVER SETS

Kit 99PS-50. Contains nutdrivers 99-6 to 99-12; Phillips screwdrivers 99-821 and 822; extension 99-X5; slotted blades 99-811 and 99-250; and handle 99-1. In plastic case. Shpg. wt. 1 lbs.
34F341. NET **9.60**

ALLEN HEX SET

Kit 99-PS-40. Includes 99-1 handle; allen hex screwdriver blades 99-20 thru 99-26 and 99-764 and 99-964; four inch ext. blade 99-X5. Shpg. wt. 12 1/2 oz.
34F339. NET **7.80**

Type PS-89. 8 midget Allen hex type screwdrivers, in sizes .028", .035", .050", 1/16", 5/64", 3/32", 7/64", 1/8". "Piggyback" torque amplifier handle slips over top of midget tool handles.
35F1432. NET **4.65**

Type 99LN. Seven piece Allen hex screwdriver set in roll-up plastic pouch. Includes one type 99-1 handle and Allen hex shafts 99-21, 99-22, 99-23, 99-24, 99-25 and 99-26.
35F1431. NET **4.80**

MINI—SCREWDRIVER SET

M—60. Six piece slotted and Philips with case. 00 Phillips, .040, .055, .070, .080, .100 and torque amplifier handle.
35F206. NET **2.53**

BALLPOINT ALLEN HEX SET

99PS40BP. Nine drivers. .050", 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16". 99-x5 Extension. Regular 99-1 handle. Standup, see-thru plastic case.
35F208. NET **11.55**

NUTDRIVER SET

99PS51MM. Ten piece. 4MM-11MM hex opening. 2MM-7MM thread dia. Plastic case.
35F209. NET **9.45**

SERIES 99 PART NUMBERS

HANDLES

Stk. No.	Type	Description	Length	1-4	5-Up
34F398	99-1	1 1/16" dia.	4 1/8"	.84	.75
35F3110	99-2	1 1/16" dia.	3 1/8"	.81	.72
35F3111	99-3	1 1/16" dia.	2"	.77	.69
33F1150	99-1-R	Rev. Ratchet		5.56	4.95
33F1151	99-4-R	Handles, Black		5.56	4.95

NUT DRIVER

35F3112	99-6	3/16"	3 5/8"	.77	.69
35F3113	99-7	7/32"	3 5/8"	.77	.69
35F3114	99-8	1/4"	3 5/8"	.77	.69
35F3115	99-S8	1/4"	1 3/8"	.64	.57
35F3116	99-9	9/32"	3 5/8"	.77	.69
35F3117	99-10	5/16"	3 5/8"	.77	.69
35F3118	99-S10	5/16"	1 3/8"	.64	.57
35F3119	99-11	11/32"	3 5/8"	.77	.69
35F3120	99-12	3/8"	3 5/8"	.77	.69
35F3121	99-S12	3/8"	1 3/8"	.64	.57
35F3122	99-14	7/16"	3 5/8"	.94	.84
35F3123	99-16	1/2"	3 5/8"	.94	.84

ALLEN HEX

35F3124	99-20	.050"	4"	.70	.63
35F3125	99-21	1/16"	4"	.70	.63
35F3126	99-22	5/64"	4"	.70	.63
35F3127	99-23	3/32"	4"	.70	.63
35F3128	99-764	7/64"	4"	.70	.63
35F3129	99-24	1/8"	4"	.70	.63
35F3130	99-964	9/64"	4"	.70	.63
35F3131	99-25	5/32"	4"	.70	.63
35F3132	99-26	3/16"	4"	.70	.63

REAMER

35F3133	99-38	1/8"-3/16"	4 1/8"	2.02	1.80
35F3134	99-39	1/4"-1/2"	4 1/8"	2.53	2.25

SLOTTED SCREWDRIVER

35F3135	99-250	1/4"	3 7/8"	.77	.69
35F3136	99-811	3/16"	3 7/8"	.77	.69

PHILLIPS SCREWDRIVER

35F3137	99-821	#1	3 7/8"	.77	.69
35F3138	99-822	#2	3 7/8"	.77	.69

EXTENSIONS

35F3139	99-X5	4"	4"	1.11	.99
35F3140	99-X10	7"	7"	1.21	1.08

THE SERVICEMAN'S COMPLETE KIT

Kit 99 SM. 6" longnose, 5" dia pliers, 6" adj wrench, handles 99-1,99-3, nutdrivers 99-6 thru 99-16 stubby models 99-S8, S10, S12, Phillips blades 99-821, extension. 99X10, slotted blades 99-811 99-250, reamers 99-38, 39 Canvas pouch.
34F388. NET **29.63**

99 PR. Contains 99-1, nutdrivers 99-6 to 99-16, 99-811, 99-250, 99-281 and 99-822 in pouch, 24 oz.
34F395. NET **10.35**

99PS-60. Bristol Multiple Spline socket screwdrivers. Handle 99-1 blade 99-x5 and 9 bristol blades, two 4-flute and seven 6-flute type, .048" to .183" All 4" long. Shpg. wt. 1 1/2 lbs.
34F340. NET **7.80**

99MP. 39 piece kit contains 99-1 (regular) and 99-4 (tee) handles, ten regular nut drivers (99-5 to 99-16), nine Allen Hex type screwdrivers (99-20 to 99-26), nine Bristol Multiple Spline screwdrivers (99-61 to 99-69), three slotted screwdrivers (99-811, 99-250, 99-312), two Phillips screwdrivers (99-821, 99-822), two reamers (99-38, 99-39), awl/scriber (99-70), and extension blade (99-X5)
34F223. NET **31.05**

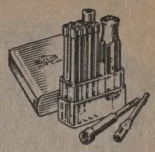
Kit PS-7. Two Hex nutdrivers of 1/4" and 5/16"; two slotted screwdrivers with blades of 3/16" and 3/32"; and two Phillips screwdrivers, types #0 and #1. Torque amplifier and workbench carrying case. Wt. 6 oz.
34F335. NET **4.47**

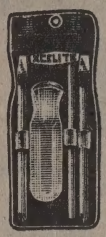
Kits PS-88. Slotted blade sizes are: 3/32", 1/8", 5/32", 3/16", and 1/4". Phillips Nos. 0, 1 and 2 points. Overall length 3 1/2". Shpg. weight 6 3/4 oz.
34F375. NET **4.65**

Kit PS-120 Ten nutdrivers Hex openings of 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", tool is 3 1/2". Shipping wt. 9 3/4 oz.
34F336. NET **6.45**

KIT PS-130. 10 pieces. Screw/nut driver set. 1, 2 Phillips. 1/8, 3/16, 1/4 Screws. 3/16, 1/4, 5/16, 11/32, 3/8 nutdrivers.
35F207. NET **6.15**

KIT 600


M-60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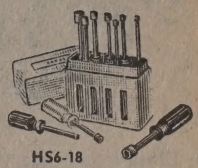
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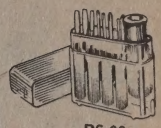
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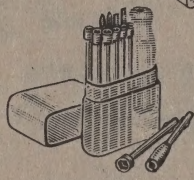
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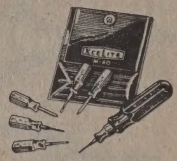
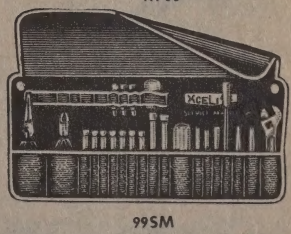
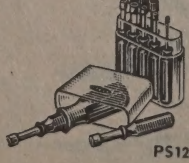
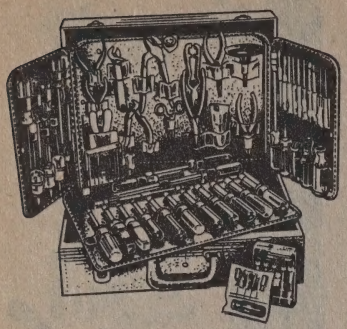

M-60


99SM

99MP


PS120

Tools



TECHNICIAN/SERVICEMAN'S AND FIELD ENGINEER'S TOOL KIT

MODEL TC-100/ST TOOL KIT

41 tools including pliers, wrenches, snips, screw and nut drivers, 16 Series 99 interchangable screw and nut drivers, reamers, handles, and 5 kits of specialized screw and nut drivers. Leather grain case with wood frame, brass hardware and padded handle. 19½x13½x6¾.

35F215. TC-100/ST. Tools, Case **173.50**
35F216. TC-100/MT. Case only. NET..53.20

MODEL TC-200/ST TOOL KIT

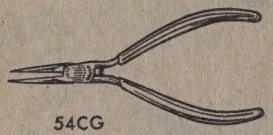
10 assorted snips, pliers, wire cutters, wrenches, etc. plus 26 interchangable Series 99 screw and nut drivers. Case also provides ample room for meters, parts, other tools etc. File pocket for literature. Durahyde case with wooden frame, brass finished hardware. 18½x13½x4¾.

35F217. TC-200/ST.Case,tools.NET **89.50**
35F218. TC-200/MT. Case only. NET..35.50

STAINLESS STEEL "SEIZERS"

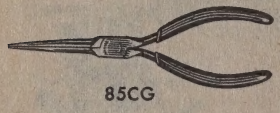
Holds wires for soldering; acts as a heat sink, retrieves small parts from hard to reach places. Two position snap-lock. 6" models have serrated jaws. 5" Jr. models, have smooth jaws to prevent marring of delicate materials. Box point construction. Shpg. wt. 6 oz.

Stk. No.	Type	Description	1-4	5-Up
34F370	42H	6" straight nose	4.66	4.53
34F371	43H	6" curved nose	4.80	4.67
34F373	32H	5" straight nose	4.53	4.40
34F374	33H	5" curved nose	4.66	4.53

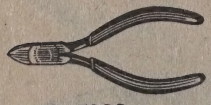


54CG

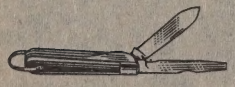
56CG



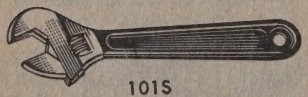
85CG



79CG

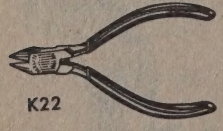


74CG

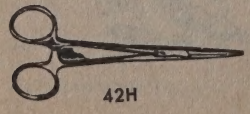


101S

44CG



K22



42H

DIAGONAL PLIERS

54CG. Midget 4" for close work.
35F219. NET....3.86

55CG. 5" plier for most cutting needs.
35F220. NET....4.04

64CG. 4" long for fine wires in close.
35F238. NET....5.02

66CG. 6" all purpose diagonal plier.
35F221. NET....4.42

67CG. 7" pliers for heavy duty cutting.
35F222. NET....4.42

LONG NOSE PLIERS

41CG. Midget 4" without side cutters.
35F223. NET....4.66

51CG. 6½" long nose with side cutters.
35F224. NET....4.29

52CG. 6½" long nose without side cutters.
35F225. NET....3.48

SPECIAL PURPOSE PLIERS

58CG. 6" electronic plier. Cutting edge.
35F226. NET....5.37

59CG. 8" long reach. Electrician's pliers.
35F227. NET....4.64

62CG. 6" cutter, long nose. Transverse.
35F228. NET....5.09

NEEDLE NOSE PLIERS

56CG. 6" long, slim jaws for tight fit.
35F229. NET....4.08

57CG. 5½". Fine serrated jaws. Spring.
35F230. NET....4.85

UTILITY PLIERS

50CG. 5" midget slip joint. Open adj-½".
35F231. NET....2.92

53CG. 7" all purpose. Max. opening 1 1/16".
35F232. NET....3.82

63CG. 10". Rib lock. Max. opening 1½".
35F233. NET....5.16

SIDE CUTTING PLIERS

60CG. 6". Serrated top and bottom jaws.
35F234. NET....4.34

68CG. 8". Leverage for heavy wire cutting.
35F235. NET....5.20

DIAGONAL CLOSE CUTTING PLIERS

74CG. 4". Fine tapered nose. Sharp edge.
35F236. NET....5.34

84CG. 4". Full flush cutting plier.
35F237. NET....5.28

95CG. 5". Thin pointed nose. Electronic.
35F239. NET....5.50

FLAT NOSE PLIERS

70CG. 5". For gripping. No cutter.
35F240. NET....4.50

ROUND NOSE PLIERS

71CG. 4½". Carefully rounded. Fine point.
35F241. NET....4.92

CHAIN NOSE PLIERS

72CG. 5". Thin chain nose. Beveled jaws.
35F242. NET....4.46

SPECIAL ELECTRONIC PLIERS

69CG. 5". Fine point. 5/16" edge.
35F243. NET....6.38

73CG. 4½". Cutter at tip. Cuts 45°.
35F244. NET....6.08

79CG. 5". Bent thin pliers. 60° angle.
35F245. NET....5.41

WIRE STRIPPERS

100. Adj. screw stop for dif. wire sizes. Cushion grips. Handles solid and stranded wire. Hardened with ground blades.
35F246. NET....1.38

101-S. Same as 100 exc. spring handles.
35F247. NET....1.75

103-S. Cam stop adj. for dif. wire sizes. Cam won't move. Fine for industrial use.
35F248. NET....2.16

SNIPS

85CG. Cuts filament, fine wire, light sheet metal. ¾" cut. Cushion grip handles. Spring opens blades. Safety latch.
35F249. NET....3.36

86CG. 6½". Electronic snip. 1½" cut. Removes insulation. Cuts light sheet metal. Coil spring and latch. Cushion handle. Cutting action prevents peaks.
35F250. NET....3.36

ELECTRICIAN'S KNIFE

K22. Knife and screwdriver. Utility tool.
35F251. NET....3.21

SLIP JOINT PLIERS

75C. 5". Chrome plated plier in small size.
35F252. NET....2.09

76C. 6". Chrome plated for general use.
35F253. NET....2.12

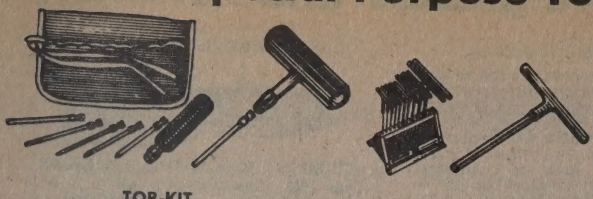
78C. 8". Chrome plated for heavy use.
35F254. NET....2.60

ADJUSTABLE WRENCHES

44CG. 4" length. ½" opening.
35F255. NET....3.78

46CG. 6" length. ¾" opening.
35F256. NET....3.82

48CG. 8" length. 15/16" opening.
35F257. NET....4.34



TOR-KIT

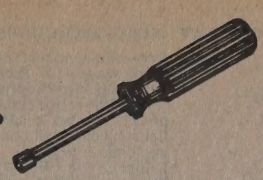
Model K-18H. For lossening "frozen" screws, or for driving super hard self tapping or case hardened screws. Manufactured from special shock resistant alloy tool steel. Kit contains Phillips blades, #1—3/16"x3 1/2", #2—1/4"x3 1/2", #3—1/4"x3 1/2", and regular blades of thickness .034" and .036", and one handle.

34F924. NET 8.98

HEX "T" WRENCH

High quality blade made from alloy steel, heat treated and hardened. 6" Blades.

Skt. No.	Hex Size	Type	Each
34F925	1/8	3TC6	.76
34F926	5/32	3TG6	1.02
34F927	1/4	3TH6	1.16
34F928	5/16	3TI6	1.50
34F929	3/8	3TJ6	1.84



NUT DRIVERS

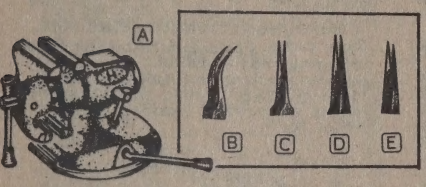
Hardened cold rolled-steel.

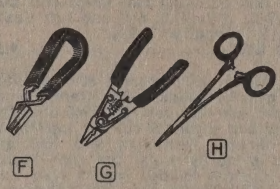
Stk. No.	Type	Fits Screws and Nuts	Each
34F900	19W	0 & 1	1.18
34F901	20	2 & 3	1.18
34F903	20B	4	1.18
34F930	20D	5 & 6	1.18
34F931	20E	8	1.18
34F932	20F	10	1.18

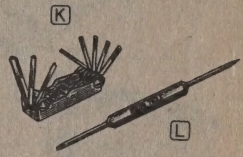
SCREWDRIVERS WITH CHROME VANADIUM BLADES

Rounded blade electricians except (*) #1 (†) #2 (**) #3. Phillip blades.

Stk. No.	Type	Size	Each
34F933	15A	3/16x3"	1.50
34F934	15D	1/4 x4"	1.80
34F909	15E	1/4 x6"	1.98
34F905	15J*	3/16x3"	1.56
34F906	15K†	1/4 x4"	1.84
34F907	15L**	5/16x6"	2.46







A VISE

Model No. 61. Two heads-one small, one large. "Flip-up" and lock securely in place. Vacuum base will hold firmly to any smooth surface.

34F908. NET 6.60

STAINLESS STEEL TWEEZERS

Points (*) Fine, (†) Medium (**) Extra Fine, (††) Serrated.

Stk. No.	Type	Fig.	1-4	5-Up
34F416	B-3CS*	E	4.68	4.22
34F417	B-2SA†	D	5.34	4.81
34F418	B-3SA*	E	5.34	4.81
34F419	B-3CSA*	E	5.34	4.81
34F420	B-5S**	C	5.62	5.06
34F421	B-7S‡	B	6.14	5.53
34F422	B-7BS†	B	6.14	5.53
34F735	CC-13C*	D	3.72	3.35

F HEAT SINKS

Model 51E. For heavy work. Overall Lt. 2". Copper jaws.
Model 51G. Extremely small. Lightweight, 1 1/4" long.
Model 51F. 2" long.

Stk. No.	Type	1-4	5-Up
34F491	51E	1.30	1.17
34F492	51G	.78	.70
34F493	51F	1.12	1.01

G PLIKE

Model 55. 4 in 1 Tool. Has serrated needle nose jaw for use as pliers, crimper for solderless terminals, 3/8" sharpened edge for cutting variety of wire sizes.

Stk. No.	Type	1-4	5-Up
34F479	55	3.86	3.47

H STAINLESS STEEL SCISSOR CLAMPS

Design for solder clamping. Tempered blades, serrated jaws, precison box joint, 5" long. Wt. 8 oz.

Stk. No.	Type	1-4	5-Up
34F746	F35	5.08	4.57
34F747	F36	5.08	4.57

J KNIFE SET

Type E65B. Two handles and 10 assorted blades for light to heavy work. Comes in plastic box. Shpg. wt., 3 lbs.

Stk. No.	1-4	5-Up
34F723	3.10	2.79

K POCKET HEX SETS

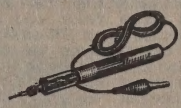
Easy to use hard to lose hex sets. Blades cold drawn from 8650 alloy steel. **1P5** 4" handle, 2" blades. **1P6** 3" handle, 2" blades. **1P8** 4" handle, 3" blades.

Stk. No.	Type	1-4	5-Up
34F541	1P5	1.88	1.69
34F540	1P6	1.72	1.55
34F763	1P8	2.90	2.61

L SOLDERING AIDS

Stainless steel blades won't hold solder. Length, 8"; except*, 6". Shpg. wt., 10 oz.

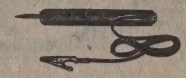
Stk. No.	Type	1-4	5-Up
34F724	51	1.28	1.15
34F725	51A	1.28	1.15
34F726	51B	1.28	1.15
34F727	51C	1.28	1.15
34F728	51C1*	1.48	1.33
34F729	51C2*	1.66	1.49



CIRCUIT TRACER SET

Model 54. Contains complete probe set, low voltage lamp neon light plus resistor for high voltages work. Shpg. wt. 2 lbs.

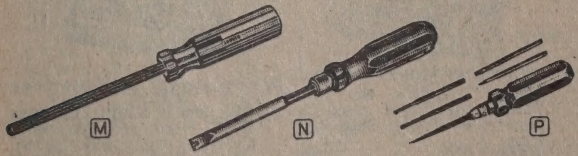
Stk. No.	Type	1-4	5-Up
34F748	54	10.60	9.54

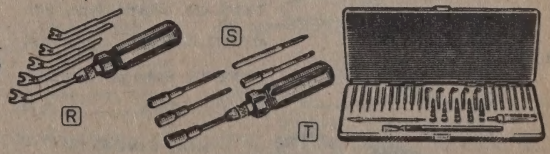


CONTINUITY TESTER

Model 54C. For checking fuses, relays etc. Pen light batteries included. Alligator clip on lead wire, point on probe for tight spots. 1/2 lb.

Stk. No.	Type	1-4	5-Up
34F721	54C	2.56	2.30





M HEX DRIVERS

Screwdriver type wrenches for speedy drive socket screws. Tenite handles.

Stk. No.	Type	Size	Lt.	Each
34F431	5	.05"	4 5/8"	.82
34F432	5A	1/16"	5 1/8"	.84
34F433	5B	5/64"	6"	.88
34F434	5C	3/32"	6 1/8"	.98
34F733	5C1	7/64"	6 3/4"	1.02
34F435	5D	1/8"	6 3/4"	.96
34F734	5D1	9/64"	7"	1.06
34F436	5E	5/32"	7 5/8"	.96
34F437	5F	3/16"	8"	1.08

N SCREW HOLDING SCREWDRIVERS

Shock-proof plastic handle. Chrome-finished blade. Shpg. wt. 3 oz.

Stk. No.	Type	Lt.	1-4	5-Up
34F760	10E-3	2 1/2"	3.20	2.88
34F458	10E-4	4"	3.52	3.17
34F459	10E-7	7"	3.80	3.42
34F761	10M-5	5 1/4"	3.64	3.28
34F460	10M-8	8 1/4"	3.90	3.51
34F461	10M-12	11 1/4"	4.32	3.89
34F430	10C	7 1/2"	3.90	3.51

SUBMINIATURE SCREWDRIVER KIT

P Model XK 24B13. Six piece screwdriver set. Red handle. 5 screwdriver blades sizes .055, .070, .100. Phillips #0, #1.

SUBMINIATURE WRENCH SET

R Model X-K24U Six pieces. Consists of red handle and 5 interchangeable blades. 5/64, 3/32, 7/64, 1/8, 9/32 inches.

Stk. No.	Type	1-4	5-Up
35F3451	XK24B13	3.90	3.51
35F3452	X-K24U	3.96	3.56

SUBMINIATURE NUT DRIVER KIT

S Model X-K24V. Six pieces. Red plastic handle and five interchangeable blades.

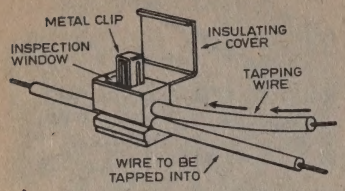
MINIATURE TOOL KIT

T Model K24MB. 32 piece kit. Handle, 4" univ. extension. E20 knife, 5 end wrench blades, 6 screwdriver blades, 5 hex blades, 5 nutdriver blades, 5 spline blades.

Stk. No.	Type	1-4	5-Up
35F3453	X-K24V	4.98	4.48
35F3450	K24MB	23.96	21.56

VACO® Problem-Solving Tools and Fasteners

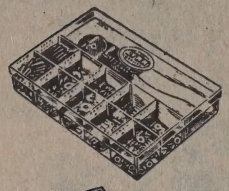
VACONNECTOR 3-WAY ELECTRICAL TAPS



Versatile electrical connectors can be used three ways: for tap connections (without stripping wires), for pigtail connections, or for inline connections. Only an ordinary plier is needed to complete the connection. Consists of metal clip, insulating cover and inspection window. Ideal for campers, trailers, etc. B67303 is blue, B67407 is brown, B67406 is yellow. Pkgs. of 4.

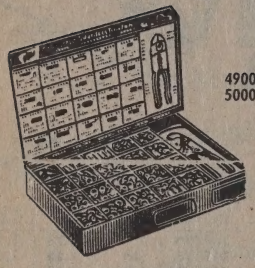
Stk. No.	Type	Fits Wire	1-4 Pkgs.	5-up Pkgs.
47F2100	B67303	18-14	.63	.51
47F2101	B67407	18-14 & 12-10	.72	.57
47F2102	B67406	12-10	.72	.57
47F2102	B67000	Assortmentof 4	.72	.57

SERVICEMAN'S SOLDERLESS TERMINAL KITS



2195

Type 2195. Kit consists of 11-bin plastic box with crimping tool and over 150 terminals in 10 sizes. Crimping tool cuts and strips wire and crimps terminal on wire. Includes Model 1900 crimping tool which cuts bolt sizes 10-32, 10-24, 8-32, 6-32 and 4-40. Case: 8¾x6x1¾". Shpg. wt. 2 lbs.
30F900. NET 9.50



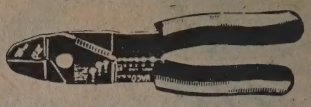
4900-63
5000-63

Type 4900-63. Kit contains 500 insulated single-grip terminals in 20 different types and sizes, and includes Type 1963 crimping tool and bolt slicer for correct application of terminals. Terminals and tool are housed in sturdy metal box with hinged cover. Custom molded inserts hold contents in orderly fashion. Box has handy location and specification chart in cover.
35F1266. NET 34.00

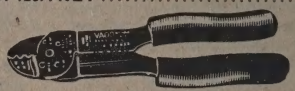
Type 5000-63. Similar to Type 4900-63 except contains 1000 non-insulated solderless single-grip terminals (50 each of 20 different types and sizes).

29F261. NET 34.00

CRIMPING TOOLS



CRIMPING TOOL WITH BOLT SLICER.
Type 1963. Cuts and strips wire 22 to 10 gauge and crimps both insulated and non-insulated terminals. Bolt cutter takes 6 sizes. Wire cutter at tip. Chromed.
35F1267. NET 5.51



CRIMPING TOOL WITH BOLT CUTTER.
Type 1900. Cuts, strips wire from 22 to 10 gauge, crimps non-insulated solderless terminals; and cuts 5 sizes of bolts. Black oxide finish. Comfort grip handles.
29F263. NET 4.73

COMPOUND ACTION CRIMPING TOOL
Type T-1710. Features patented Star-Cone crimping configuration for perfect solderless terminations of all terminals, 22-10 gauge AWG. Built-in ratchet, safety release and terminal locator.
29F262. NET 40.00

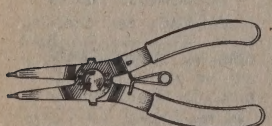
DELUXE WIRE STRIPPER
WS-150. Spring loaded stripping and cutting tool has adjusting dial for precision stripping of 12 to 24 gauge wire. Ideal for any use: factory, home or service.
35F1269. NET 1.50

SNAP RING PLIERS AND KITS

21-22

SNAP RING PLIERS

Carbon spring steel pliers with black oxide finish and induction hardened .038 straight tips. Internal type for contracting an internal ring to fit into a bore or housing of ⅜" to 1" diameter. External type expands an external ring over shafts of ¼" to ⅞" diameter. Ground tips fit several types of rings. Internal type fits Vaco rings 3000-X37 to 3000-X100. External type fits ring nos. 3100-25 to 3100-87.



210

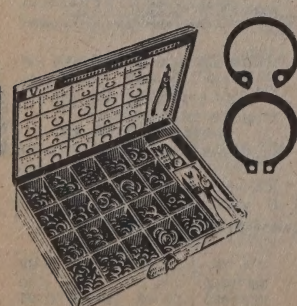
TYPE 21. Internal type.
35F1263. NET 2.25

TYPE 22. External type.
35F1264. NET 2.25

220

TYPE 210. Internal type, with spring.
47F2112. NET 2.74

TYPE 220. External type, with spring.
47F2113. NET 2.74



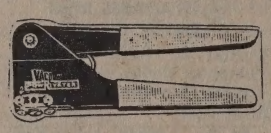
SNAP RING KITS

For use in lab, maintenance dept. or shop. Compartmented metal box with hinged cover.

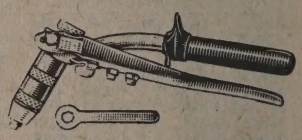
TYPE 1550. Contains 220 internal snap rings up to 1" dia. in 10 most popular sizes, 112 external snap rings to ⅞" dia., plus internal and external ring pliers. Wt. 8 lbs.
35F1265. NET 13.86

TYPE 2100. 125 internal snap rings from 1 1/16" to 1⅝" dia., 60 external rings from 1 5/16" to 1 7/16" dia., internal and external pliers.
29F260. NET 18.00

POW'RIVETS and ATTACHING TOOLS

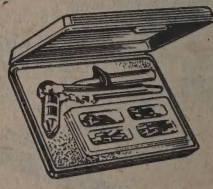


POW'RIVETER Model 495. Fastens anything up to ½" thick from one side. 2-way head accepts ⅛", 5/32" rivets. Powerful clamp action.
35F1450. NET 4.95

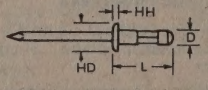


PROFESSIONAL POW'RIVETER
Model 175002. Streamlined head for tight areas. 2-pos. stroke adjustment. 3 nosepieces for ⅛", 5/32", 3/16" rivets.
35F1452. NET 26.50

POW'RIVETER KIT Model 575100. Contains No. 495 Pow'Riveter Tool plus 55 assorted Pow'rivets. Shpg. wt. 2 lbs.
35F1451. NET 7.95



PROFESSIONAL POW'RIVETER KIT Model 575101. Contains 175002 Tool and 55 asstd. rivets, in plastic box. 2¼ lbs.
47F2114. NET 29.00



POW-RIVETS

Superior clamp-up "bubble" action for positive fastening every time. Sealed stem for waterproof, dustproof applications. Low profile.

Type No.	Dia. D.	L	Grip Range	HD	HH	Stk. No.	100/ Pkg.	Stk. No.	1000/ Pkg. 1-9	1000/ Pkg. 10-Up
425	⅛	.400	To .250	.215	.044	35F1454	1.75	35F1458	13.70	12.33
528	5/32	.470	To .280	.255	.057	35F1455	2.65	35F1459	21.70	19.53
631	3/16	.530	To .312	.349	.070	35F1456	3.00	35F1460	25.00	22.50
650	3/16	.720	To .500	.340	.070	35F1457	4.35	35F1461	35.00	31.50

47F2115. D400 Assortment of 25 Pow'Rivets 1.00

Tools and Testers

VACO®

SHOCKPROOF SCREWDRIVERS

Comfordome® Amberyl® handles. #6150 chrome vanadium steel round blades; nickel chrome plated. Shpg. wt., 4 oz.

POCKET CLIP STYLE

Stock No.	Type	Blade Dia.xL.	O.A. Lgth.	1-5	6-Up
47F2116	A010	3/32"x1 3/8"	3 1/8"	.30	.26
47F2117	A230-2	1/8"x2"	3 3/4"	.32	.27
47F2118	A130-2	1/8"x2"	3 7/8"	.39	.32
47F2119	A130-3	1/8"x3"	4 7/8"	.39	.32
47F2120	A116-2	3/32"x2"	4 1/2"	.46	.38
47F2121	A116-3	3/32"x3"	5 1/2"	.46	.38
47F2122	A116-4	3/32"x4"	6 1/2"	.46	.38
47F2123	A131-2	1/8"x2"	4 1/2"	.46	.38
47F2124	A131-3	1/8"x3"	5 1/2"	.46	.38

CABINET STYLE

47F2125	A216-2	1/8"x2"	4 3/4"	.66	.54
47F2126	A216-3	1/8"x3"	5 3/4"	.72	.59
47F2127	A216-4	1/8"x4"	6 3/4"	.75	.60
47F2128	A216-6	1/8"x6"	8 3/4"	.77	.63
47F2129	A216-8	1/8"x8"	10 3/4"	.83	.66
47F2130	A216-10	1/8"x10"	12 3/4"	.91	.74
47F2104	A316-3	3/16"x3"	6 1/2"	.91	.74
47F2105	A316-4	3/16"x4"	7 1/2"	.99	.80
47F2106	A316-6	3/16"x6"	9 1/2"	1.09	.89
47F2107	A316-8	3/16"x8"	11 1/2"	1.16	.95
47F2108	A316-10	3/16"x10"	13 1/2"	1.25	1.01

KEYSTONE STYLE

47F2131	A416-3	1/4" x 3"	6 5/8"	1.18	.95
47F2132	A416-4	1/4" x 4"	7 5/8"	1.20	.96
47F2133	A416-6	1/4" x 6"	9 5/8"	1.25	1.01
47F2134	A416-8	1/4" x 8"	11 5/8"	1.32	1.07
47F2135	A416-10	1/4" x 10"	13 5/8"	1.45	1.17
47F2136	A516-4	5/16" x 4"	8"	1.52	1.23
47F2137	A516-6	5/16" x 6"	10"	1.59	1.28
47F2138	A516-8	5/16" x 8"	12"	1.70	1.37

STUBBY STYLE

47F2139	A132	1/4" x 1 1/4"	3"	.90	.72
47F2140	A135	5/16" x 1 3/4"	3 7/8"	1.18	.95

PHILLIPS SCREWDRIVERS

Precision steel screwdrivers for all Phillips cross slot screws. Shpg. wt., 4 oz.

STANDARD TYPE

Stk. No.	Type	Point	Length	NET
34F355	P01	0	5 1/4"	.80
34F356	P1	1	6 1/2"	1.07
34F357	P2	2	7 5/8"	1.34
34F358	P3	3	10"	1.83
34F359	P4	4	12 1/2"	2.06

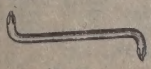
STUBBY TYPE

34F360	P5	2	3 7/8"	1.18
34F361	P6	1	3"	1.07

POCKET CLIP TYPE

34F362	P12	0	5"	.80

PHILLIPS OFFSET SCREWDRIVERS

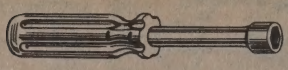


P-120

Chrome vanadium steel.

Stk. No.	Type	Screws	Length	Net
34F400	P120	#1 & 2	4 3/4"	.72
34F401	P230	#2 & 3	5 1/2"	1.20
34F402	P340	#3 & 4	6"	1.39

HOLLOW SHAFT NUT DRIVERS



Extra hard tempered sockets, hollow shafts, polished nickel chrome finish. Color-coded Comfordome shockproof handles.

3" SHAFT LENGTH

Stk. No.	Type	Hex	Length	NET
47F2141	S6	3/16"	6 5/8"	1.11
47F2142	S7	7/32"	6 5/8"	1.11
47F2143	S8	1/4"	6 5/8"	1.11
47F2144	S9	9/32"	6 5/8"	1.11
47F2145	S10	5/16"	6 5/8"	1.11
47F2146	S11	11/32"	6 5/8"	1.11
47F2147	S12	3/8"	6 5/8"	1.11
47F2148	S14	7/16"	7"	1.38
47F2149	S16	1/2"	7"	1.38

6" SHAFT LENGTH

47F2150	S66	3/16"	9 5/8"	1.41
47F2151	S86	1/4"	9 5/8"	1.41
47F2152	S106	5/16"	9 5/8"	1.41
47F2153	S116	11/32"	9 5/8"	1.41
47F2154	S126	3/8"	9 5/8"	1.41
47F2155	S146	7/16"	10"	1.66
47F2156	S166	1/2"	10"	1.66

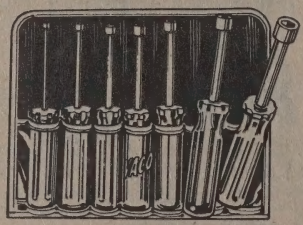
LARGE HEX—4" SHAFT LENGTH

47F2157	S18	9/16"	8"	1.74
47F2158	S20	5/8"	8"	1.98

SELF-ADJUSTING NUT DRIVER

Type SA-711. Does the work of four nut drivers. Adjusts itself automatically to 1/4", 5/16", 3/8" or 7/16" hex size—just press and turn. Tempered steel sockets; breakproof, shockproof Comfordome handle.
35F1274. NET 3.66

NUT DRIVER KIT



Type K-7. Stand-up, hang-up kit for workbench or tool box. Contains S6, S8, S10, S11, S12, S14, and S16 nut drivers.
47F2159. NET 9.74

3-PIECE SCREW LAUNCHER KIT

Type SK-234. Includes 1/8x3", 3/16x4" and 1/4x6" screw launchers in red and white self-closing pouch. Essential for the serviceman, mechanic or homeowner. 8 oz.
35F1262. NET 5.16

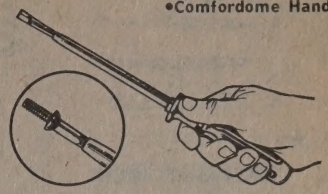
REVERSIBLE SCREWDRIVERS

Regular blade, and Phillips blade.

Stk. No.	Type	Blades	NET
35F1273	DU1	#1 Phillips & 1/8"	1.19
35F1271	DU2	#1 Phillips & 3/16"	1.54
35F1272	DUH4	#2 Phillips & 1/4"	1.87
47F2160	DUP12	#1 & #2 Phillips	2.06

SURE-GRIP SCREW LAUNCHERS

- Spring Steel Blade
- Comfordome Handle



Holds, starts and drives screws with superb gripping power and non-slip action. Split-blade wedges into screw slot by simple manipulation of adjusting sleeve. *specially ground tip for miniature screws.

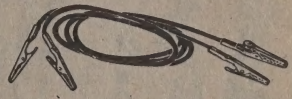
Stk. No.	Type	Blade	Lgth.	1-5	6-Up
47F2161	K-21*	1/8x3"	5 3/4"	1.45	1.19
35F1250	K-23	1/8x3"	5 3/4"	1.28	1.04
35F1251	K-28	1/8x8"	10 3/4"	1.54	1.25
35F1252	K-34	3/16x4"	7 1/2"	1.86	1.52
35F1253	K-36	3/16x6"	9 1/2"	1.90	1.55
35F1254	K-38	3/16x8"	11 1/2"	1.94	1.58
35F1255	K-44	1/4x4"	7 5/8"	1.94	1.58
35F1256	K-46	1/4x6"	9 5/8"	2.04	1.64
35F1257	K-48	1/4x8"	11 5/8"	2.08	1.68

PHILLIPS SCREW LAUNCHERS

For holding, starting and retrieving cross slot screws. One tip size fits all sizes of screws. *has pocket clip.

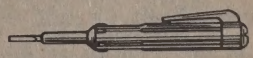
Stk. No.	Type	Length	1-5	6-Up
35F1258	K-13	3"	1.74	1.43
47F2162	K-14*	5"	2.16	1.77
35F1259	K-15	5"	2.04	1.64
35F1260	K-16	7"	2.12	1.71
35F1261	K-19	9"	2.22	1.80

TESTERS



TEST LEAD POUCHED SET

Type TK-600. Pair of test leads, 32" long, with alligator clips.
47F2165. NET 1.27



CIRCUIT TESTER/DRIVER

Type TK-500. Precision screwdriver tests 100-500 volt circuits. 4 1/2" long.
47F2163. NET ..... .98

PROBE TYPE TESTERS

TYPE 70008 CONTINUITY TESTER. Tests circuit continuity. 7 3/4" long.
47F2166. NET 2.59

TYPE TK-550 6-12 VOLT TESTER. Indicates presence of 6-12 V current. 7 3/4" long.
47F2164. NET 2.43

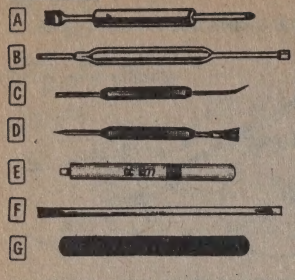
NEON TESTER SCREWDRIVERS

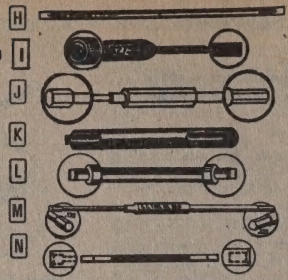
47F2167. Type AN2. 5 1/2" 1.16

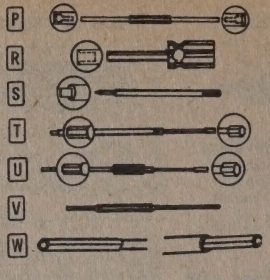
47F2168. Type AN44. 7 5/8" 1.89

18

Tools for the Technician







(A) TYPE 9088 SOLDERING AID. One end has stiff wire brush; other holds wire. 8".
35F814. NET.....1.25

(B) TYPE 8282 IF ALIGNMENT TOOL. .100" hex; .109" blade. Delrin. 5 7/16" long.
35F812. NET.....45

(C) TYPE 9093 SOLDER AID PROBE. Fine point. 8".
35F653. NET.....1.25

(D) TYPE 9094 BRUSH AND SCRAPER. 8" size.
35F654. NET.....1.25

(E) TYPE 8277 ALIGNMENT TOOL. For trimmers, IF's in limited space. 2 5/8" long.
35F818. NET.....65

(F) TYPE 8728 ALIGNMENT TOOL. 12" fibreglass double-bodied tool with 1/8" shaft.
35F622. NET.....65

(G) TYPE 8196 ALIGNMENT TOOL. 7/32" x 2 1/2".
35F605. NET.....55

(H) TYPE 8728AA ALIGNMENT TOOL. Low loss delrin. Narrow shaft. 7" long, 1/8" dia.
35F618. NET.....55

(I) TYPE 8275 ZENITH TV UNIVERSAL ALIGNER. Recessed thin spring steel tip. 3 oz.
35F821. NET.....65

(J) END IRON CORE TOOL. All Delrin hex tools for cores with .125 hex opening.
35F625. Type 9091. 5".....48
35F626. 9091L. 11".....70

TYPE 9294 EASY REACH. 1/8" fibreglass blade. For alignment where magnetic fields are important. 16".
35F817. NET.....80

(K) TYPE 8276 TV DUPLEX ALIGNER. Plastic with extra-thin spring steel tips. 6".
35F616. NET.....65

(L) TYPE 9087 SLUG TUNER ADJUSTING TOOL. For standard tuners. 1/4" shaft. 7 1/2".
35F813. NET.....75

(M) DELRIN HEX WRENCH. One end undercut to reach bottom slugs in iron coils.
35F623. Type 8606. 5".....48
35F624. 8606L. 11".....63

(N) TYPE 8271 TV CORE ALIGNER. For Stackpole or other unslotted core. 6".
35F1443. NET.....75

(P) 2-IN-1 LONG REACH DUPLEX ALIGNER. For thin or standard studs. 9" long.
35F1444. Type 8721.....85
35F1445. 8722. 7".....75

(R) TYPE 9051 ZENITH-RCA TOOL. 1 1/2" x 7/32" dia. shaft.
35F1446. NET.....65

(S) TYPE 9089 "THIN END" TV ALIGNER. Turned-down shank fits very small coil openings. .025" dia. tip.
35F1447. NET.....65

(T) TYPE 9295 DELRIN HEX TOOL. 11" x .100" hex both sides; one end undercut.
35F1448. NET.....75

(U) TYPE 9296 DELRIN HEX TOOL. 11" x .075 hex.
35F1449. NET.....75

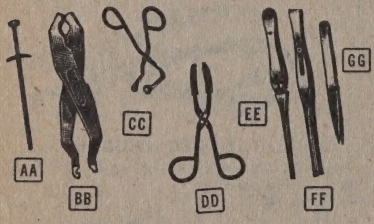
(V) TYPE 9304 DOUBLE END ALIGNMENT TOOL. One end .075 hex with undercut shaft.
35F1493. NET.....55

(W) TYPE 9300 DOUBLE END HEX TOOL. Both ends .075 hex; one end undercut.
35F3375. NET.....55

(X) TYPE 9216 QUICK-PICK. Easy way to remove transistors, capacitors. Seven tools fit over 25 outlines.
35F1494. NET.....5.95

(Y) TYPE 9227 IC REMOVAL TOOL. For DIP's.
35F1495. NET.....1.79
Type 9228 Kit. DIP tool plus TO-5 removal tool.
35F1496. NET.....2.79

(Z) TYPE 9339 CONTACT BURNISHING TOOL KIT. 2-oz. contact cleaner and tool.
35F3391. NET.....1.10



(AA) TYPE 5089 PICK-UP TOOL. Picks up parts from inaccessible places. Holds screws for starting. Flexible. 24" long.
34F3372. NET.....1.75

(BB) TYPE 9356 DUO TONGS. Nylon fuse puller takes screw-in or cartridge fuses up to 3/4" or 100-amp. Non-conductive.
35F3373. NET.....1.00

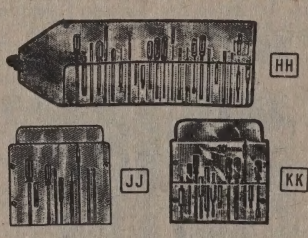
(CC) TYPE 5099 HOT TUBE PULLERS. Plastic-coated insulated handles and tips.
35F3374. NET.....2.00

(DD) TYPE 5092 TUBE EXTRACTOR. Molded neoprene cushion over claws.
34F752. NET.....1.10

(EE) TYPE 7946 SERVICE TWEEZERS. Self-closing, with crossover action. 6 1/2" long; serrated, blunt points.
34F521. NET.....1.10

(FF) TYPE 7947 HEAVY-DUTY TWEEZERS. Slide-lock. Serrated, blunt points. 6 1/2".
34F522. NET.....1.25

(GG) TYPE 7948 PRECISION TWEEZER. Narrow pointed ends. 4 1/2" long.
34F523. NET.....75
7950 Tweezer Kit. One each of above.
34F524. Leatherette case. 8 oz. **NET**...3.15
TYPE 5090 INSPECTION MIRROR. 7 1/8".
34F557. NET.....50



(HH) TYPE 8283 DELUXE TOOL KIT. Contains 25 tools: alignment screwdriver, TV alignment tool, K-Tran tool, channel tuning tool, many more. Wt. 1 lb.
35F650. NET.....15.83

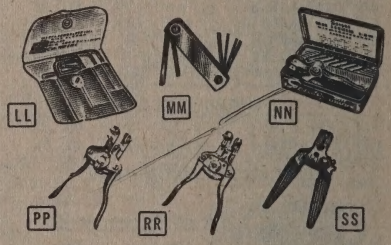
(JJ) TYPE 8455 TV ALIGNMENT KIT. K-Tran tool, and others.
35F651. NET.....6.95

(KK) TYPE 8280 TV ALIGNMENT KIT. 16 tools in leatherette case. Wt. 8 oz.
35F801. NET.....10.30

(LL) TYPE 5028 HEX AND SPLINE WRENCH SET. 12 wrenches in leatherette case. Sizes to fit #2 to 3/8" screws. Wt. 6 oz.
34F520. NET.....1.59

(MM) TYPE 9124 POCKET HEX KEY SET. Six popular sizes from 0.50 to 3/16", in steel case; opens like pocket knife.
35F3370. NET.....1.95

(NN) WIRE STRIPPER KITS. Wire strippers and seven different size blades in metal box. Strips wire from #8 to #20.
Type 733-K Standard Stripper Kit.
35F3376. NET.....12.10
Type 744-K Automatic Stripper Kit.
34F606. NET.....14.70
Type 766-K Speed-O-Matic Stripper Kit.
35F3377. NET.....14.70



(PP) TYPE 744 AUTOMATIC WIRE STRIPPER. "Trig-O-Matic" stay-open feature. Strips wires #10 to #22. Wt. 14 oz.
34F601. NET.....7.53

(RR) TYPE 766 SPEED-O-MATIC WIRE STRIPPER. Automatic delayed return action prevents crushing fine wires. Strips #10 to #20. Narrow easy-grip handles.
34F608. NET.....7.53

(SS) TYPE 760 STRIP-ER-CLIP. 8-stop gauge adjusts to wire size, #12 to #26.
33F583. NET.....1.49

DIAL CORD

The following 100-ft. spools cover 90% of replacement needs. Nylon cord with fiberglass core treated to prevent stretching and slipping. 100-ft. size.
Type 75-A. Extra-thin cord .028" dia. 30-lb. bk. strength.
25F802. NET.....2.60

Type 75. Standard cord, .028" diameter; 30 lbs. breaking strength.
25F805. NET.....2.60
Type 74. Medium cord, .040" diameter; 35 lbs. breaking strength.
25F808. NET.....2.60

Chassis Punches

GREENLEE TOOL CO.

P & B RELAY SOCKET PUNCH

Type 731R. Makes clean, accurate, finished holes for Potter and Brumfield KHP, KU, and KUP miniature relay sockets. Makes holes in up to 16 gauge metal. No sawing and filling methods. All holes are identical. Weight 10 oz.

For Type KU Relay Hole dimensions 1¼" x 1⅜"
34F981 NET **26.95**

For Type KHP Relay Hole Dimensions 1.018 x .861"
33F797 NET **17.90**

½" THRU 1¼ KNOCKOUT PUNCH SET

Type 735. Enlarges knockouts and punch holes for conduit in metal boxes, cabinets and panels. Punches cut up to 10 gauge metal. Metal is supported by die to prevent distortion. Die is recessed for slug clearance. Comes in leather case. Four punches in set, cut hole diameters of ⅞", 1-3/32", 1 1/32" and 1-11/16" for ½", ¾", 1", and 1-¼" conduit. Wt. 2¾ lbs.
33F750 NET **14.55**

1½" AND 2" KNOCKOUT PUNCH SET

Type 737. Similar to No. 735. Consists of two punches for cutting hole diameters of 1-15/16" and 2-3/8" for 1-½" and 2" conduit. Packed in leather case. Weight 3½ lbs.
33F753. NET **16.05**

SQUARE CHASSIS PUNCHES

Type 731. For cutting square and oblong holes in radio chassis. Turns with ordinary wrench. Punch has 4 cutting edges. Drive screw fits into ½" pilot hole. Av. wt., 10 oz.

33F779. For ½" holes. NET 8.90
33F780. For ⅝" holes. NET 8.90
33F781. For ¾" holes. NET 9.65
33F788. For ⅞" holes. NET 11.35
33F782. For 1" holes. NET 11.75

BALL-BEARING DRIVES

For faster and better hand operation of knockout punches. For use with knockout and chassis punches having a ⅜" or larger drive screw. For knockout punches No. 737 for 1½" and two inch conduit, No. 730 for 1⅞", 2", 2¼", and 2½", No. 730M for 2 35/32" openings, and No. 730 Round Radio chassis punches 11/16" and larger.

No.	Type	Overall Size	Wt.	NET
33F725	AV-304BB	¾" x 4"	11 oz.	4.00

For the following punches: No. 735 for ¾", 1" and 1¼" conduit, No. 730 Radio Chassis punches for 1⅝" and 1¾" opening, and No. 730S for 17/32" opening.

No.	Type	Overall Size	Wt.	Net.
33F728	AV-249BB	¾"x3¾"	9 oz.	3.85

For Knockout Punch No. 735 for ½" conduit and No. 730 Radio Chassis punches for 1 1/16", ¾", 1 13/16", ⅞" and 1 5/16" openings.

No.	Type	Overall Size	Wt.	Net.
33F731	AV-322BB	⅜" x 2½"	2 oz.	1.50

Same type drive as No. AV322-BB above for 1" thru 1½" sizes No. 730 Radio Chassis punch.

No.	Type	Overall Size	Wt.	Net.
33F734	AV-112BB	⅜" x 2 13/16"	2½ oz.	1.60

CHASSIS "KEY" PUNCHES

Type 732 punches for cutting holes for tube sockets and plugs with keys. Operates by wrench power. Keyed prong prevents rotation after mounting. No need for mounting plate. Available in sizes: 1 5/32", 1 5/16", 1 11/64", 1 17/64", and 1 21/64". Average shpg. wt., 10 oz.

33F789. For 1 5/32" holes. NET ... 8.15
33F790. For 1 15/16" holes. NET ... 8.65
33F791. For 1 11/64" holes. NET ... 9.35
33F792. For 1 17/64" holes. NET ... 10.95
33F793. For 1 21/64" holes. NET ... 12.10

ROUND PUNCHES

Type 730 Makes round openings with maximum ease in minimum time. . . Clean, accurate holes for sockets meters, etc. Use an ordinary wrench for drive power. Will cut metal, baketite, or hard rubber. Shipping weight, ¾ lbs.

No.	Size	Net	No.	Size	NET
33F760	½"	3.30	33F769	1¼"	3.96
33F754	9/16"	3.30	33F755	1 5/16"	4.90
33F761	⅝"	3.30	33F770	1⅜"	4.90
33F775	11/16"	3.30	33F771	1½"	5.40
33F762	¾"	3.30	33F756	1⅝"	6.55
33F776	13/16"	3.30	33F757	1¾"	7.50
33F763	⅞"	3.30	33F758	1⅞"	9.25
33F736	15/16"	3.80	33F759	2"	9.90
33F764	1"	3.80	34F977	2⅛"	10.65
33F765	1 1/16"	3.95	33F772	2¼"	11.00
33F766	1⅛"	3.95	34F978	2½"	17.95
33F767	1 3/32"	3.95	34F979	2¾"	24.90
33F768	1 3/16"	3.95	34F980	3"	34.45

730M. Meter punch. Hole size; 2 25/32"
33F777. NET 16.35

730-S 1 17/32 punch for oil tight control units.
33F778. NET 6.80

730-T. 3⅛ punch for instrument panels.
33F794. NET 36.25

AV-1675. ¼ screw for ½-⅝ punches.
33F773. NET ..... .30

AV-322. ⅜ x 1½ screw for 1 1/16-⅞ punches.
33F787. NET ..... .35

AV-112. ⅜ screw for 1 to 1½ punches.
33F774. NET ..... .35

FAST RADIO CHASSIS PUNCH DRIVER

Type 1804. Ratchet punch driver, knockout driver assembly, and ratchet and leverage handles. 3 adapter screws. Can be used with all standard Greenlee Knockout Punches from ½" to 3" and all No. 730 Round Chassis Punches 11/16" and larger. Without punches. Shpg. wt., 13 lb.
33F799. NET **77.70**

VACU-VISE

FIG. A

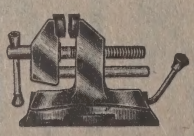


FIG. B

FIG. C

FIG. D

SWIVEL VACU VISE— FIG.A

Model 1850. Used in laboratories, schools, and shops. Ideal for drilling, filing, soldering and assembling. Equipped with slide-on rubber jaws for fragile work. Swivels 360° to any position. Tilts 90° to desired angle 3" metal jaws that open to 2⅝ inches. Easy to attach. No screws. No clamps. Holds firmly in any position to any smooth non-porous surface including metal, glass and formica. To attach apply slight pressure to top of vise and push lever down. To release just lift lever. Hammertone finish, base size 6¼" triangular, height 6¼", weight 5 lbs.
35F1183 NET Fig. B **17.95**

Model 1800. Fig. B. Same as Model 1850 but non-swivel. Comes with rubber jaws RJ1816. Hammertone finish.
35F1295. NET **9.95**

MULTI-PURPOSE VACU BASE

Just flick the Vacu lever and base fastens securely to any smooth working surface by super strong vacuum power. Lift lever—and base is released. No clamps or screws necessary. Small, conveniently portable, always handy. Constructed of die cast Zamak 3 alloy with heavy, long lasting rubber holding pads. Gives complete portability to any fixture, instrument or appliance attached to it. Extra material provided for hole and threaded mounting on top and sides. Wt. 1 lb.

Model 1803 Vac Base Top. Fig. C. Size 2¾x2¼x1⅜" H.
35F1299. NET **3.50**

Model 1804 Large Vacu Base. Fig. D. Same as #1803 listed above but larger top. Size 3⅝x2¾x1 5/16" H.
35F1298. NET **5.00**

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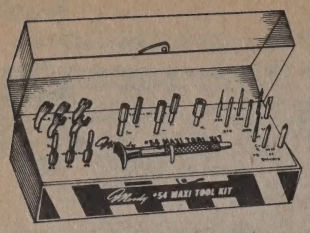
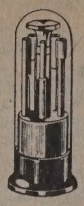
Selected Top-Quality Tools

MOODY SUBMINIATURE TOOLS




BW-5

OE-5

SC-5

PA-5

SC-5

MAXI TOOL KIT

Model 54. Contains six screw driver blades sizes .025", .040", .055", .070", .080" and .100"; two cross-recessed drivers Nos. 0 and 1; five open-end wrenches sizes: 5/64", 3/32", 7/64", 1/8" and 5/32"; three Allen wrenches No. 4, 6 and 8; five socket wrenches sizes 5/64", 3/32", 7/64", 1/8" and 5/32" and an awl. In clear plastic box.

33F587. NET 14.89
12-Up 13.41

JEWELER'S SCREWDRIVER SET

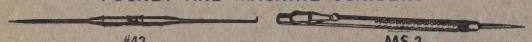
Model JS-6, meets Mil. Spec. GGG-S-121d. One set of six complete screwdrivers with properly heattreated blades. Blades sizes .025", .040", .055", .070", .080" and .100".

33F479. NET 5.50
Lots of 12, NET 4.95

Model 52. Handle and six interchangeable blades. .025", .040", .055", .070", .080", .100". Meets GGG-S-121-D.

33F696. NET 3.25
12-Up NET 2.93

POCKET AND MACHINE SCRIBERS


#42 MS-2

Model MS-2. Meets MIL-Spec. GGG-131. Approximately 8½" overall with a hook point and a straight point. Has knurled aluminum finger grip handle.

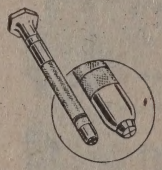
34F559. NET 1.10
12-Up NET ..... .99

Model 42. On one end, powerful magnet for prodding. Other end stores a scribbling point. Pocket clip.

33F697. NET 2.00
12-Up NET 1.80

SWIVEL TOP PIN VISES

Have knurled metal handles and solid locking chucks. The PV-1 will take drills sizes #80 to #68, (.0135" to .031"). The PV-2 will take drill sizes #67 to #52. (.032" to .0635").



Stk. No.	Type	1-11	12-Up
33F480	PV-1	2.00	1.80
33F481	PV-2	2.00	1.80

SUBMINIATURE TOOL SETS

Socket Wrench Set. 5 interchangeable tiny hex socket wrenches. All fit the same handle. Enables inserting or removing tiny nuts from hard-to-get-at places. Wrench sizes: 5/64", 3/32", 7/64", 1/8" and 5/32".

Type BW-5. With Magnetic handle.
33F473. NET 5.50
Lots of 12, NET 4.95

Type SW-5. Non-Magnetic handle.
33F472. NET 5.00
Lots of 12. NET 4.50

Type OE-5. Offset Open End Wrench Set. Tiny offset open end wrenches. Made of tough heat treated steel. Wrenches are completely interchangeable in the chuck-type handle. Ideal for all types of tiny nuts found in electrical and other small devices. Wrench Sizes: 5/64", 3/32", 7/64", 1/8" and 5/32". Shpg. wt. 8 oz.

33F474. NET 3.50
Lots of 12. NET 3.15

Type PA-5. Miniature Phillips and Allen 6 Piece Set. Contains two smallest-size Phillips screwdrivers, plus three tiny Allen-type wrenches. . .all interchangeable in swivel-top universal handle. You get: Phillips #0 and #1, plus Allen Nos. 4, 6 and 8. Shpg. wt., 7 oz.

33F476. NET 3.50
Lots of 12. NET 3.15

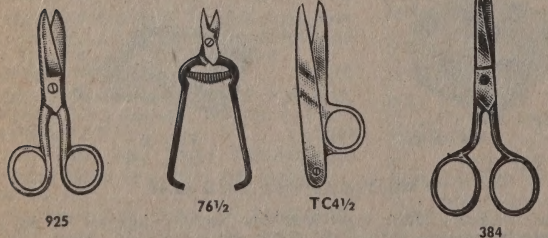
Type SC-5. Jewelers' Screwdriver 6 Piece Set. Perfect for dismantling small assemblies. Five interchangeable rust-resistant blades fit universal swivel-top handle. Sizes include .055", .070", .080" and .100". Complete with awl and colorful plastic stand and cover 7 oz

33F475. NET 2.50
Lots of 12. NET 2.25

Type SM-5. Consists of two Phillips, three different size screwdrivers and a magnetic handle.

33F588. NET 4.50
12-Up 4.00

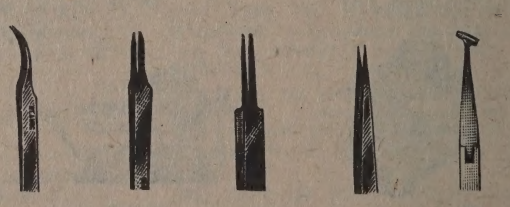
CLAUSS TOOLS


925 76½ TC4½ 384

SCISSORS AND SNIPS

Scissors have small hardened points for fine cutting. Snips have comfortable handles, high leverage.

Stk. No.	Type	Description	Size	Wt.	NET
34F780	925	Electricians' scissors	5"	3 oz.	3.17
34F781	76½	Filament snip	6½"	5 oz.	3.67
34F782	TC4½	Thread snip for light cutting	4½"	3 oz.	3.50
34F771	384	General cutting tool, slender blades	4"	⅓ ox.	3.33


7SS 55 5 AA AW

DOMESTIC TWEEZERS

Non-magnetic, exc. for AA. Satin-finish stainless steel. Delicate feel and balance. With smooth inside points except (*) serrated.

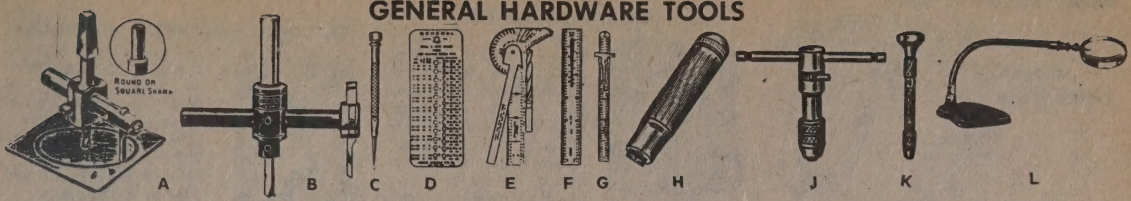
Stk. No	Type	Description	Size	Wt.	NET
34F773	7SS	Curved tweezers	4½"	⅓ oz.	3.00
34F774	55	Long, V-shaped	4¼"	⅓ oz.	1.65
34F775	5	Long, slender	4¼"	⅓ oz.	1.82
34F776	231*	Serrated inside points	4¾"	⅔ oz.	2.15
34F777	AA	Tapered points	4⅞"	⅔ oz.	1.82

ANTI-WICKING TOOLS

Stock No.	Type	Gauge	NET
34F783	AW20	20	7.10
34F796	AW22	22	
34F797	AW24	24	

TOOLS

GENERAL HARDWARE TOOLS



QUALITY CIRCLE CUTTERS

Fig. A. Cut round holes in metal, wood bakelite, etc. Used with drill press, hand drill or brace. Fully adjustable. Wt., 8 oz.

No.	Type	Shank	Size	NET
34F571	4	Comb. ¼"	⅞" to 4"	3.30
34F573	5-B	Round 5/16"	1" to 5½"	4.20

Extra blade for Types 4, 5-A or 5-B circle cutters above. 4 oz.
34F574. NET 1.00

Fig. B. Type 55. Cuts holes from 1¾" to 8" dia. Made of tool steel with Jessup cutting bits. Has ½" shank to fit ½" chuck. Set screw wrench included. wt., 8 oz.
34F575. NET 6.70
34F576. Extra blade for above. NET 1.50

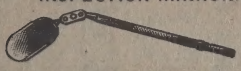
CHASSIS LAYOUT TOOLS

Fig. C. Model. 83. Pocket Scribe. Hex head, steel case, locking chuck. 2¼" tapered point may be reversed. Size, 4¾".
34F560. NET 1.10

Fig. D. Model 15. Drill and Wire Gauge. Decimal equivalents for sizes 1 to 60. Lists taps and body drill sizes ¼-28 to 2-56.
34F561. NET 2.30

Fig. E. Model 16. Multi-Use Rule & Gauge. A 4" rule in 32nds and 64ths, drill point gauge, sq., bevel protractor, center finder, circle divider, tap drill table. Wt. 4 oz.
34F562. NET 2.60

INSPECTION MIRROR



Type 558. 2"x1" oval inspection mirror. Adjustable 6" knurled chrome plated handle.
34F443. NET 1.95

Fig. F. Model 310. 6" **Steel Rule and Wire Gauge.** Gives 32nd and 64th graduations B and S wire gauge and decimal equiv.
34F563. NET ..... .90

Fig. G. Model 301. 6" **Pocket Rule and Depth Gauge.** Only ¼" wide. Gives readings in 64ths. With handy pocket clip.
34F564. NET ..... .30

ADJUSTABLE FILE AND TOOL HOLDER

Fig. H. Model 890. Holds files, blades, reamers, scriber points, etc., in a vise-like grip. Knurled knob assures easy and positive locking. Wt., 8 oz.
34F578. NET 1.44

RATCHET TAP WRENCH

Fig. J. Model 160R. Made of hardened and tempered tool steel. Self-equalizing jaws positive ratchet, sliding T-handle. Opening capacity: 3/32 to 7/32". Wt., 8 oz.
34F579. NET 6.60

HAND DRILL AND PIN VISE

Fig. K. Model 92. A precision tool with two reversible collets for holding drills, taps, wire, etc. from the smallest size .0 to .125". Has large free-wheeling swivel head. Size: 4" long, 5/16" body dia., ¾" head. Wt., 5 oz.
34F580. NET 2.10

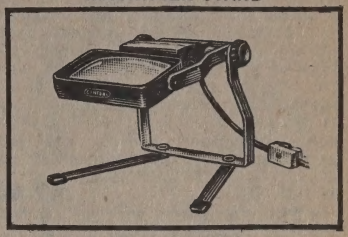
INSPECTION MAGNIFIER

Fig. L. 4" powerful ground and polished lens. 12" chrome plated adjustable Gooseneck Arm. Ball joint swivel permits easy adjusting. Sturdy cast-iron base for bench or table use. Wt., 4 lbs.
34F620. NET 13.40

MACHINISTS HAND VISE

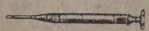
Model 815. Ideal for jobs where portability and flexibility are desired. Hard steel knurled jaw faces grip any object securely and safely. Has spring tension wing nut adjustment. Wt., 1 lb.
34F444. NET 4.00

ADJUSTABLE ILLUMINATED MAGNIFIER STAND



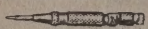
Model 1050. For assembly or inspection of small parts, soldering and engraving. For laboratory, industry, schools, and hobby use. Both lens and light frame adjust separately to required height and visual range. Lens size 4"x2" adjusts from 1" to 6½" high. .7 watt 115 volt lamp, with 6 ft. U. L. approved cord. Sturdy extruded aluminum 5"x5" stand folds compactly for storage. Weight 1¼ lbs. lbs.
35F1182. NET 11.65

JEWELERS' SCREWDRIVER SET



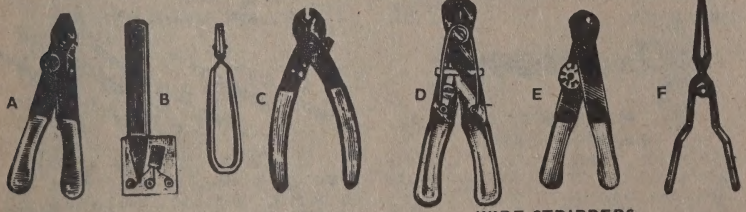
Type S-600. Set of six. Sizes: 0, 1, 2, 3, 4, 5. Swivel head with removable blade. 3" long. ½ lb.
34F577. NET 5.00

AUTOMATIC CENTER PUNCH TYPE 79



Constructed of shock-resistant alloy steel. Pressure adjustable. Ideal for rapid marking on steel. Tips replaceable. 5x½" dia. .5 oz.
34F565. NET 5.65
34F566. Type 79P. Extra point. NET .80

K. MILLER TOOLS



INDUSTRIAL WIRE STRIPPER & CUTTER

Model 102. Fig. A. Has needle nose with eccentric cam. Shpg. wt. 3 oz.
34F661 NET 1.45
Lots of 12-up NET 1.31

Model 1035. Same, spring handles.
34F662. NET 1.89
12-Up NET 1.70

HEAT SINK TOOL—HEAVY DUTY

Model 80. Fig. B. Copper jaws for greatest heat absorption. Shpg. wt. 1 oz.
34F664NET 1.05
Lots of 12 NET ..... .95

STRIPPER & CUTTER

Type 601-S. Fig. C. Heavy duty model for use on commonly used stranded wires. 6" long. Shpg. wt., 4 oz.
34F657. NET 2.19
12-up NET 1.99

WIRE STRIPPERS

Model 101-S. Fig. D. 6" long.
34F656. NET 1.39
Lots of 12-up. NET 1.25

Model 100. Same, less spring return.
34F655. NET 1.10
12-up NET ..... .99

"Dial-A-Strip" CUTTER

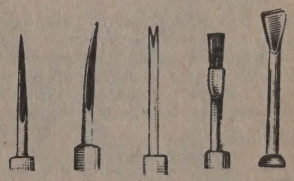
Model 106. Fig. E. 5" overall. 3 oz.
34F663. NET 1.15
Lots 12-up NET 1.04

Model 107S. Same, spring handles.
34F667. 1-11 Each 1.49
12-up. NET 1.35

LONG NOSE PLIER

Model No. 85. Fig. F. 5¾ inches long. Lightweight: 2½ lbs., per dozen.
34F668. NET 1.15
Lots of 12 NET 1.09

BEAUCHAINE SOLDERING AIDS



Straight Angled Forked Brush Scraper

A B C D E

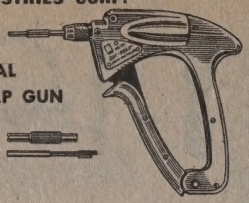
Used for probing, scraping hard to reach places. (*-printed circuit-type.)

Stk. No.	Type	Tip - (Fig.)	1-99	100-Up
34F596	SH20A	A & C	1.05	.95
34F597	SH20B	B & C	1.10	.99
34F613	SH20K*	D & E	.90	.81
34F598	SH20C*	A & C	.90	.81
34F599	SH20D*	B & C	1.05	.95

TYPE SH-120. All six aids in a plastic case.
34F614. NET 6.14

Jonard Industrial Tools

JONARD TOOLS INDUSTRIES CORP.



MANUAL QUICK-WRAP GUN

Type WG-350. Connections are considerably stronger than solder connections. Lack of stress points results in less breakage. Hand-operated gun uses interchangeable bits and sleeves. Bits are selected to fit differing sizes of terminal height, width and wire size combinations. Sleeves are selected to fit over the bit. Sleeves are insulated to help prevent shorting of adjacent connections. Terminal hole Dia.x Depth are all .075"x.750" except for wire gauge 22-24 which is .075"x.807".
35F3641. NET.....**42.50**
***Modified wrap includes additional 1½ turns with insulation on terminal.**

QUIK-WRAP BIT

Stock No.	Type	Wire Gauge	Regular or *Modified	Each
35F3642	BW-2426	24-26	Regular	12.00
35F3643	BW-2224	22-24	Regular	12.00
35F3644	BWM-2426	24-26	*Modified	12.00
35F3645	BWM-2200	22	*Modified	12.00

QUIK-WRAP SLEEVE

Stock No.	Type	Wire Gauge	Regular or *Modified	Each
35F3646	SW-2426	24-26	Regular	5.60
35F3647	SW-2224	22-24	Regular	5.60
35F3646	SW-2426	24-26	*Modified	5.60
35F3647	SW-2224	22	*Modified	5.60

WRAPPING TOOL KIT

Type KW-350. Selected to handle most popular wire wrap connections. Fitted in durable leather finished case for maximum protection of tools.
35F3636. NET.....**33.80**

MANUAL QUICK-UNWRAP GUN

UG-360. Manually operated. Speedy unwrap tool maintains production speed. Portable, works anywhere for large or small operations. Simple to use. Wrapped connections can be unwrapped easily. Only bits are required, no sleeves necessary.
35F3638. NET.....**41.00**

QUIK-UNWRAP BITS

Stock No.	Wire Gauge	Type	Each
35F3639	20-26	BU-2026	12.00
35F3640	20-26	BUP-2026 (For power tools)	7.00

UNWRAPPING TOOL KIT

KU-360. A set of unwrapping tools, selected to handle popular wire unwrap connections. Fitted in a durable leather finished case for maximum protection of tools.
35F3637. NET.....**23.00**

MASTER 15-PIECE SET

Type K-55. Precision chrome plated carbon steel tools for maintaining relays. Contains: two spring adjusters; tension and thickness gauges; duck bill plier; screwdriver tweezers; mirror, four-way tool; brush; armature; stop benders; contact spray and burnisher. Leather zippered case. 3½ lbs.
35F1127. NET.....**48.00**

MASTER 20-PIECE SET

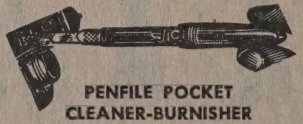
Type K-600. Includes pliers, drivers, tweezers, burnisher, soldering iron and aids, files, magnifier, etc; all tools for service of electronic equipment. Zippered leather case.
35F1137... **39.50**

DIAMOND CLEANER BURNISHER

Consists of abrasive diamond particles for cleaning of relay contacts with minimum pressure. Nominal material removal will not alter normal contact gap.
35F1100. Type K-234. Kit of 3. NET. **17.00**
35F1101. Type D-200. Coarse, Green, 2 diamond faces. NET.....5.80
35F1102. Type D-300. Medium, Red. 2 diamond faces. NET.....5.80
35F1103. Type D-400. Fine, Blue, 1 diamond face. NET.....5.80

INSERTING AND EXTRACTING TOOL

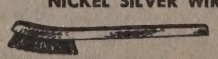
Type EI-419. For printed circuit boards, connector assemblies, flat-pack, IC's and other applications. Precision made, with leaf spring. Made of special alloy. Fully nickel-chrome plated. Overall length 6½".
35F3633. NET.....**9.80**



PENFILE POCKET CLEANER-BURNISHER

Non-residual, hardened steel. Plastic dielectric cap permits working on live and dangerous contacts. 5½" length x ⅜" diameter.
Type P-4 Penfile. ¼"W x 1¼"L x .007"T. 12 blades.
35F1107. NET.....**4.50**
Type P-6 Penfile. 3/16"W x 1¾" L x .007"T. 12 blades.
35F1108. NET.....**4.50**
Type RB-4. Replacement blades for P-4.
35F1109. NET.....**4.50**
Type RB-6. Replacement blades for P-6.
35F1110. NET.....**4.50**

NICKEL SILVER WIRE BRUSH

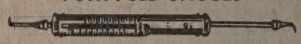


Type WB-65. Cleans delicate components. Single row crimped wire, thick brush face 3", trim ¾".
35F1123. NET.....**3.10**

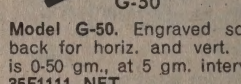
TENSION DYNAMOMETER DIAL GAUGES

Determines force to actuate sensitive mechanisms.
Small Gauges—1½" Dia.
GD-1. 0-10 grams.
35F1185. NET.....15.50
GD-5. 0-50 grams.
35F1139. NET.....15.50
GD-15. 15-150 grams.
35F1140. NET.....15.50
GD-25. 30-250 grams.
35F1186. NET.....15.50
Large Gauges—2½" Dia.
GD-50. 60-500 grams.
35F1187. NET.....**35.00**
GD-100. 100-1000 grams.
35F1141. NET.....35.00

PUSH-PULL GAUGES



For measuring tension and compression of spring loaded equipment.
GPP-1. (Illus.) 0-1000 grams, 50 gram steps. ⅝" dia. x 9¼".
35F1142. NET.....32.80
GPP-2. 0-110 grams, 5 gram steps. ⅜" x 11".
35F1143. NET.....16.40
GPP-5. Two scales: 0-500 grams, 50 gram steps; 0-16 oz.-in., 1 oz.-in. steps. ½" x 15".
35F1188. NET.....**16.50**
GPP-25. Two scales: 0-2500 grams, 100 g. steps; 0-80 oz.-in., 4 oz.-in. steps. ⅝" x 9¼".
35F1189. NET.....**32.50**



G-50

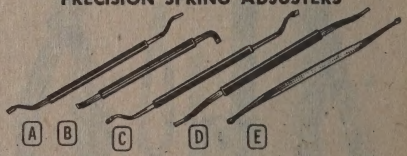
SPRING TENSION GAUGES

Model G-50. Engraved scale front and back for horiz. and vert. reading. Scale is 0-50 gm., at 5 gm. intervals. 5" length.
35F1111. NET.....8.95
35F1134. G-10. 0 to 10 gm. NET.....8.95
35F1135. G-30. 0 to 30 gm. NET.....8.95
35F1136. G-150. 0 to 150 gm. NET.....8.95
35F3634. G-300. 0-300 gm. NET.....8.95

STRAIGHT THICKNESS GAUGE

Type T-720N. Contains 26 interchangeable blades.
35F1125. NET.....**4.85**

PRECISION SPRING ADJUSTERS



A B C D E

SA-2. Chisel edge. Curved both ends. Adj. horiz. relays. .023" slots, 7" length.
35F1114. NET.....**3.90**
SA-6A. For vertical and horizontal relays. .029" slots, 5½" length.
35F1115. NET.....3.70
SA-16. Double ended lengthwise slots, .031" slots, 8" length.
35F1117. NET.....4.10
SA-17. Offset flat type. For relay contact springs. .023" slot, 8" length.
35F1118. NET.....4.90
SA-20. Upward and downward slots. For closely set springs. .024" slots, 7" length.
35F1119. NET.....4.90

MS CONNECTOR TOOLS
We can supply the complete line of Jonard MS and miniature MIL-C-81511 insertion and removal tools.

Adjustable Lamps and Brackets

LUXO LIL-E

Mini-LUXO LIL Lamp is now built with all the ideal precision-engineered features for office, home or school. The New LUXO LIL sets perfectly on a desk and glides into position and holds it thanks to flexible spring-tension balancing. Scientifically balanced to give you perfectly even distribution of light exactly where it is needed. Lift LUXO LIL-E off its base and slip into clamp, peg board or wall mount brackets. Unit is then ready for use where space is not available. Colors; red, black, and white. Size: Fully extended, 24"; Base 7". Individually Boxed. Comes with 40S11 bulb. Shpg. wt. 6 lbs.

Stk. No.	Type	Color	1-5	6-Up
99F1127	LIL—E	Black with Base		
99F1129	LIL—E	White with Base	18.00	16.00
99F1128	LIL—E	Red with Base		
99F1119	AL	Clamp Black		
99F1120	AL	Clamp White		
99F1121	AL	Clamp Red	1.88	1.67
99F1122	BL	Wall Bracket Black		
99F1123	BL	Wall Bracket White		
99F1124	BL	Wall Bracket Red		

Stk. No.	Type	Description	
25F088	40S11	Replacement Bulb	.80

LUXO-O-LAMPS COMPLETE WITH BULBS AND TUBES

LFM-1 ILLUMINATED MAGNIFIERS

Large magnification, cool fluorescent light, and maneuverable. Lamps can be raised or lowered, tilted or turned to any direction. Sweep and movement same as All Angle Lamp L-1 listed below. 3 Diopter 5" ground glass lens. Dove gray finish. Brackets listed below. Shpg. wt. 8 lbs.

Stock No.	Type	Description	1-5	6-Up
99F1100	LFM-1	Illuminated Magnifier	41.70	37.53

ACCESSORIES FOR LFM MAGNIFIERS

Stock No	Description	1-5	6-Up
99F1102	Lens attachment #1 increase to 4 diopters	7.88	7.00
99F1103	Lens attachment #2 increase to 8 diopters	10.12	9.00

FC 8T 9CW. Replacement circline tube. 25F169. NET 4.20

CS-4/M CROWNLITE 2

Versatile Crownlite can be used everywhere. Clamps or mounts permanently to tables, desks, work-benches, headboards, shelves, ladders, drafting boards, sewing machines, chairs—use it for one or many jobs. All metal construction for years of rugged maintenance-free use. Steel tubing, tempered steel springs and machined hardware assure long life. Carefree baked enamel finish resists abuse. Flexible arm movement twists, turns, stretches—up, down, around to the desired position. Spring balancing enables light placement where it is needed within a 36" radius of mounting. Clean, crisp design fits into any decor. Supplied with a four-way bracket in polar white or black. Bulb not included.

99F1130 Polar White NET 12.97
99F1131 Black NET 12.97
99F1132 Red NET 12.97

LC-1 COMBO LAMP

Combines 60 W incandescent with 22 W fluorescent for balance of light, close to daylight quality. 500 ft. candles at 12 in.; 2 arms make 45" extension. Famous Luxo spring balance. Styled in dove gray. Less brackets. Shpg. wt. 8 lbs.

99F1106. 1-5 ..... 34.20 6-Up 30.97

L-1 ALL ANGLE LAMP

Tubular steel fixture raises, lowers, tilts, traverses, and turns in 45" radius, 360° sweep. 60 watt incandescent bulb, dual cool shade for greater light output and cool operation. With bulb, less brackets. Shipping weight 5 lbs.

Stock No.	Type	Description	1-5	6-Up
99F1109	L-1	All Angle Lamp.	20.98	18.68

FL-1 FLUORESCENT LAMP

All angle/all purpose lamp with "feather touch" positioning. Unique spring extension arm and 360° sweep. 19" x 4" shade for excellent reflecting control. U.L. approved. With fluorescent tubes, less brackets. Shpg. wt. 9 lbs.

99F1107. 1-5 ..... 33.00 6-Up 29.67
F15T8 Type 25F168/W Replacement Bulb Net 1.50

LB-1 MACHINE TOOL LAMP

Designed for use in shops where work area must be well lit to provide safe and efficient operation. The lamp arm will not change position due to machinery vibration because of spring-balanced construction. Inner reflector for cool shade. 4½" dia.; 2 extension arms for 45" reach. With bulb, less bracket. Shpg. wt. 5 lbs.

99F1111. 1-5 ..... 19.10 6-Up 17.02

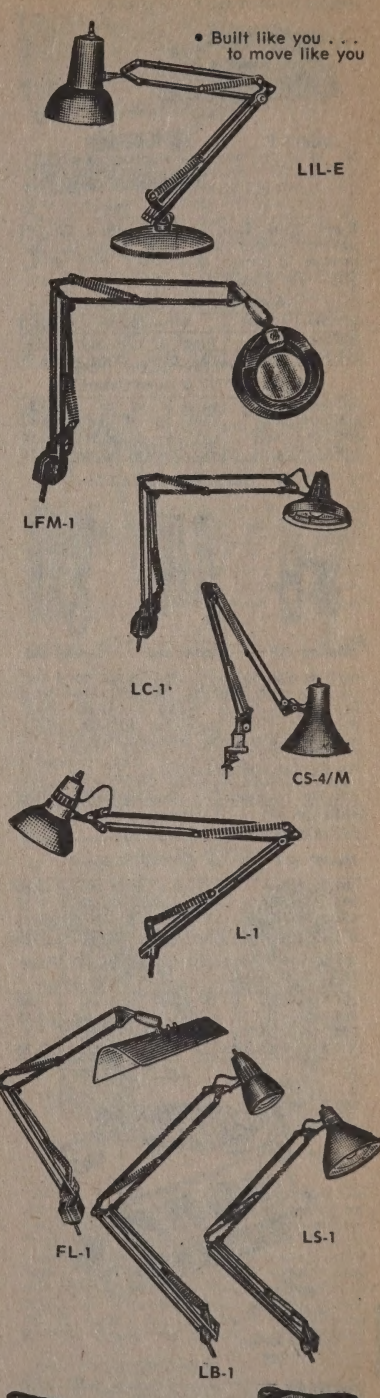
LS-1 FLAIR STYLED LAMP

60 watt incandescent lamp for 200 ft-candles of light and "feather touch" control. 2 18" extension arms and 360° sweep for adjustments. Dual cool shade. On/off switch. Less brackets. 5 lbs.

99F1108. 1-5 ..... 20.98 6-Up 18.68

INTERCHANGEABLE BRACKETS

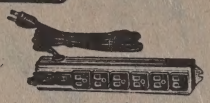
Type A. Clamps to level surface. 2¼" maximum. Shipping weight, ½lb.
99F1112. 1-5. ..... 1.88 6-Up 1.67
Type B. Screws to vertical surface. Shipping weight ½lb.
99F1113. 1-5. ..... 1.88 6-Up 1.67
Type C. Screw to level surface. Shipping weight, ½lb.
99F1114. 1-5. ..... 1.88 6-Up 1.67
Type F. Clamps to slanted surface. 2¼" maximum. Shipping weight, 1 lb.
99F1115. 1-5. ..... 3.00 6-Up 2.67



waber Outlet Boxes and Speed Controllers

HEAVY DUTY OUTLET BOXES

Model 20



Model 24

Panel mtd. fuse or ckt. brkr.; On-Off switch; Bright neon pilot light; UL approved 15 amps, 130V; 12¾" mtg. ctrs.; Size, 13⅛"x2⅜"x1⅝"; Steel case.

Model 20 2-Wire Outlet Box

St. No.	Model	Description	NET
60F2402	20	fuse, 10' crd. set	5.95
60F2403	20CB	ckt. brkr., 10' cd. set	6.95

Model 24 "U" Ground Outlet Box

60F2400	24	fuse, 6' cd. set	8.5
60F2438	24-15	fuse, 15' cd. set	9.50
60F2401	24CB	ckt.-bkr., 6' cd. set	9.50
60F2439	24CB-15	ckt.-bkr., 15' cd. set	10.50

"U" GROUND OUTLETS

Model 602

Model 603

Model 605

Models 602, 603, and 605. Tough cord set. UL approved. 15 amps, 130 volts. Steel case finished in silver gray textured hammertone. "U" ground outlets. 8¼" mounting ctrs. Size: 8⅝x2¼x1½".

Model 602: Outlets only

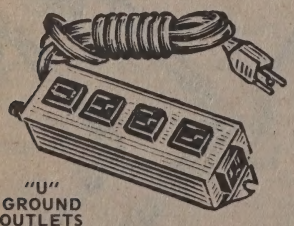
Stk. No.	Model	Description	Net
60F2420	602	6' cord set	6.10
60F2421	602-15	15' cord set	7.65

Model 603. Fuse or Circuit Breaker

60F2422	603	Fuse 6' cord set	6.80
60F2443	603-15	Fuse 15' cord set	8.35
60F2444	603CB	Ckt. brkr. 6' cord set	8.35
60F2445	603CB-15	Ckt. brkr. 15' cd. set	9.90

Model 605. Pilot Light, On-Off Switch, Fuse or Circuit Breaker.

60F2446	605	Fuse 6' cord set	7.60
60F2447	605-15	Fuse 15' cord set	9.15
60F2448	605CB	Ckt. brkr. 6' cd. set	9.15
60F2449	605CB-15	Ckt. brkr. 15' cd. set	10.70



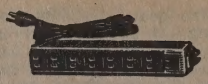
"U" GROUND OUTLETS

Series-String Wiring

Series 608. 4 "U" ground outlets, pilot light, on/off switch, fuse or circuit breaker, outlet on one end for series string wiring. Cord. 15A, 130V. UL listed. 8¼" mtg. centers. 2-⅜x1½. Ship. Wt. 2 lbs., 6' cord; 3 lbs. 15' cord.

Stk. No.	Model	Description	NET.
60F2497	608	fuse, 6' cord	8.55
60F2498	608CB	cir. bkr, 6' cord	10.10
60F2499	608CB-15	cir. bkr, 15' cord	11.65

OUTLET BOXES



Model 17

Model 15

Series stringing possible. Model 15 is control unit, with fuse or circuit breaker, on-off switch, neon pilot light, and 7 "U" ground outlets. Model 17 is slave unit with 9 outlets; can be used independently when outlets only are required. Size 13⅛"x2⅜"x1⅝"; 15 amps., 130v. Steel case, tough UL approved cord set.

Stk. No.	Model	Description	NET
60F2407	15	fuse, 6' cd. set	11.30
60F2408	15-15	fuse, 15' cd. set	12.85
60F2440	15CB	ckt. brkr., 6' cd. set	12.85
60F2409	15CB-15	ckt. brkr., 15' cd. set	14.40
60F2410	17	6' cord set	9.20
60F2411	17-15	15' cord set	10.75

HEAVY DUTY OUTLET BOXES

Model 700

Model 705

4' "U" ground outlet boxes. Features: 48¾" mtg. ctrs.; Size, 49x2x1½"; UL app'd. components; Rated at 15 amps. 130V continuous duty; Steel case finished in silver-gray textured hammertone.

Model 700 Series, 8 Outlets
On-Off Switch, Bright Pilot Light

Stk. No.	Model	Description	Net
80W220	700	Fuse 6' cord set	19.00
80W201	700-15	Fuse 15' cord set	20.55
80W200	700CB	Ckt. brkr. 6' cd. set	20.55
80W222	700CB-15	Ckt. brkr. 15' cd. set	22.10

Model 705 Series, 15 Outlets
On-Off Switch, Bright Pilot Light

80W202	705	Fuse 6' cord set	24.20
80W203	705CB	Ckt. brkr. 6' cd. set	25.75
80W272	705CB-15	Ckt. brkr. 15' cd. set	27.30
80W205	705-15	Fuse 15' cord set.	25.75

Model 710 Series, 8 Outlets Only

80W273	710	6' cord set	16.45
80W206	710-15	15' cord set	18.00

Model 715 Series. 15 Outlets Only

80W207	715	6' cord set	21.60
80W208	715-15	15' cord set	23.15

MULTI-LENGTH OUTLET BOXES

Space-saver size in a sturdy steel case. Completely wired. "U" ground outlets. UL approved cord set; On-Off switch. 15 amps, 130V. Size, 49x1½x1⅛"; Steel case finished in silver gray textured hammertone.

Model 1100 Series, 12 Outlets On-Off Switch, Bright Pilot Light Combination.

Stk. No.	Model	Description (Set)	Net
80W275	1145	Fuse 6' cord	18.85
80W276	1145-15	Fuse 15' cord	20.40
80W277	1145-CB	Ckt. brkr. 6' cord	20.40
80W278	1145-CB-15	Ckt. brkr. 15' cd.	21.95

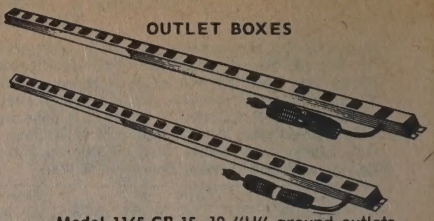
Model 1141 Series 13 Outlets Only

80W279	1141	6' cord	16.90

Model 1146 Series. 8 outlets with ind on/off switch, pilot light. Master on/off switch, pilot light

80W280	1146 CB-15	Ckt. brkr. 15' cd.	33.50

OUTLET BOXES



Model 1165-CB-15. 19 "U" ground outlets, on-off switch, neon pilot light, push-to-reset circuit breaker, and 15-foot UL approved cord set. 73x1½wx1⅛d.

80W281. NET **29.55**

Model 1161-15. Twenty "U" ground outlets, pilot light. 15-foot cord-set. 73x1½wx1⅛d.

80W282. NET **25.95**

Model 1160-15. Ten "U" ground outlets Neon pilot light. 15' cord. 73x1½wx1⅛d.

80W283 NET **17.20**

Model 1164CB-15. Same as 1165 CB-15 except has 9 outlets. 73x1½wx1⅛d.

80W284. NET **20.75**

COLOR CODED SWITCH-OUTLET BOXES

Model 30

Model 32

Four color keyed switch-outlet groups. Both models available with panel mounted fuse or circuit breaker. Model 30 is the two wire type with a rugged 10' Neoprene cord-set. Model 32 is the "U" ground type with a choice of six or fifteen foot Waber high quality UL approved cord-set.

Model 30-2 Wire Type

Stk. No.	Model	Description	Net
60F2404	30	Fuse, 10' cord set	9.85
60F2405	30CB	Ckt. brkr. 10' cd. set	11.40

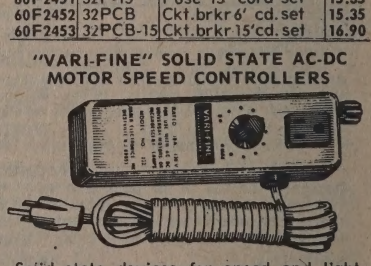
Model 32-"U" Ground Type

60F2412	32	Fuse 6' cord set	10.30
60F2413	32-15	Fuse 15' cord set	11.80
60F2414	32CB	Ckt. brkr. 6' cd. set	11.80
60F2415	32CB-15	Ckt. brkr. 15' cd. set	13.30

Model 32P. "U" Ground Type Ind. Pilot Lights

60F2450	32P	Fuse 6' cord set	13.80
60F2451	32P-15	Fuse 15' cord set	15.35
60F2452	32PCB	Ckt. brkr 6' cd. set	15.35
60F2453	32PCB-15	Ckt. brkr 15' cd. set	16.90

"VARI-FINE" SOLID STATE AC-DC MOTOR SPEED CONTROLLERS



Solid state devices for speed and light control, featuring stepless changes from zero to maximum. Infinite control of motor speed and light intensity. Can be used to vary the speed of AC/DC motors of the universal type. Handle load currents up to the maximum rating at 117 volts, 60 hz. Self contained units may be plugged into any wall outlet and are fused for circuit protection.

Stock No.	Type	Rated@ 117 VAC	NET
80W285	220	2.5A	10.70
80W286	221	6A	23.10
80W287	222	10A	24.05
80W288	223	15A	29.15

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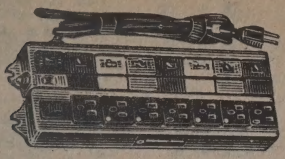
Power Controls and Equipment Carts waber

DELUXE COLOR CODED POWER CONTROL CENTER OUTLET BOXES



Model .25P Feature individual control, Master control, and Center write-on strip; Master on-off switch plus seven switch outlet sets. Color-keyed neon pilot light for each switch-outlet set. UL listed cord set.

Model 25P. "U" Ground Type
Ind. Pilot Lights

60F2454	25P	Fuse 6' cord set	23.25
60F2455	25P-15	Fuse 15' cord set	24.80
60F2456	25PCB	Ckt.brkr.6'cord set	24.80
60F2457	25PCB-15	Ckt.brkr.15'cd.set	26.35

COLOR CODED CONTROL CENTER

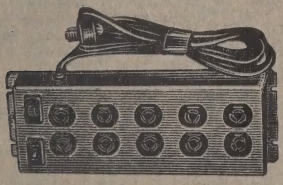
11 12

Built-in circuit breaker protection. 15 amps. 130v continuous duty rating. 10-ft. tough neoprene cord set. Plated steel case. U.L. approved components. Four 3 wire outlets.

Model 11. On-Off Switch and Pilot Light
60F2494. NET 10.45

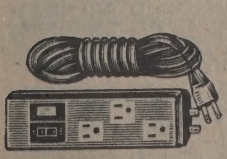
Model 12. Separate On-Off Switch for each outlet.
60F2495. NET 10.75

800 SERIES DUPLEX MASTER POWER CONTROLS



"U" Ground outlets. 12⅞x2⅞" mtg. ctrs.; On-Off switch; 15 amps, 130 volts. Neoprene cord set; Choice of fuse or push-to-reset ckt. bkr.; Steel case of textured hammertone; bright neon pilot light. Size, 13¼x4¼x1½".

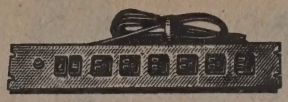
Stk. No.	Model	Description	Net
60F2429	800	Fuse 6' cord set	16.45
60F2430	800CB-15	Ckt.brkr.15'cd.set	19.55
60F2458	800-15	Fuse 15' cord set	18.00
60F2459	800CB	Ckt.brkr.6'cord set	18.00



POWERLINE CONTROL CENTER

MODEL 601U. Chrome with "U" ground type outlets. Sturdy steel case, 3 individual grounded outlets, on/off master switch, bright pilot light. Positive, push-to-reset circuit breaker.
60F2496 NET 11.10

RACK MOUNTS—MASTER POWER CONTROLS



Model 900

Model 900. 6 "U" ground outlets controlled by an on-off switch, pilot light,fuse or ckt. bkr. UL Listed cord set. Size 3½"x19".

Stk. No.	Model	Description	Net
60F2431	900	Fuse, 6' cord set	15.05
60F2490	900-15	Fuse, 15' cord set	16.60
60F2432	900CB	Ckt. bkr. 6' cd. set	16.60
60F2491	900CB-15	Ckt. bkr. 15' cd. set	18.50

Model 904. Similar to 900 but with 2 outlets in front, 4 in back. Made to be mtd. on a rack panel for remote control of other Waber power outlet boxes mtd. inside the rack cabinet. Size, 3½x19".

Stk. No.	Model	Description	Net
60F2433	904	Fuse, 6' cord set	14.35
60F2434	904-15	Fuse, 15' cd. set	15.90
60F2492	904CB	Ckt. Bkr. 6' cd. set	15.90
60F2493	904CB-15	Ckt. Bkr. 15'cd. set	17.45

903

RACK PANELS

Model 903. 6 "U" ground outlets (in the front) "on/off" switch, pilot light, circuit breaker, 6 or 15-foot cord set. Component parts UL approved. Size: 1¾"x19".
Model 911 has same features except outlets are in back. (,6-foot cord, remaining have 15-foot cord).

Stock No.	Type	Description	NET
60F2578	903CB	Circuit Brk.	15.95
60F2579	903CB-15	Circuit Brk.	18.15
60F2580	911CB	Circuit Brk.	15.80
60F2581	911CB-15	Circuit Brk.	17.35

CARRIERS

Use in the lab for equipment mobility, audio-visual applications, or for any other job requiring a sturdy, mobile carrier with shelves. Constructed of one-inch square chrome-plated steel tubing. Shelves made of durable one-half inch thick plywood laminated with black ribbed non-slip top. Capacity of all models is 600 pounds, except the LOW 17 which is 400 pounds. All models: 21" x 29," outlet box with 3 "U-Ground" outlets, on-off switch, pilot light, fuse protection, and a fifteen-foot cord set. The outlet box is rated at 15 amps. Equipped with large rubber casters mounted in swivels for easy movement.

MODEL LOW-13
Four-shelf model with a guard rail along the long dimension of the top shelf. Height: 60", Shpg. Wt. 102 lbs.
80W166. NET 155.00

MODEL LOW-15
Dual shelf cart with push handle on one end. Height: 36". Shpg. Wt. 40 lbs
80W168. NET 130.00

MODEL LOW-17
Dual-shelf model. Height: 32". Shpg. wt. 40 lbs.
80W169. NET 111.00

CONSOLE DESK TOP

Model 95

Gives you complete control over instruments and equipment. "U" ground outlets, each controlled by its own switch and pilot light. Outlets in rear of units. Circuit breaker. 15' cord set. Model 95. 7½x23¼x23¼. Model 96. 9¼x23¼x23¼. Model 97. 11x23¼x23¼.

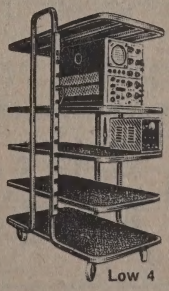
Stk. No.	Type	Outlets	Each
60F2575	95CB-15	4	20.05
60F2576	96CB-15	6	24.40
60F2577	97CB-15	8	28.75

PORTABLE SCOPE DOLLYS

Model Low 8. Versatile, roll-around scope dolly with built-in 3 section outlet box. Top shelf will take a large variety of instruments and can be adjusted for convenient viewing angles. Size is 30' H. x 19" W. x 33' L. Outlet box has pilot light, on-off switch, and a panel-mounted fuse. 15 amps. Shpg. Wt. 38 lbs.
80W164. NET 100.00

MODEL LOW-25
Rolls in any direction and adjusts to take various sizes of instruments. Equipped with an outlet box featuring a fuse post, switch, pilot light, and 3 grounded outlet Size: 21"W. x 31" L. x 33½"H. Top shelf is at a 20° angle. Shipping weight 32 pounds.
80W165. NET 70.00

LAB ON WHEELS



Low 4

Low 6

Lab on Wheels. For school, lab, or industrial plant. 1 inch square steel tubing for rigidity, strength and durability. Beautifully finished in bright chrome plating. Heavy duty, 5 inch wheels with heavy plate casters. Quiet, fast, easy swiveling. Adjustable shelves. Provisions made for mounting Waber outlet boxes. NOTE: Low 3 & 4 each have 5 hardboard shelves. Equipment shown, not included.

Low-3 Single Cantilever.
Size: 28 x 26 x66"..
80W160 (less outlet box) NET .. 170.00

Low-4 Double Cantilever.
Size: 48 x 26 x 71"..
80W161 (less outlet box) NET .. 215.00

Low-6 "Scope" Dolly
Size 19"W. x 31"L. x 35"H.
80W162 (less outlet box) NET 110.00

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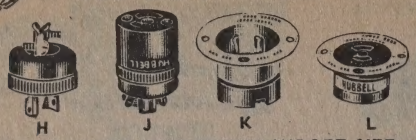
Electrical Components

TWIST-LOCK CONNECTORS



H J K L

10 AMP 2-WIRE CONNECTORS MIDGET SIZE UNPOLARIZED

Cord-grip connectors accommodate .312" to .500" diameter cords. Brown bakelite, with metal casings plated to resist corrosion. Female receptacles will accept either polarized or non-polarized caps. 250 volts at 10 amps; 125 volts at 15 amps. U. L.

Stk. No.	Type	Fig.	Description	Each 1-9	10-24	25-49
38F500	7428	H	Male Plug	.66	.59	.51
38F501	7427	J	Fem. Con.	1.21	1.07	.94
38F521	7465	H	Male Cap	.66	.59	.51
38F522	7464	J	Fem. Con.	1.19	1.06	.93
38F502	7466	K	Male Base	1.43	1.27	1.11
38F503	7468	L	Fem Base	1.73	1.54	1.35
38F518	7479*	H	Male Cap	.78	.70	.61

*Has one wide and one narrow blade to fit corresponding polarized slots of receptacles.

MIDGET TWIST LOCK

7593 7594

7500 series twist lock, 15 amp, 115 volt. Cylindrical hollow brass split ring for ground provision. Non-interchangeable unit with UL requirements.

Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F742	7593	Conn. body w/cord grip	2.75	2.45	2.14
32F743	7594	Cap w/cord grip	2.05	1.82	1.60
38F523	7595	Inlet, exposed terminals	2.48	2.21	1.94
38F524	7596	Outlet, exposed terminals	2.93	2.61	2.28

MIDGET SIZED CONNECTORS

7432 7433

10 ampere, 3 wire connectors, midget size and polarized. Accomodate .281" to .421" cable. Rated 250 volts at 10 amps; 125 volts and at 15 amps.

Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F747	7432	Male Plug	2.84	2.52	2.21
32F748	7433	Fem. Con.	3.54	3.14	2.75
38F504	7485	Male Plug	1.57	1.39	1.22
38F505	7484	Fem. Con.	2.25	2.00	1.75
38F506	7486	Male Plug	1.57	1.39	1.22
38F507	7487	Fem. Con.	2.44	2.17	1.90

TWIST-LOCK PLUGS AND SOCKETS

C D

Exposed metal parts finished to resist corrosion. All meet requirements for 125 volt grounding. Molded material is general purpose phenolic type. Conform to National Electric Code UL approved. 3 wire grounding type 15 amperes.

Stk. No.	Type	Fig.	Description	Each 1-9	10-24	25-49
32F721	4700	C	Receptacle	4.38	3.90	3.41
32F722	4713	....	Receptacle	2.93	2.61	2.28
32F723	4715	....	Fem. Base	3.22	2.86	2.51
32F724	4716	....	Male Base	2.48	2.21	1.93
32F725	4720	D	Rubber plug	2.13	1.89	1.66
32F726	4726	D	Metal plug	1.76	1.56	1.37

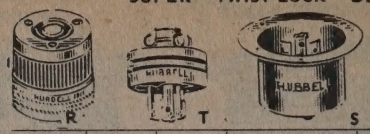
STANDARD SIZE—POLARIZED

M N P

10 amp. -3 wire cable connectors accommodate .296" to .562" dia. cables. Type 7572 is armored cap. Rated: 250 volts at 10 amps; 125 volts at 15 amps.

Stk. No.	Type	Fig.	Description	Each 1-9	10-24	25-49
38F509	7572	M	Male Plug	1.85	1.65	1.44
38F510	7555	N	Fem. Con.	2.94	2.61	2.29
38F511	7556	P	Male Base	2.44	2.17	1.90
38F512	7557	...	Fem. Base	2.70	2.40	2.10

SUPER "TWIST-LOCK" DEVICES

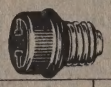


R T S

Rated: 600 volts at 10 amps; 250 volts at 20 amps. Take .437" to .750" cables. 20 amp.-3 wire connectors.

Stk. No.	Type	Fig.	Description	Each 1-9	10-24	25-49
38F513	7311	T	Male Plug	2.67	2.37	2.08
38F514	7313	R	Fem. Con.	4.10	3.64	3.19
38F515	7327	S	Male Base	3.16	2.81	2.46
38F516	7328	...	Fem. Base	4.85	4.31	3.77

SCREW BASE ADAPTER



Type 5612. Converts Medium Screw Base socket to female Edison. Double T-slotted to accept polarized plugs. 660 watts, 125 volts.

Stk. No.	Type	Each 1-9	10-24	25-49
32F706	5612	1.12	1.00	.87

FEMALE GROUNDING-TYPE MOTOR BASE OUTLET

Type 5256. A good, standard grade outlet meeting FED. SPEC. W-C-596(S). Parallel-blade with U-ground. Rated: 15 amps, 125 volts AC or DC. Nickel-plated brass construction. U.L. approved.

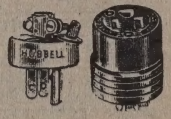
Stk. No.	Type	Each 1-9	10-24	25-49
32F746	5256	2.34	2.08	1.82

A.C. PILOT LIGHT PRESSWITCH SWITCH

Type 1277. Operates simultaneously with pilot light. Single pole, 15 A 120 VAC pilot light "presswitch" with red handle. Brown front, yellow back. Size: 3.281" x 2.437". Shpg. wt., 4 oz.

Stk. No.	Type	Each 1-9	10-24	25-49
32F720	1277	3.25	2.89	2.89

3-WIRE GROUNDING TYPE SINGLE OUTLETS



5280 5207

Polarized for grounding exposed metal parts of portable electrical equipment. 5279 has flush housing with permanent type mounting plate (2.437 Dia.). Male recessed 5278 may be permanently attached. 5207 (Dia. 1.531) "insulprene" connector body. 5280 (1.531 Dia.) grounding cap may be anchored permanently by thumb screw. All are 15A., 125V.

Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F727	5278	Male Base	1.68	1.50	1.31
32F728	5279	Female Base	3.25	2.89	2.53
32F729	5280	Male Cap.	2.23	1.98	1.74
32F730	5207	Fem. Con.	2.34	2.08	1.82
38F525	5920	Male Cap.	1.23	1.10	.96
38F526	5208	Male Cap.	1.65	1.47	1.28
38F528	5275	Male Cap.	1.06	.94	.82
38F527	5264	Male Cap.	1.25	1.11	.97

DUPLEX GROUNDING ADAPTER

Type 5291. Converts existing parallel or "T" slot duplex receptacles to 3 wire, 15A., 125V. grounding receptacles. Captive mounting screw threads into existing receptacles. Phosphor bronze prongs connect metal plate to ground circuit. 3.328" x 1.750"x1.421". Shpg. wt., 6 oz.

Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F731	5291	Brwn. Bak.	3.23	2.87	2.51

Type 5266. 3-Wire grounding type caps and bodies, polarized. 15 amps, 125 v. Fitted with "U" shaped blade for grounding.

Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F707	5266	Rubber Cap	1.29	1.15	1.00

3-WIRE GROUNDING TYPE ADAPTER

Type 5273-L. For grounding exposed metal parts of portable electrical equipment. Designed to adapt standard 2-wire convenience outlets for use with new 3-wire grounding caps. 15 amps. 125 volts. Shpg. wt., 4 oz. Std. pkg.—50; Carton—10.

Stk. No.	Type	Each 1-9	10-24	25-49
38F517	5273-L	1.38	1.22	1.07

Electrical Supplies

HARVEY HUBBELL

RUBBER FINGER GRIP CAPS

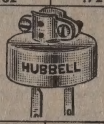
Type 9972. 15 amps 125V. Parallel Blades. Without cord-grips. Cord hole dia. .312" to .437".

Stk. No.	Type	Description	Each 1-9	10-24	25-49
38F520	9972	Par. blades	.56	.50	.44

38F508. 9754. Standard rubber plug with cord-grip. For .296" to .625" diameter cord. Rated: 125 volts at 15 amps.

38F508	9754	Rubber plug	.93	.82	.72

2-WIRE PLUG—ARMORED



Type 7057. Metal body, parallel-blade. Rated: 15 amps, 125V ac/dc. Accepts cord dia. .296-.562. Exposed metal, finished to resist corrosion. Caps feature molded-in blade anchoring inserts.

32F705	7057	Par. Blades	1.02	.90	.79

CONVENIENCE OUTLETS

Type 9595 Duplex convenience outlets. Side wired double T-Slots. 15 amps, 125 volts. Breakoff feature for two-circuit installations. Washer ears.

Type 5242 3-Wire grounding type convenience outlets. Polarized side wired only. Duplex flush mounting receptacle. For grounding exposed metal parts of portable electrical equipment. Unit is side wired with grounding terminal and with parallel slots.

Stock No.	Type	Description	Each 1-9	10-24	25-49
32F700	9595	Brn. Bakelite	.87	.77	.68
32F701	5242	Brn. Bakelite			

SAFETY GROUNDING RECEPTACLE

Type SG-62. Accepts all U-shaped or round-pin std. grounding caps. Shunts current harmlessly around objects inserted in slots by children. Grounds tools and appliances equipped with std. grounding caps. 15 amps, 125 v. silver plated contact springs. Shpg. wt., 4 oz.

Stk. No.	Type	Descrip.	Each 1-9	10-24	25-49
32F717	SG-62	3-Wire	3.85	3.42	3.00

TYPE 'T' GROUNDING DEVICE

For use in conjunction with circuits up to 20 amps. Provides for grounding as well as polarized connections. Ideal for use with kitchen appliances and movable equipment.

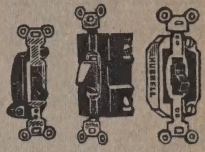
Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F732	5361	Sin. rect. slt. & U grd.	2.59	2.30	2.02
32F733	5362	Dux. rect. slt. & U grd.	3.54	3.14	2.75
32F734	5364	Am. cap	2.18	1.94	1.70
32F735	5374	Conn. body	3.69	3.28	2.87
32F736	5375	Insulprene Cap	2.50	2.22	1.95

ANGLE CAP

4 position angle cap permits cord entrance from one of four different angles without bending or squeezing behind heavy equipment which often damages or severs the power cord.

Stock No.	Type	Each 1-9	10-24	25-49
32F737	5287	2.21	1.96	1.72

SWITCHES



Type 9711. Mercury silent switches. 10 amp, 125 v. 15 amp, 120 v. AC-5 amp, 250 v. Single pole indicating.
Type 1251. 15 amp, AC single pole 120-277 v. Presswitch with feed through terminal.
Type 8801. Flush toggle switches. T-rated—porcelain base—Bakelite handles. 125 v. 10 amp; 250 v., 5 amp.

Stock No.	Type	Fig.	Description	Each 1-9	10-24	25-49
32F708	9711	C	Brn. Handle	1.35	1.21	1.06
32F709	1251	D	Brn. Button	1.99	1.77	1.55
32F710	8801	E	Brn. Handle	1.73	1.54	1.34

AC SWITCHES—1121 SERIES

For use in shallow base 1¼" boxes. Conforms with MIL-Spec. W-S-896. ; Silver alloy contacts for long life and smooth operation, 20 amps. 120-277V.

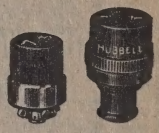
Stk. No.	Type	Description	Each 1-9	10-24	25-49
32F738	1121	S.P.	2.01	1.79	1.56
32F739	1122	D.P.	2.50	2.22	1.94
32F740	1123	3-Way	2.38	2.11	1.85
32F741	1124	4-Way	6.37	5.66	4.95

CHROME-X (STAINLESS STEEL) PLATES

Type 97071. Toggle switch plates.
Type 97101. Convenience outlet plates.

Stock No.	Type	Fig.	Description	Each 1-9	10-24	25-49
32F711	97071	F	1-Gang	.54	.48	.43
32F712	97101	G	1-Gang	.55	.49	.43

CORD CONNECTORS



Type 7084. Cord connector bodies with double T-Slots—Blk. Bakelite. 15 amps, 125 v. With cord grip.
Type 9952. Rubber cord connector bodies with double T-Slots. 15 amps, 125 v. Cord diameter: .312" to .468".
Type 5269. 3-Wire cord connectors grounding type 15 amps, 125 v. With cord grip. Cord diameter: .296" to .625".

Stock No.	Type	Fig	Description	Each 1-9	10-24	25-49
32F702	7084	A	Body	1.65	1.46	1.28
32F703	9952	B	Body	1.05	.95	.82
32F704	5269	A	Body	2.01	1.78	1.56

3M COMPANY SCOTCH TAPE

ELECTRICAL TAPE

Type 33. General purpose insulation. Dielectric strength: 10,000 volts. .007" thick with black plastic backing.

Stk. No.	Type	Size	Color	1-9	10-99
36F898	33	¾"x66'	Blk.	1.40	1.16
36F899	33	¾"x20'	Blk.	.53	.44
36F897	33	⅜"x20'	Blk.	.33	.27

COLOR CODED TAPE

Type 35. Vinyl plastic electrical tape for color coding and general purpose insulation. Strong and conformable.

Stk. No.	Type	Size	Color	1-9	10-99
36F900	35	½"x20'	Red	.43	.36
36F901	35	½"x20'	Wh.	.43	.36
36F902	35	½"x20'	Yel.	.43	.36
36F903	35	½"x20'	Gray	.43	.36

TINNED COPPER SHIELDING TAPE

Type 24. All metal 100% tinned copper shielding braid continues electrostatic shielding. Knitted from No. 36AWG wire. Highly conformable.

Stk. No.	Type	Size	Color	1-9	10-99
36F904	24	1"x15'	Tin	2.68	2.25

GLASS-CLOTH INSULATED TAPE

Type 27. For operating temperatures requiring high-heat insulated wires. Thermosetting pressure-sensitive adhesive assures a permanent bond at temperatures up to 300°F. High tensile strength.

Stk. No.	Type	Size	Color	1-9	10-99
36F905	27	½"x66'	Wh.	1.88	1.58

ALL-WEATHER TAPE

Type 88. A super-tough flame-retardant black plastic backing provides excellent resistance to abrasion, oil, acids, etc. Extra pliability and conformability at temperatures down to 0°F. The thickness of Type 88 is .0085".

Stk. No.	Type	Size	Color	1-9	10-99
36F886	88	¾"x66'	Blk.	1.71	1.42
36F887	88	¾"x20'	Blk.	.64	.53

SILICON RUBBER TAPE

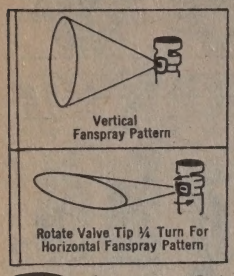
Type 70. High temperature splicing tape composed of fully cured inorganic silicone backing with a silicone pressure sensitive adhesive. Excellent comformability, high temperature characteristics, electric strength, and ozone resistance. Self cleaning rubber backing.

Stk. No.	Type	Size	Color	1-9	10-99
36F906	70	1"x30"	Blk.	7.41	6.22

SPC Technology Spray Paints & Chemicals

FEATURING "FAN SPRAY" VALVE

A long needed improvement in aerosol valve design, specially developed for improved spraying of thick fluids such as paint. All Newark paints have the fan spray valve.



- **Finer Spray Particles Yield Greater, More Uniform Coverage**
- **Spray Pattern Is a Predictable Long Oval Shape; Reduces Overspray by as Much as ⅓—Gives Operator Closer Control**
- **Pattern Is Easily Adjusted—Spray Can Be Swept Across Surface in Horizontal or Vertical Direction Like Applying Brush Strokes**
- **Easier Spraying—Special Valve Design Requires Lighter Finger Pressure than Other Sprays**

SPRAY PAINTS

Colors meet Federal Color Specification TTL-0048 (GSA-FSS), Federal Color Standard 595 number as indicated below. 1 pint cans.

Stock No.	Color	Fed. Color Std.	Each	12
32N290	Bright Silver	17178	1.19	12.89
32N292	Glossy White	17075	1.19	12.89
32N150	Flat White	37875	1.19	12.89
32N293	Gloss Black	17038	1.19	12.89
32N282	Ultra Flat Black	37038	1.19	12.89
32N286	Chrome Yellow	.....	1.19	12.89
32N288	Hunter Green	14062	1.19	12.89
32N289	Cherry Red	11136	1.19	12.89

WHITE EPOXY SPRAY

Hard porcelain-like finish won't chip, peel or crack. For appliances, bowls, sinks, tubs, tile, window sills, railings, grounds maintenance equipment. Adjustable fan spray valve. 13 oz. can.

32N1005. 1-5.....1.87 6-11.....1.66 12-Up.....1.40

WRINKLE FINISH BLACK SPRAY

Air drying wrinkle finish develops in two hours at 75°F and 50% humidity—or faster using oven or heat lamp for 15 minutes. For chassis, panels, racks, audio equipment. Adjustable fan spray valve. 13 oz. can.

32N325.....Each 2.25

METAL PRIMER SPRAYS

Adhere to base metal, prepare for finish coat. Green and yellow are zinc chromate meeting MIL-P-8585-A Type I. Fan spray valve. Pint size can 13 oz. avd.

Stock No.	Description	Each	12
32N161	Yellow Zinc Chromate	1.30	14.04
32N297	Green Zinc Chromate	1.30	14.04
32N160	Gray	1.19	12.89
32N172	Ruddy Brown	1.19	12.89

INSULATOR SPRAYS

MOISTURE AND FUNGUS-PROOF VARNISH

Meets Mil Spec MIL-V-173B. Widely used as PC board coating. Fluorescent, the treated chassis may be checked with ultraviolet light. Produces clear, smooth surface which will not crack, splinter or remain tacky. Diel. str. 750 V/mil. 15¾ oz. can.

32N427. 1-11.....Each 1.40 12-23.....Each 1.30
24-47.....Each 1.20 48-96.....Each 1.10

CRYSTAL CLEAR INSULATING ACRYLIC

MIL-TT-L-0048. For metal, electrical and electronic equipment, PC boards, chrome, brass, plastic, tools, batteries, paper, wood, leather. Weatherproofs, protects against corrosion. 1500 V/mil. dielectric strength. 15¾ oz. can.

32N291. Each.....1.30 12 for.....14.04

RED INSULATING VARNISH

Tough, flexible film with high adhesion and arc resistance, non-tracking properties. For new or old stator windings, armatures, coils, commutator end rings, frames and end shields, bus bars, switchboard parts. Air dry or bake. Diel. str. dry 100 V/mil, wet 700 V/mil; ASTM-D 149. 13 oz. can.

32N510. Each.....1.30 12 for.....14.04

SERVICE AID CHEMICALS

CIRCUIT COOLER SPRAY

Locate thermal-intermittent component by spraying suspected component while equipment is operating. If cooling solves intermittent problem, replace component. Use on capacitors, transistors, resistors, oxidized joints. 15¾ oz. can.

34N610.....Each 2.19

TAPE HEAD CLEANER SPRAY

Cleans tape heads on audio and video recording equipment. Removes oxide and dirt. Harmless to tape. 6" spray extension tube included. 16 oz. can.

35N3386.....Each 2.35

RELAY AND CONTACT CLEANER

Leaves dry surface. Non-flammable. Dissolves gummy deposits. Degreases and flushes off electronic and electrical equipment. Extension tube included for hard-to-reach places.

32N184. 15¾ oz. can.....Each 3.49
32N349. 5¾ oz. can.....Each 1.89

TUNER CLEANER AND GUARD—SAFE FOR PLASTICS

Provides non-oily film that lubricates contacts, guards against corrosion. Won't affect magnet wire coatings, paper insulation, most paints and varnishes. For tuners, switches, volume controls, rheostats, commutators, circuit breakers, motors, locks. With spray extension tube. 15¾ oz. can.

32N154. Each.....1.99 12 for.....21.46

CONTACT CLEANER AND LUBRICANT SPRAY

Cleans, lubricates and protects from corrosion. For use where spray will not come in contact with plastics. For switches, volume controls, tuners, relays, commutators, slip rings, tube pins, dials, recorders, rheostats, circuit breakers, locks, tools. With extension tube.

32N521. 16¼ oz. can....Each 1.30 12 for.....14.04
32N343. 5¾ oz. can..... Each .99

DEOXIDANT CONTACT CLEANER SPRAY

Removes contact oxidation and deposits protective silicone film. Stops noise and static. Will not harm plastic. For relays, tuners, controls, switches, rheostats. With extension tube.

35N3382. 6¼ oz. can.....Each 2.45

ELECTRIC MOTOR CLEANER

Dissolves and flushes away dirt, grease. Non-flammable, non-toxic. Does not require water flush. Evaporates and leaves dry surface. Will not harm insulation or painted surface. May be harmful to plastics. With extension tube for pinpoint application. 15¾ oz. can.

32N508. Each.....1.13 12 for.....12.12

SILICONE LUBRICANT

For metal, plastic, rubber, wood, leather, etc. Non-freezing, non-gumming. Ideal for anti-stick, anti-squeak action in hot and cold sealer bars, windows and doors, drawers, sliding tracks, cutting equipment, conveyors, dispensing equipment, food processing machinery. Diel. str. 350 V/mil. Temp. range −40°F to +500°F. 15¾ oz. can.

32N181. Each.....1.30 12 for.....14.04

QUICK PENETRATING OIL

Frees up and lubricates rusted or frozen bolts, screws, nuts, chains, mufflers, bearings, hinges, linkages, and other industrial and electronic equipment. 15¼ oz. can.

32N509. Each.....1.13 12 for.....12.12

PLASTIC AND GLASS CLEANER

Developed for heavy-duty cleaning of glass and plastic surfaces—windows, screens, safety shields. Spray on—wipe off. Will not leave dulling streaks or residue.

35N3383. 13¾ oz. can.....Each .79

ANTI-STATIC SPRAY

Neutralizes static electricity and inhibits accummulation of airborne dust on plastics, glass, tile, leather, foil, textiles, metal, paper, photo transparencies, negatives, TV screens, and other surfaces.

32N1079. 15¼ oz. can.....Each 1.66

General Electric Silicones

TWO PART SYSTEMS

RTV-11. A low viscosity, white electrical potting compound which cures at room temperature to a resilient silicone rubber. Protects delicate electrical components from shock and vibration over temperatures from −75 to +500°F.

RTV-21. A pink, pourable electrical potting compound. Viscosity, poises: 250. Shelf life of six months.

RTV-30. A medium viscosity, red potting compound which maintains its flexible properties from −75 to 600°F. Also useful for plastic prototype parts.

RTV-41. White, medium viscosity silicone rubber base that cures readily in deep sections to high durometer, high strength rubber.

RTV-60. Red, medium viscosity silicone rubber base that cures readily in deep sections to a high durometer, high strength rubber. Has excellent high temperature resistance—usable for short periods up to 600°F.

RTV-77. An easy to spread potting paste which cures the same as the low viscosity compounds to form a tough, resilient silicone rubber.

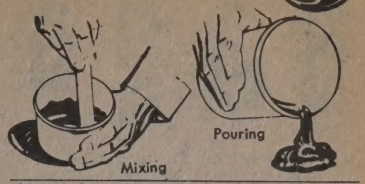
RTV-88. Red sealing and bonding compound. For use in high and extremely high temperature uses including aerospace.

RTV-90. Red sealing and bonding compound. Heat resistant up to 500°F.

RTV-615. Low viscosity, clear electrical potting compound. Used to protect circuits when a transparent encapsulant is required. Can be easily cut open to repair failures and patches with fresh material.

RTV-616. A black sealing and bonding compound. Used widely in aerospace applications. Short time, up to 500°F.

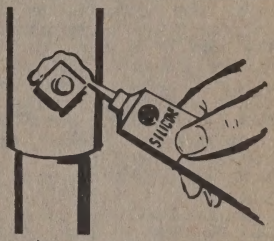
RTV-630. A blue, medium viscosity compound which cures to an extremely tough, durable rubber. Best for prototype molds or other applications where extreme strength is required.



Stk. No. 1 lb. Container	Type	Color	1-5	6-11	12-Up
57F053	RTV-11	White	8.27	7.58	6.89
57F054	RTV-21	Pink			
57F055	RTV-30	Red			
57F056	RTV-41	White	6.60	6.05	5.50
57F057	RTV-60	Red			
57F058	RTV-77	White			
57F059	RTV-88	Red			
57F060	RTV-90	Red			
Stk. No. 1 lb.	**Type**	**Color**	**1-5**	**6-11**	**12-Up**
57F049	RTV-615	Clear	10.37	9.50	8.64
57F204	RTV-616	Black	9.07	8.32	7.56
57F061	RTV-630	Blue	9.72	8.91	8.10

ONE PART SYSTEMS

One package silicone rubber adhesive/sealants for an unlimited number of industrial applications. Packaged in collapsible aluminum tubes and standard caulking cartridges. Cures to tough resilient rubber at room temperature. Will withstand temperatures of 500 to 600°F and remain flexible at 75°F. Resists moisture, aging, weathering. Will bond to most substrates without primer. Ideal for instant insulation, repairing low pressure leaks, gasketing, bonding, etc. For complete technical data, see GE Data Book S-35 supplied with each RTV order.



3 OZ. TUBE

Stk. No.	Type	Description	1-11	12-47	48-Up
57F039	RTV-102	White Paste	1.44	1.32	1.20
57F040	RTV-103	Black Paste	1.44	1.32	1.20
57F043	RTV-106	Red Paste	1.92	1.76	1.60
57F041	RTV-108	Clear Paste	1.44	1.32	1.20
57F042	RTV-109	Alum. Paste	1.44	1.32	1.20
57F044	RTV-112	White Liquid	1.92	1.76	1.60
57F029	RTV-116	Red Liquid	1.92	1.76	1.60
57F030	RTV-118	Clear Liquid	1.92	1.76	1.60
57F200	RTV-154	Grey Hi-Strength Paste	3.64	3.33	3.03
57F201	RTV-156	Red Hi-Strength Paste	4.07	3.73	3.39

12 OZ. TUBES and (*Caulking Cartridges)

Stk. No.	Type	Description	1-11	12-47	48-Up
57F031	RTV-102	White Paste	5.01	4.55	4.35
57F032	RTV-103	Black Paste	5.01	4.55	4.35
57F035	RTV-106	Red Paste	6.83	6.21	6.01
57F033	RTV-108	Clear Paste	5.01	4.55	4.35
57F034	RTV-109	Alum. Paste	5.01	4.55	4.35
57F036	RTV-112	White Liquid	6.83	6.21	6.01
57F037	RTV-116	Red Liquid	6.83	6.21	6.01
57F038	RTV-118	*Clear Liquid	6.83	6.21	6.01
57F045	RTV-102*	*White Paste	2.76	2.53	2.30
57F046	RTV-108*	*Clear Paste	2.76	2.53	2.30
57F202	RTV-103*	*Black Paste	2.76	2.53	2.30

SILICONE GREASES AND COMPOUNDS

Fit a wide variety of industrial and maintenance applications. Offer superior lubrication, dielectric properties, heat transfer, water repellancy, corrosion protection. Withstand temperatures from −100 to 450°F.

WIDE TEMPERATURE METAL LUBRICANT

Type G-300. Offers excellent metal-metal lubrication over −100 to +450°F.

ALUMINUM/STEEL LUBRICANT

Type G-322L. One of the finest available lubricants for aluminum steel. Prevents galling and corrosion. Also excellent for plastic-metal. Available in 2 or 8 oz. tubes or 16 oz. aerosol (G-322S).

HEAT TRANSFER COMPOUND

Type G-642. Transfers heat from transistors, semi-conductors and ballasts. Prolongs component life and decreases service requirements.

GENERAL PURPOSE COMPOUND

Type G-623. An all-around dielectric grease which offers superior protection from shorts due to moisture. Ideal for cable connectors. Also excellent rubber lubricant for seals, gaskets, etc.

Stock No.	Type	Package Size	1-11	12-47	48-Up
57F205	G-300	2 oz. Tube	1.34	1.23	1.12
57F206	G-300	8 oz. Tube	4.20	3.85	3.50
57F207	G-322L	2 oz. Tube	1.55	1.42	1.29
57F208	G-322L	9 oz. Tube	4.88	4.48	4.07
57F209	G-322S	16 oz. Aerosol	2.46	2.24	
57F210	G-642	5 oz. Jar	1.87	1.72	1.56
57F211	G-623	2 oz. Tube	1.14	1.05	.95
57F212	G-623	8 oz. Tube	2.94	2.70	2.45

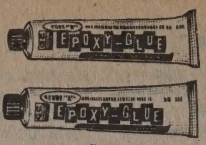
ATTENTION QUANTITY BUYERS

Newark Electronics also can supply these GE silicon products in package sizes up to five gallon pails. Write, phone or wire your nearest Newark Electronics office to discuss volume prices and delivery. For complete technical and application data, consult the GE Data Book S-35 which is included with each RTV order. Depend on Newark Electronics for the latest in silicone products at the lowest prices, fastest delivery. Stocking warehouses from coast-to-coast.

AEROSOL CHEMICAL PRODUCTS

Plastic Repair Kit

Acrylic Cement



Epoxy

Color-Code Kit

Electronic Oil Assortment Kit

Magic Vista golden foam tuner cleaner features the new any-angle, constant discharge 360 valve. Cleans, polishes and lubricates tuner contacts on color or black and white sets.
13F3350. Type 10-800. 8 oz. aerosol. **NET** 2.29

SpraLube cleaner lubricant. Won't harn plastics. Chemically formulated especially for servicing all color TV tuners. Safely cleans away oxidation, dust and dirt.
32F335. Type 5555. 8 oz. aerosol. **NET** 2.29

NEW Tuner Bath for degreasing and cleansing tuners. Loosens and blasts away all dust, grime and foreign matter. Will not harm plastics and will not detune.
13F3351. Type 10-901. 16 oz. aerosol. **NET** 2.29

Spra-Kleen electronic contact-control cleaner and lubricant. Eliminates noise due to dust, dirt and corrosion.
32F347. Type 8666-6. 6 oz. aerosol. **NET** 1.95
32F347. Type 8666-16. 16 oz. aerosol. **NET** 1.95

"Motor Cleaner." Effectively and safely removes harmful dangerous dust, metal and grease deposits. For the maintenance of electric motors, switches, generators, etc.
13F3352. Type 10-910. 16 oz. aerosol. **NET** 1.89

"Pressurized Lubricating Oil." Ideal for those small trouble spots that are hard-to-reach. For any piece of equipment that must have complete, thorough lubrication.
13F3353. Type 10-916. 6 oz. aerosol. **NET** ..... .98

"Formula 70 Moisture Remover" penetrates, removes moisture, lubricates and prevents rust.
13F3354. Type 10-700. 16 oz. aerosol. **NET** 1.95

"Plastic and Glass Cleaner." Contains ammonia. For industrial and commercial use. Wipes off dirt and dust.
35F3383. Type 9082. 14 oz. aerosol. **NET** ..... .89

"Insul-Volt." Positive insulation against hi-voltage leaks, arcing and corona shorts. For use on transformers, electric motors, generators, etc. Max. op. temp. 275°F.
33F3388. Type 10-608. 8 oz. aerosol. **NET** 1.99

"Red-X TV Corona Dope." Prevents corona shorts in high voltage TV circuits. Fast drying, silicone base. Has excellent dielectric strength.
13F3355. Type 50-12. 16 oz. aerosol. **NET** 2.75

"Audio-Video Magnetic Tape Head Cleaner." Quickly removes dirt and oxide build-up; won't harm tape, tape coating or paint finish.
35F3386. Type 10-620. 16 oz. aerosol. **NET** 2.35

"Dri-Spra Formula X-27" displaces moisture, penetrates frozen parts, lubricates and prevents corrosion, which causes 80% of electrical equipment failures.
13F3356. Type 8678. 6 oz. aerosol. **NET** 1.79

"De-Ox-Id" electronic contact cleaner to eliminate noise. This is not a solvent, but an active chemical compound.
35F3381. Type 19-2. 2 oz. bottle. **NET** 1.25
35F3382. Type 19-6. 6 oz. aerosol. **NET** 2.25

Extra-Dry "Super Freeze Mist." Leaves no liquid residue. Non-toxic and non-flammable and odor-free.
13F3357. Type 10-702. 15 oz. aerosol. **NET** 2.50

"Zero-Mist" cools components instantly, thereby pinpointing faulty capacitors, transistors, oxidized junctions, etc. caused by component failures, due to heating.
34F610. Type 8667. 16 oz. aerosol. **NET** 2.19

"Fire Extinguisher" can remove the oxygen from the fire area, thus smothering the flame. For all types of fires.
13F3358. Type 10-914. 16 oz. aerosol. **NET** 1.89

"Jif" contact and control cleaner. Eliminates noise due to dust, dirt and corrosion on electrical contacts. Cleans and lubricates with the longest possible protection.
32F368. Type 8670-6. 6 oz. aerosol. **NET** 1.79

"Action" electronic silicone contact cleaner. Will not harm plastics. Non-flammable and will provide long-lasting protection from dirt and corrosion.
13F3359. Type 99-06. 6 oz. aerosol. **NET** ..... .99

"Dry Kleen" GC electronic dry cleaner. Cleans contacts, relays and other electronic devices and leaves absolutely no deposits. Degreaser and general solvent for inks, etc.
13F3360. Type 8669. 16 oz. aerosol. **NET** 2.10

"Relay-Kleen" contact cleaner. Excellent for cleaning relays and contacts. Non-flammable.
32F349. Type 8682-6. 6 oz. aerosol. **NET** 3.49
32F184. Type 8682-16. 16 oz. aerosol. **NET** 3.49

Type 46-975. Plastic repair kit. Plastic material can be molded to almost any shape to form new parts.
32F333. NET 1.95

Type 677. Color-code kit. Includes brushes and E.I.A. coloring chart. Shpg. wt. 1 lb.
32F350. NET 3.95

Type 9400. Electronic oil assortment kit. Contains all oils commonly used in electronic work. The other tube is liquid graphite. Shpg. wt. 1 lb.
32F364. NET 3.85

Type 345. Cement sampler lab kit. 14 bottles contain cement and adhesive for every application. 22-oz. bottles.
32F257. NET 10.35

Type 175-6. "G-C" 60" glass treatment compound. Degreases, removes static, waterproofs and keeps surfaces cleaner and longer. 6-oz. bottle.
32F201. NET 1.15

Type 26-2. "Strip-Ex." Strips enamel from magnet wire, enabling it to be soldered immediately. 2-oz. bottle.
32F255. NET ..... .95

Type 8101-S. Transistor Z5 silicone compound. Maintains efficient transfer of heat from transistor to chassis. 1 oz. tube.
32F365. NET 2.65

Type 8109-S. DCZ9 silicone heat ink compound. 1 oz. tube.
35F3389. NET 2.95

Type 47-2. High voltage and corona dope. Prevents corona shorts on high voltage circuits. 2-oz. bottle.
32F206. NET ..... .95

Type 47-6. 6-oz. Aerosol.
13F3361. NET 1.65

Type 37-2. Q-Dope. Pure polystyrene dissolved in Q-Dope thinner. 2-oz. bottle.
32F208. NET ..... .69

Type 37-4. 8-oz. bottle.
32F209. NET ..... .99

Type 41-4. Q-Dope thinner. Solvent for polystyrene Q-Dope and other coil dopes. 4-oz. bottle.
32F241. NET ..... .99

Type 213-16. Chloro-Kleen cleaner. Component cleaner. 16 oz. bottle.
32F378. NET 2.15

Type 14-6. K-27 print-kote silicone resin. Insulates, protects, prevents shorts. 6 oz. can.
32F357. NET 2.75

Type 14-2. 2 oz. can.
32F359. NET 1.40

Type 21-1. Silver print. "Pure silver" compound used by manufacturers in printed circuit design. Wt. ½ Troy oz.
32F355. NET 5.25

Type 20-2. Copper print. For repairing printed circuit. 2-oz. bottle.
32F346. NET 2.50

Type 13-2. Solvent for Type 14-2. Print-Kote Silicone resin. Shpg. wt. 2 oz.
32F360. NET ..... .60

Type 56-2. Insulating and dipping varnish. Produces a smooth, tough insulating film that is non-corrosive. Shpg. wt. 2 oz.
35F3379. NET ..... .75

Type 90-2. Red insulating varnish. Used on all solder connections, etc. 2 oz. bottle.
32F332. NET ..... .80

Type 984. Reach-all pen oiler. Highest quality non-gumming instrument oil; meets MIL-L-6085A specs.
32F186. NET 1.25

Type 43-2. Pliobond cement. Cold setting thermoplastic liquid. 2 oz. bottle.
32F256. NET ..... .75

Type 347. Epoxy glue. Won't shrink or expand. Kit of 2 tubes. 4 oz.
33F3378. NET 2.50

Type 30-2. Radio service cement. Mends speaker cones, tube bases, grid caps, etc. 2 oz. bottle.
32F214. NET ..... .75

Type 30-8. 8 oz. bottle.
32F216. NET 1.85

Type 31-8. Radio service cement solvent. 8 oz. bottle.
32F233. NET 1.25

Type 32-2. Bakelite cement. Made for cementing bakelite to bakelite and bakelite to other materials. 2 oz. bottle.
32F220. NET 1.15

Type 58-2. Vinylite cement. For metals, plastics, paper, leather, etc.
32F221. NET ..... .75

Type 35-2. Rubber to metal cement. 2 oz. bottle.
32F225. NET ..... .75

Type 40-2. Acrylic cement. 2 oz. bottle.
32F228. NET ..... .69

Type 32-2A. Plastic cement. 2 oz. bottle.
32F217. NET ..... .75

NO NOISE

Volume Control and Contact Restorer

Cleans, lubricates, restores all tuners including wafer type. Non-toxic, non-inflammable. Prevents gumming and eliminates binding in automatic turn tables. May also be used for noisy tube sockets and other components.
32F269. 6 oz. spray can. **NET** 2.25

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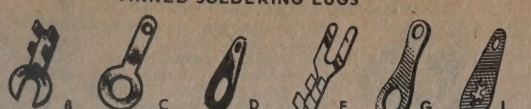
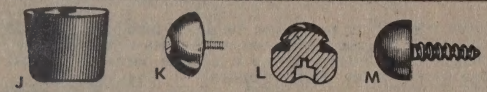
Hardware

TINNED SOLDERING LUGS



Stock No.	Hole Size	Length	Fig.	Boxes of 100 1-9	Boxes of 100 10-Up
31F2293	No. 6	19/32"	E	2.00	1.60
32F1300	No. 6	21/32"	B	1.35	1.08
32F1301	No. 6	9/16"	C	1.14	.91
31F2074	No. 8	9/16"	C	2.14	1.71
31F2075	No. 10	13/16"	C	2.14	1.71
32F1302	No. 6	11/16"	C	1.18	.94
32F1303	No. 6	9/16"	D	1.18	.94
32F1304	No. 8	9/16"	D	1.12	.90
32F1306	No. 8	7/8"	G	1.10	.88
32F1307	No. 10	7/8"	G	1.10	.88
32F1308	No. 6	5/8"	L	1.37	1.09
32F1309	No. 8	5/8"	L	1.37	1.09
31F2076	No. 4	9/16"	D	2.13	1.71



RECESSED BUMPERS Fig. J

Stock No.	Ht.	O.D.	Hole Size	Boxes of 100 1-9	Boxes of 100 10-Up
32F1317	1/4"	3/8"	1/4"	2.22	1.73
32F1318	1/2"	5/8"	5/16"	2.56	2.04
32F1319	5/8"	5/8"	5/16"	3.47	2.77
32F1326	5/16"	3/8"	1/4"	2.11	1.68
32F1327	3/8"	3/4"	5/16"	3.14	2.51
32F1329	1"	1"	5/16"	7.95	6.36

RECESSED BUMPERS (STEEL WASHER INSETS) FIG. J

Stock No.	Ht.	O.D.	Hole Size	Boxes of 100 1-9	Boxes of 100 10-Up
32F1330	1/2"	5/8"	5/16"	3.71	2.96
32F1331	5/8"	5/8"	5/16"	5.07	4.09
32F1333	7/16"	3/4"	7/16"	5.82	4.66
32F1334	5/8"	13/16"	7/16"	9.90	7.92
32F1335	1/4"	1/2"	1/4"	3.07	2.45
32F1337	3/8"	3/4"	5/16"	5.00	4.00
32F1338	1"	1"	5/16"	10.25	8.20

RUBBER MACHINE SCREW BUMPERS FIG. K

Stock No..	Width	Height	Screw	Boxes of 100 1-9	Boxes of 100 10-Up
32F1339	1/2"	1/4"	8-32	4.07	3.25
32F1341	3/4"	3/8"	8-32	6.33	5.07

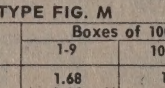
RUBBER BUTTON BUMPER FIG. L

Stock No.	O.D.	Hole Size	High	Boxes of 100 1-9	Boxes of 100 10-Up
31F2284	3/8"	3/16"	7/16"	1.81	1.44
31F2285	1/2"	1/4"	7/16"	2.70	2.16
31F2286	5/8"	3/8"	9/16"	4.34	3.47

RUBBER FEET SCREW TYPE FIG. M

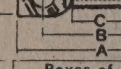
Stock No.	O.D.	Height	Boxes of 100 1-9	Boxes of 100 10-Up
31F2006	3/8"	3/16"	1.68	1.34
31F2007	1/2"	1/4"	2.23	1.78
31F2008	5/8"	5/16"	3.13	2.50
32F1345	3/4"	3/16"	3.59	2.87

SPADE BOLTS FOR MOUNTING SCREWS STEEL-NICKEL PLATED



Stock No.	Tread Size	Overall Length	Overall Width	Screw Length	Boxes of 100 1-9	Boxes of 100 10-Up
31F2121	6-32	3/4"	1/4"	11/32"	3.62	2.94
31F2122	6-32	7/8"	1/4"	13/32"	3.77	3.01
31F2123	8-32	13/32"	11/32"	7/11"	8.80	7.04

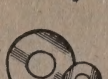
EYELETS BRASS



Stock No.	Shank Dia.	Length	Head Dia.	Boxes of 100 1-9	Boxes of 100 10-Up
31F2221	.087	1/8"	.145	.37	.29
31F2222	.087	3/32"	.145	.49	.39
31F2224	.087	11/32"	.180	1.42	1.13
31F2225	.123	5/32"	.197	.68	.55

ROUND HEAD MACHINE SCREWS & NUTS ASSORTMENT

Assorted machine screws from size 2-56 x 1/2" to 10-32 x 1". Approximate 100 screws, and 100 hex nuts. Packaged in reuseable plastic box.
32F1365. NET 1.59



FIBRE WASHER ASSORTMENT

Selection of in-demand extruded and flat fibre washers. Approximate total quantity, 200. Packaged in handy, reuseable plastic box.
32F1366. NET 1.79

SHEET METAL SCREW ASSORTMENT

Approximately 125 assorted sizes of sheet metal screws, from 4 x 3/8" x 10 x 3/4". Packaged in reuseable plastic box.
32F1367. NET 1.59

METAL WASHER ASSORTMENT

Variety of popular sizes and types—plain, lock, external lock cadmium-plated and split lock type, cadmium plated. Approximate total quantity, 250. Packaged in reuseable plastic box.
32F1368. NET 1.79

SOLDER LUG ASSORTMENT

Approximately 125 assorted sizes and styles. All popular types of solder-type spade lugs and ring tongue terminals. Packaged in reuseable plastic box.
32F1372. NET 1.89

CORD STRAIN RELIEFS

Will fit P.O.S.J. cord. Approximately 100 per package.

Stock No.	Type	1-9	10-Up
32F1346	6675-C	6.70	5.36

RUBBER GROMMETS

Stock No.	Mtg. Hole Dia.	I.D.	O.D.	Boxes of 100 1-9	Boxes of 100 10-Up
32F1347	13/64"	7/64"	11/32"	1.35	1.08
32F1348	3/16"	1/8"	11/32"	1.50	1.20
31F2000	1/4"	1/8"	11/32"	1.42	1.13
31F2001	5/16"	3/16"	7/16"	1.62	1.29
32F1349	5/16"	3/16"	1/2"	2.25	1.80
32F1350	5/16"	3/16"	1/2"	2.24	1.79
31F2282	3/8"	1/4"	1/2"	3.12	2.49
31F2002	3/8"	1/4"	9/16"	2.12	1.69
32F1353	3/8"	1/4"	5/8"	4.50	3.60
32F1354	7/16"	5/16"	5/8"	4.35	3.48
31F2004	1/2"	3/8"	5/8"	2.95	1.77
32F1356	17/32"	3/8"	5/8"	2.85	2.36
32F1357	9/16"	1/4"	3/4"	3.90	3.12
31F2082	15/32"	5/16"	3/4"	5.00	4.00
31F2081	9/16"	7/16"	3/4"	6.54	5.23
31F2003	5/8"	1/2"	13/16"	3.65	2.92
31F2080	3/4"	9/16"	7/8"	4.66	3.73
31F2283	13/16"	3/8"	11/16"	7.31	5.85
32F1360	23/32"	7/16"	11/16"	8.75	6.94
32F1361	13/16"	1/2"	11/16"	7.05	5.64
32F1362	13/16"	1/2"	11/16"	7.05	5.64
31F2083	7/8"	5/8"	11/8"	7.28	5.82
32F1363	15/16"	13/16"	11/8"	10.50	8.40
31F2084	1"	11/16"	15/16"	14.66	11.73
32F1364	13/4"	11/2"	21/8"	21.90	17.52

VINYL GROMMETS

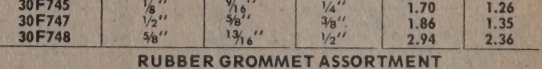
Resistant to temperature, oils, chemicals. Approximately 100 per package.

Stock No.	Chassis Hole	O.D.	I.D.	1-9	10-Up
30F743	1/4"	11/32"	1/8"	1.16	.94
30F744	5/16"	7/16"	3/16"	1.49	1.19
30F745	1/8"	9/16"	1/4"	1.70	1.26
30F747	1/2"	5/8"	3/8"	1.86	1.35
30F748	5/8"	13/16"	1/2"	2.94	2.36

RUBBER GROMMET ASSORTMENT

Approximately 50 in assorted sizes from 3/16" I.D. to 7/16". I.D. and 7/16" O.D. to 13/16" O.D. Packaged in plastic box.
32F1370 NET 1.49

FAHNSTOCK SPRING CLIPS



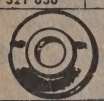
Stock No.	Fig.	Length	Width	Max. Wire	Mtg. Hole	Boxes of 100 1-9	Boxes of 100 10-Up
32F631	A	1/2"	7/32"	16 GA	4	1.91	1.53
32F632	B	3/4"	5/16"	14 GA	6	2.23	1.78
32F633	B	1"	3/8"	10 GA	8	3.82	3.05
32F634	C	11/2"	5/16"	10 GA	6	14.26	11.41
32F635	A	3/4"	5/16"	14 GA	6	6.30	5.04

Hardware

HEXAGON NUTS BRASS NOT PLATED

Stock No.	Thread	Width	Thick	Boxes of 100 1-9	Boxes of 100 10-Up
31F2214	2-56	5/16"	1/16"	1.26	1.01
31F2217	4-40	1/4"	3/32"	1.50	1.20
31F2218	6-32	1/4"	3/32"	1.49	1.19
31F207*	6-32	5/16"	7/64"	1.79	1.43
31F207.	8-32	1/4"	3/32"	1.49	1.19
31F2215	8-32	5/16"	7/64"	1.79	1.43
31F2220	10-32	3/8"	1/8"	1.96	1.57
32F636	1/4-20	7/16"	3/16"	4.18	3.34

EXTRUDED FIBRE WASHERS



Stock No.	Screw Size	I.D.	O.D.	Thick	Boxes of 100 1-9	Boxes of 100 10-Up
30F357	No. 4	1/8"	9/32"	1/16"	1.12	.90
31F2171	No. 6	9/64"	5/16"	1/16"	1.12	.90
31F2172	No. 8	11/64"	3/8"	1/16"	1.12	.90
31F2173	No. 10	13/64"	7/16"	1/16"	1.21	.97
31F2174	No. 1/4	1/4"	1/2"	1/16"	1.21	.97
31F2175	No. 3/8	3/8"	5/8"	1/16"	1.26	1.01

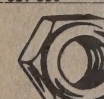
FLAT FIBRE WASHERS

Stock No.					Boxes of 100 1-9	Boxes of 100 10-Up
30F355	No. 4	.120"	1/4"	1/32"	.63	.50
31F2165	No. 6	9/64"	1/4"	1/32"	.63	.50
31F2166	No. 8	11/64"	3/8"	1/32"	.63	.50
31F2167	No. 10	.196"	3/8"	1/32"	.63	.50
31F356	No. 1/4	1/4"	1/2"	3/64"	.68	.55
31F2169	No. 3/8	25/64"	39/64"	3/64"	.99	.78

NYLON BINDING HEAD MACHINE SCREWS

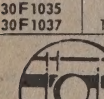
Stock No.	Screw Size	Length	Boxes of 100 1-9	Boxes of 100 10-Up
30F1001	2-56	1/4"	3.69	3.33
32F656	2-56	1/2"	3.69	3.33
30F1005	4-40	1/4"	3.69	3.33
30F1007	4-40	1/2"	3.69	3.33
32F657	4-40	3/4"	3.79	3.45
30F1009	6-32	1/4"	3.69	3.33
30F1011	6-32	3/8"	3.79	3.45
30F1013	6-32	1/2"	3.79	3.45
32F659	10-32	1/2"	3.86	3.53
32F660	10-32	1"	4.02	3.73

NYLON HEX NUTS



Stock No.	Screw Size	Width	Thick	Boxes of 100 1-9	Boxes of 100 10-Up
30F1033	2-56	3/16"	1/16"	6.13	5.71
30F1034	4-40	1/4"	3/32"	6.26	5.81
30F1035	6-32	5/16"	7/64"	6.37	5.93
30F1037	10-32	3/8"	1/8"	6.57	6.13

NYLON WASHERS



Stock No.	Screw Size	O. D.	I. D.	Boxes of 100 1-9	Boxes of 100 10-Up
30F1040	No. 4	8/32"	.050	.85	.68
30F1041	No. 6	5/16"	.050	.78	.61
30F1042	No. 8	3/8"	.050	1.17	.94
30F1043	No. 10	7/16"	.060	1.48	1.18

PLUG BUTTONS

Cover holes in metal, wood, etc. Nickel plated steel. Shpg. wt. 2 oz. *Screen Type. (Bright zinc plated)

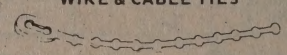
Stk. No.	Type	Type No.	Hole Dia.	1-24	25-49	50-99	100-249	250-499
29F633	41A	463 99 22 094 201	1/4"	.08	.07	.06	.05	.04
29F634	41B	463 99 22 098 201	3/8"	.08	.07	.06	.05	.04
29F635	41C	463 99 22 095 201	1/2"	.08	.07	.06	.05	.04
29F636	41D	463 99 22 097 201	5/8"	.08	.07	.06	.05	.04
29F637	41E	463 99 22 100 201	3/4"	09	.08	.07	.06	.05
29F638	41F	463 99 22 096 201	7/8"	.09	.08	.07	.06	.05
29F639	41G	463 99 22 093 201	1"	.10	.09	.08	.07	.06
29F640	41H	463 99 22 099 201	1 1/4"	.18	.16	.13	.11	.10
29F641	41V*	463 99 11 109 501	1"	.34	.25	.22	.21	.19

ADHESIVE MOUNTED LOCKING CABLE CLIP

Easily mounted, neat appearing fastening device. Exclusive patented lock/release design allows easy insertion of cable and positive holding action. Long aging adhesive backing on clip holds to almost any clean surface. Average pull-off strength of 12 pounds. High-impact, stable PVC temp. range —20° to +180°F.

Stock No.	I.D.	Width	Length	Boxes of 100 1-9	Boxes of 100 10-Up
32F682	3/4"	1.5"	1.5"	33.53	26.83
32F683	5/8"	1.25"	1.25"	23.30	18.65
32F684	1/2"	1"	1.25"	18.01	14.41
32F685	3/8"	1"	1"	15.63	12.51
32F686	1/4"	1"	1"	13.42	10.74
32F687	3/16	1"	3/4"	12.29	9.84
32F688	3/8"	1/2"	1"	11.00	8.80
32F689	1/4"	1/2"	1"	9.30	7.45
32F690	3/16"	1/2"	3/4"	8.47	6.77

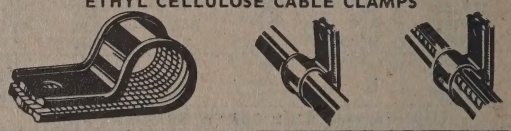
WIRE & CABLE TIES



Efficient, cost cutting and unique meinod of binding together loose wire and cable. Unique beaded design provides a positive fastening action yet allows release should it become necessary to add or remove wire or cable. Plastic (*nylon).

Stock No.	Fig.	Length	Color	Boxes of 100 1-9	Boxes of 100 10-Up
32F691	A	4 1/4"	Green	1.51	1.22
32F692	A	4 1/4"	Red	1.51	1.22
32F1250	A	4 1/4"	Yellow	1.51	1.22
32F1251	A	4 1/4"	Blue	1.51	1.22
32F1252	A	8"	Green	2.49	2.00
32F1253	A	8"	Red	2.49	2.00
32F1254	A	8"	Yellow	2.49	2.00
32F1255	A	8"	Blue	2.49	2.00
32F1256	A	10"	Red	2.95	2.38
32F1257	A	10"	Yellow	2.95	2.38
32F1258	A	10"	Blue	2.95	2.38
32F1267*	A	4 1/4"	White	2.05	1.64
32F1268	A	10"	White	4.65	3.72

ETHYL CELLULOSE CABLE CLAMPS

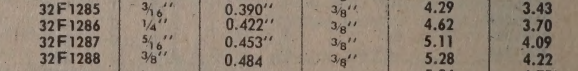


Stock No.	I.D.	Length	Width	Boxes of 100 1-9	Boxes of 100 10-Up
32F1269	1/8"	0.328"	1/2"	2.56	2.18
32F1270	3/16"	0.390"	1/2"	2.64	2.19
32F1271	1/4"	0.421"	1/2"	2.83	2.42
32F1272	5/16"	0.453"	1/2"	3.13	2.67
32F1273	3/8"	0.483"	1/2"	3.30	2.81
32F1274	7/16"	0.531"	1/2"	3.63	3.06
32F1275	1/2"	0.562"	1/2"	3.96	3.26
32F1277	5/8"	0.610"	1/2"	4.95	3.96
32F1279	3/4"	0.765"	1/2"	5.61	4.49
32F1280	7/8"	0.812"	1/2"	5.94	4.75
32F1281	1"	0.906"	1/2"	6.27	5.02

NYLON (DU-PONT) CABLE CLAMPS

32F1284	1/8"	0.328"	3/8"	3.96	3.17
32F1285	3/16"	0.390"	3/8"	4.29	3.43
32F1286	1/4"	0.422"	3/8"	4.62	3.70
32F1287	5/16"	0.453"	3/8"	5.11	4.09
32F1288	3/8"	0.484	3/8"	5.28	4.22
32F1290	1/2"	0.562"	3/8"	5.94	4.75
32F1291	9/16"	0.625"	1/2"	7.26	5.81
32F1292	5/8"	0.610"	1/2"	7.92	6.34
32F1294	3/4"	0.765"	1/2"	8.91	7.13
32F1295	7/8"	0.812"	1/2"	9.57	7.66
32F1296	1"	0.906"	1/2"	11.22	8.98
32F1297	1 1/8"	0.968"	1/2"	13.20	96.00
32F1298	1 1/4"	1.060"	1/2"	15.18	110.40

CABLE CLAMPS



Stk. No.	Type	Type No.	Dia. of Arc	1-24	25-49	50-99	100-249	250-499
29F627	85A	1065P24	1/8"	.12	.10	.09	.07	.06
29F628	85B	1051P24	5/16"	.12	.10	.09	.07	.06
29F629	85C	854P24	5/16"	.12	.10	.09	.07	.06
29F630	85D	8339P27	5/16"	.12	.10	.09	.07	.06
29F631	85E	8522P24	1/2"	.12	.10	.09	.07	.06
29F632	85F	292LP24	5/8"	.12	.10	.09	.07	.06

Hardware

EXTERNAL LOCK WASHER CADMIUM PLATED STEEL

Stock No.	Screw Size	Boxes of 100 1-9	Boxes of 100 10-Up
30F644	No. 4	.56	.45
30F646	No. 6	.56	.45
30F648	No. 8	.61	.49
30F648	No. 10	.61	.49
30F650	No. 1/4	.81	.64

TINNERMAN SPEED NUTS

31F2116	No. 6	1.00	.80
32F609	No. 8	1.00	.80

KNURLED THUMB NUTS BRASS-NICKEL PLATED

31F2180	6-32	2.89	2.31
31F2181	8-32	2.89	2.31

ACORN NUTS SOLID METAL-NICKEL PLATED

31F2102	6-32	3.52	2.31
31F2103	8-32	3.73	2.98
31F087	10-32	4.76	.81

CONTROL AND SWITCH MOUNTING NUTS STEEL-NICKEL PLATED

Stock No.	Thread Size	Width	Thick	Boxes of 100 1-9	Boxes of 100 10-Up
32F608	3/8-32	9/16"	3/32"	1.87	1.50
31F2113	15/32-32	9/16"	5/64"	2.28	1.83
31F2114	15/32-32	19/32"	7/16"	4.41	3.53
31F2112	3/8-32	1/2"	3/32"	2.80	2.24

C-WASHER AND RETAINING RINGS CADMIUM PLATED STEEL

Stock No.	Shaft Dia.	Boxes of 100 1-9	Boxes of 100 10-Up
31F2145	3/16"	1.21	.97
32F610	1/4"	1.40	1.12

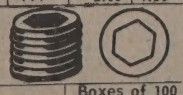
FLAT METAL WASHER NICKEL PLATED STEEL

Stock No.	Screw Size	O.D.	Boxes of 100 1-9	Boxes of 100 10-Up
31F2138	No. 4	9/32"	.58	.46
31F2139	No. 6	3/8"	.58	.46
31F2140	No. 8	7/16"	.63	.50
31F2141	No. 10	1/2"	.63	.50
32F612	No. 1/4	5/8"	.87	.70
30F094	No. 1/4	1/2"	.79	.63

INTERNAL LOCKWASHERS CADMIUM PLATED STEEL

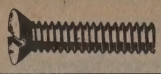
Stock No.	Screw Size	O.D.	Mat. Thk.	Boxes of 100 1-9	Boxes of 100 10-Up
31F2243	2	...	.013	.91	.73
31F2245	4	...	.015	.58	.46
31F2246	6	9/32"	.018	.56	.45
31F2247	8	21/64"	.020	.61	.49
31F2248	10	3/8"	.022	.61	.49
31F2249	1/4	15/32"	.025	.81	.64
31F2251	3/8	11/16"	.035	1.21	.97
31F2252	3/8	9/16"	...	1.60	1.27
31F2253	15/32	19/32"	...	2.00	1.60

ALLEN HEX SET SCREWS HARDENED STEEL-HEADLESS



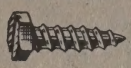
Stock No.	Screw Size	Length	Boxes of 100 1-9	Boxes of 100 10-Up
32F651	4-40	1/4"	6.38	6.11
22F652	6-32	1/8"	6.27	5.01
32F655	8-32	3/16"	6.27	5.01

FLAT HEAD RACK AND CABINET SCREWS



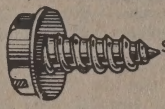
Stock No.	Screw Size	Length	Boxes of 100 1-9	Boxes of 100 10-Up
31F2176	6-32	1/2"	.79	.63
31F2177	6-32	3/4"	.92	.74
31F2066	8-32	5/8"	1.21	.97
31F2178	8-32	3/4"	1.19	.97
31F2313	10-32	1/2"	1.21	.97
31F2067	10-32	5/8"	1.56	1.25
31F2179	10-32	3/4"	1.42	1.13

SHEET METAL SCREWS SLOTTED HEX HEAD SELF-TAPPING NICKEL PLATED



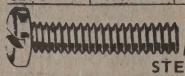
Stock No.	Screw Size	Length	Boxes of 100 1-9	Boxes of 100 10-Up
30F092	No. 4	3/8"	.99	.78
31F2124	No. 4	1/2"	1.07	.85
31F2125	No. 6	1/4"	1.12	.90
31F2126	No. 6	3/8"	1.14	.91
31F2127	No. 6	1/2"	1.21	.97
31F2128	No. 6	3/4"	1.30	1.04
31F2129	No. 8	3/8"	1.34	1.08
31F2130	No. 8	1/2"	1.39	1.11
31F2132	No. 10	1/2"	1.65	1.32
31F2133	No. 10	3/4"	1.79	1.43

WASHER HEAD SHEET METAL SCREWS CADMIUM PLATED



32F613	No. 6	3/8"	1.50	1.20
32F614	No. 8	3/4"	1.50	1.20
32F615	No. 8	1/2"	1.39	1.11

BINDING HEAD MACHINE SCREWS STEEL-NICKEL PLATED



30F695	2-56	1/4"	.65	.52
30F696	2-56	1/2"	.80	.64
32F618	4-36	1/2"	.79	.63
30F698	4-40	1/4"	.67	.53
30F699	4-40	1/2"	.70	.56
30F700	4-40	3/4"	.83	.66
31F2196	6-32	3/16"	.71	.57
31F2197	6-32	1/4"	.68	.55
31F2198	6-32	3/8"	.74	.59
30F701	6-32	1/2"	.79	.63
30F703	6-32	3/4"	.92	.74
30F704	8-32	1/4"	.91	.73
31F2201	8-32	5/16"	1.00	.80
30F705	8-32	3/8"	1.00	.80
30F706	8-32	1/2"	1.07	.85
30F707	8-32	3/4"	1.19	.95
30F708	10-32	1/2"	1.21	.97
30F709	10-32	3/4"	1.50	1.20

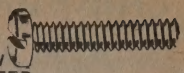
CUP FINISHING WASHERS NICKEL-PLATED

Stock No.	Screw Size	O.D.	Boxes of 100 1-9	Boxes of 100 10-Up
31F2142	No. 6	7/16"	.60	.48
31F2143	No. 8	1/2"	.63	.50
31F2144	No. 10	9/16"	.71	.57

HEXAGON NUTS STEEL-NICKEL PLATED

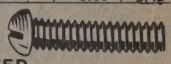
Stock No.	Thread Size	Width	Thick	Boxes of 100 1-9	Boxes of 100 10-Up
31F2207	2-56	5/16"	7/64"	.87	.70
31F2208	3-48	5/16"	1/16"	.87	.70
31F2105	4-36	1/4"	3/32"	.87	.70
31F2106	4-40	1/4"	3/32"	.87	.70
31F2107	6-32	1/4"	3/32"	.87	.70
31F2209	6-32	5/16"	7/64"	.95	.76
31F2108	8-32	1/4"	3/32"	.87	.70
31F2210	8-32	5/16"	7/64"	.95	.76
31F2200	10-32	5/16"	7/64	1.23	.98
32F644	8-32	11/32"	1/8	.92	.74
31F2211	1/4-20	7/16"	3/16"	1.55	1.25

BINDING HEAD MACHINE SCREW BRASS-NICKEL PLATED



Stock No.	Screw Size	Length	Boxes of 100 1-9	Boxes of 100 10-Up
30F090	4-40	1/2"	1.45	1.16
30F091	4-40	3/4"	1.70	1.36
30F710	6-32	1/4"	1.39	1.11
30F711	6-32	3/8"	1.49	1.19
30F712	6-32	1/2"	1.68	1.34
30F713	6-32	3/4"	2.03	1.62
30F715	8-32	3/8"	2.15	1.72
30F716	8-32	1/2"	2.47	1.97
30F717	8-32	3/4"	3.03	2.42

ROUND HEAD MACHINE SCREW STEEL-NICKEL PLATED

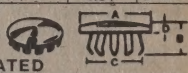


31F2189	2-56	1/2"	.75	.59
31F2190	2-56	3/4"	.96	.77
31F2086	4-40	1/4"	.79	.63
30F082	4-40	3/8"	.63	.50
31F2087	4-40	1/2"	.70	.56
31F2034	4-40	5/8"	.74	.59
31F2088	4-40	3/4"	.83	.66
31F2091	6-32	1/4"	.68	.55
30F083	6-32	3/8"	.68	.55
31F2092	6-32	1/2"	.79	.63
31F2035	6-32	5/8"	.87	.70
31F2093	6-32	3/4"	.92	.74
31F2094	6-32	1"	1.07	.85
31F2192	6-32	1 1/4"	1.30	1.04
31F2195	6-32	2"	1.93	1.54
32F627	8-32	1/4"	.91	.73
31F2096	8-32	3/8"	1.00	.80
31F2097	8-32	1/2"	1.07	.85
31F2098	8-32	3/4"	1.19	.95
31F2099	8-32	1"	1.37	1.09
31F2193	8-32	1 1/4"	1.58	.97
31F2100	10-32	1/2"	1.21	1.26
30F2084	10-32	3/4"	1.46	1.16
31F2101	10-32	1"	1.60	1.27
31F2194	10-32	1 1/2"	2.12	1.69

ROUND HEAD MACHINE SCREW BRASS-NOT PLATED

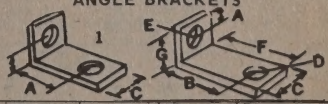
31F2042	3-48	3/4"	1.34	1.08
31F2050	4-40	3/4"	1.65	1.32
31F2053	6-32	1 1/4"	2.80	2.24
30F087	8-32	3/8"	2.15	1.72
31F2302	8-32	1/2"	2.47	1.97
31F2303	8-32	3/4"	3.03	2.42
31F2304	8-32	1"	3.60	2.88
31F2057	8-32	1 1/4"	4.22	3.37
31F2061	10-32	1"	4.54	3.63

SNAP BUTTON HOLE PLUGS STEEL-NICKEL PLATED



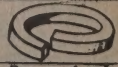
Stock No.	Hole Size	Boxes of 100 1-9	Boxes of 100 10-Up
31F085	1/4"	2.84	2.27
32F646	5/16"	3.05	2.44
31F2015	3/8"	3.22	2.58
31F2016	1/2"	3.91	3.12
31F2017	5/8"	4.20	3.36
31F2018	3/4"	4.23	3.39
32F648	7/8"	5.88	4.70
32F649	1 1/8"	7.52	6.02
32F650	1 1/4"	8.20	6.56
31F086	1"	5.63	4.51

ANGLE BRACKETS



Stock No.	Mfg.	Center Bend	Boxes of 100 1-9	Boxes of 100 10-Up
31F2152	1/4"	3/16"	1.42	1.13
31F2153	3/8"	1/4"	1.77	1.41
31F2154	1/2"	7/16"	2.00	1.60

SPLIT TYPE LOCK WASHER CADMIUM PLATED STEEL



Stock No.	Screw Size	Boxes of 100 1-9	Boxes of 100 10-Up
31F2160	No. 4	.74	.59
31F2161	No. 6	.60	.48
31F2162	No. 8	.60	.48
31F2163	No. 10	.68	.55

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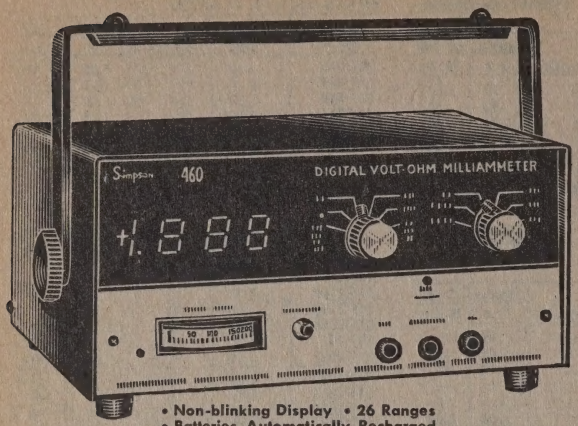
Simpson Digital Volt-Ohm-Milliammeters

MODEL 460 PORTABLE VOM



- **Non-blinking Display**
- **26 Ranges**
- **Batteries Automatically Recharged**

Accurate, compact, lightweight, multi-use Digital VOM for lab, field, general testing. Self-contained battery or line operation. 3½" display. Plus, minus, and overrange. Analog readout shows peaks or nulls at a glance. Analog to digital converter uses dual slope technique.

62F2249. 460. Less batteries. **NET** **375.00**
62F1435. As above with BCD output. **NET** **450.00**
62F1436. 01614. Vinyl Carrying Case. **NET** **19.50**

SPECIFICATIONS

Accuracy: (+10° to 40°C) DC Volt: ±0.1% of rdg. AC Volt: ±0.5% of rdg., 40 HZ-10kHz; ±1.0% of rdg., 10 kHz-20 kHz. DC Current: ±0.2% of rdg. exc. 1000 MA range. ±0.5%. AC Current: ±0.7% of rdg., exc. 1000 MA range, ±1.0%. All ±1 digit.
Resistance: ±0.5% of rdg. ±1 digit exc. 20M ohm range which is ±1% of rdg. ±1 digit.
Resolution: AC, DC Voltage, 100 μV. AC, DC Current, 100 nano-amps. Resistance, 0.1 ohms.
Overrange Capability: Linear to 150% overrange. (Based on indication of 1000, exc. for highest AC, DC voltage ranges.
NMR: 35 dB min with 1 K unbalanced at 60 Hz.
CMR: 80 dB min. with 1 K unbalanced at 60 Hz. In battery operation and not charging the CMR is extended.
DC Polarity Selection: Auto, "+" or "−" indication.
Numeric Display: non-blinking with storage. Conversion rate, 5 per sec. Overrange Indicator: Auto beyond 1999 counts.
Analog Display: 1½" edgewise meter.
Power Requirements: Input: 115 VAC ±10%, 50-60-400 Hz. 10 VA Nominal—AC only. 15 VA Nominal—Batt. charging, unit on. 7 VA Nominal—Batt. charging, unit off. Batt. Oper: 4 nickel cadmium "D" size rechargeable 1.25 V, 4 amp-Hrs. (Batt. not supplied). Oper. time with fully charged batt., constant use, 7 hrs. Recharge Time: 15 hrs. nominal. Can be operated with batt. charging.
Oper. Temp: 0° to +55°C. Ref: 25°C, 1°C; 50% R.H.
Weight: with Batt. 6 Lbs., 8 oz. Without batt. 6 lbs., 4 oz.
Size: 4¼"h x 8½"w x 7⅛" d.
Suggested Batteries: Eveready CHA, Burgess, CD10 or equiv.

DC VOLTS

Range	Max. Ind.	Input Imp.	Load Prot.
200 mV	199.9 mV	≧100 MΩ	350 V
2 V	1.999 V	≧1000 MΩ	350 V
20 V	19.99 V	10 MΩ	1000 V
200 V	199.9 V	10 MΩ	1000 V
1000 V	1000 V	10 MΩ	1000 V

AC VOLTS

Range	Max. Ind.	Input Imp.	Load Prot.
200 mV	199.9 mV	1 MΩ 150 pF	250 V
2 V	1.999 V	1 MΩ 150 pF	250 V
20 V	19.99 V	1 MΩ 150 pF	600 V
200 V	199.9 V	1 MΩ 150 pF	600 V
1000 V	600 V	1 MΩ 150 pF	600 V

RESISTANCE

Range	Maximum Indication	Test Current	Overload Protection
200 ohms	199.9 ohms	1 mA	250 V RMS
2 K ohm	1.999 K ohm	100 μA	250 V RMS
20 K ohm	19.99 K ohm	10 μA	250 V RMS
200 K ohm	199.9 K ohm	10 μA	250 V RMS
1000 K ohm	1999 K ohm	1 μA	250 V RMS
20 M ohm	19.99 K ohm	100 nano A	250 V RMS

DC CURRENT

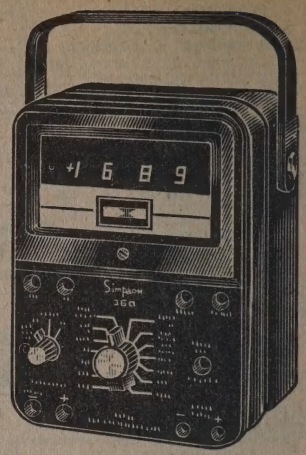
Range	Max. Ind.	Volt. Drop	Load Prot.
200 μA	199.9 μA	100 mV	3 A
2 mA	1.999 mA	100 mV	3 A
20 mA	19.99 μA	100 mV	3 A
200 mA	199.9 mA	100 mV	3 A
1000 mA	1999 mA	100 mV	3 A

AC Current

Range	Max. Ind.	Volt. Drop	Load Prot.
200 μA	199.9 μA	100 mV	3 A
2 mA	1.999 mA	100 mV	3 A
20 mA	19.99 mA	100 mV	3 A
200 mA	199.9 mA	100 mV	3 A
1000 mA	1999 mA	100 mV	3 A

NEW!

PORTABLE DIGITAL 360 VOM



- **29 Ranges Incl. 'Low Power' Ohms**
- **Analog Indicator for Scanning Nulls, Peaks**
- **Solid State IC Design**

3½ digit, non-blinking, auto polarity, 0.33" LED display. Measures AC, DC Voltage, Current and conventional or "low power" resistance. Analog indicator. Analog output signal for interfacing. Low power dissipation. Up-down analog/digital conversion assures superior stability, accuracy and noise immunity. Excellent temperature characteristics and exceptional overrange capability.

62F260. 360. With leads, line cord, manual. **NET** **275.00**
62F1437. 00815. Carrying Case. **NET** **19.50**

SPECIFICATIONS

Maximum Common Mode Voltage: 600V (DC plus peak AC) from "COMMON" terminal to third wire power line ground terminal.
Display: Conversion Rate: 5 rdgs. per sec., nominal. Overrange Indication: Auto beyond 1999, with lower half of the "1" digit flashing. DC Polarity Selection: Auto with + or − indication. Analog Display: 50-0-50 μA moving coil indicator.
Analog Output: Level: 1 VDC with rdg. of 1000. Output Res: 100 ohms, nominal. Accuracy: ± (accuracy of range +2% of meter FS).
Reference Conditions: Temperature: +25°C, 1°C. Relative Humidity: 30 to 60%. Atmospheric Pressure: 575 to 800 mHg.
Power Requirements: 117 or 234 VAC 10%, 50-400 Hz. 4 nickel cadmium C rechargeable cells (not supplied). GE Cat. No. GC T1.5SB or equiv. each cell 1.25V, 1.5 Amp hrs. Operation Time: 5 hrs. nominal, Batt. fully charged. Recharge Time: 16 hrs. nominal with switch in Batt. Charge Only position. 30 hrs. nominal while instrument is operating.
Temp. Range: Operating: 0° to +50°C. Storage: −40° to +60°C.
Weight: 4.5 lbs. with batt. 4.0 lbs. without batt.
Size: 7.2"h x 5.4"w x 3.75" d. (not incl. panel controls).

DC VOLTS

Range	Max. Ind.	Input Imp.	Load Prot.
200 mV	199.9 mV	≧100MΩ	350 V
2 V	1.999 V	≧1000MΩ	350 V
20 V	19.99 V	10MΩ	1100 V
200 V	199.9 V	10MΩ	1100 V
1000 V	1100	10MΩ	1100 V

AC VOLTS

Range	Max. Ind.	Input Imp.	Load Prot.
200 mV	199.9 mV	1MΩ, 150 pf	350 V
2 V	1.999 V	1MΩ, 150 pf	350 V
20 V	19.99 V	1MΩ, 150 pf	600 V
200 V	199.9 V	1MΩ, 150 pf	600 V
600 V	600 V	1MΩ, 150 pf	600 V

RESISTANCE

Range	Maximum Indication	Test Current	Full Scale Voltage	Max. Open Circuit Voltage	Overload Protection
200	199.9	420 μA	100 mV	150 mV	250V RMS
2K	1.999K	42 μA	100 mV	150 mV	250V RMS
20K	19.99K	10 μA	200 mV	10 V	250V RMS
200K	199.9K	10 μA	2 V	10 V	250V RMS
2M	1.999M	1 μA	2 V	10 V	250V RMS
20M	19.99M	100 nA	2 V	10 V	250V RMS

DC CURRENT

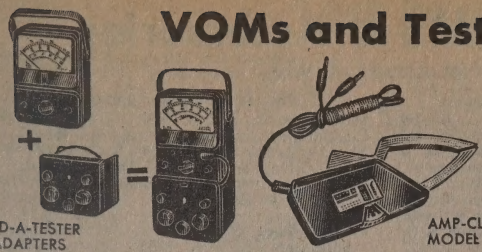
Range	Max. Ind.	Volt. Drop.	Load Prot.
20 μA	19.99 μA	200 mV	3 mA
200 μA	199.9 μA	200 mV	25 mA
2 mA	1.999 mA	200 mV	½ A
20 mA	19.99 mA	200 mV	½ A
200 mA	199.9 mA	200 mV	½ A
2 A	1.999 A	200 mV	3 A
10 A	10.00 A	100 mV	10 A

AC CURRENT

Range	Max. Ind.	Volt. Drop	Load Prot.
200 μA	199.9 μA	200 mV	25 mA
2 mA	1.999 mA	200 mV	½ A
20 mA	19.99 mA	200 mV	½ A
200 mA	199.9 mA	200 mV	½ A
2 A	1.999 A	200 mV	3 A
10 A	10.000 A	100 mV	10 A

VOMs and Test Equipment

Simpson



OVERLOAD PROTECTED TAUT BAND

Model 260-6P. Incorporates electronic circuit protection which senses overload conditions and trips a protective relay. Entire tester is protected providing extra measure of protection for experienced personnel exploring unfamiliar equipment. It can't be reset, even momentarily, until the overload has been removed. Has many deluxe quality features including polarity reversal switch and self-shielded meter movement. A "must" for labs, schools, shops or wherever mortality rate of VOM's is apt to be high. Size: 5¼x7x3⅛". Wt. 6 lbs.
62F1191. NET **102.00**
Model 260-6PRT. As above but with roll top case.
62F2370. NET **110.00**

INCREASED ACCURACY VOM

Model 270-4. .30-range multi-scale instrument. Includes all the fine features and specifications of 260, plus a mirrored scale, knife edge pointer and printed circuit, thereby offering high accuracy necessary for many production and laboratory applications. Has an easy-to-read 4½" meter at top of front panel. 3 operating controls and 8 circuit jacks are located directly below the meter. Accuracy is to ±1.25% DC, ±2% AC, ±1.5° of arc on R x 1, ±1° of arc on R x 100 and R x 10k. Variable resistance to ohmmeter circuit is used to compensate for aging of internal batteries. With batteries, test leads and manual. Size: 5¼x7x3⅛". Shpg. wt. 6 lbs.
62F380. NET **82.50**
Model 261. As above but accuracy achieved is ±1.5% DC, ±3% AC, ±2° of arc on R x 1, ±1.5° of arc on R x 100 and R x 10k ohms.
62F309. NET **78.00**

255 VOM WITH TEMPERATURE SCALE

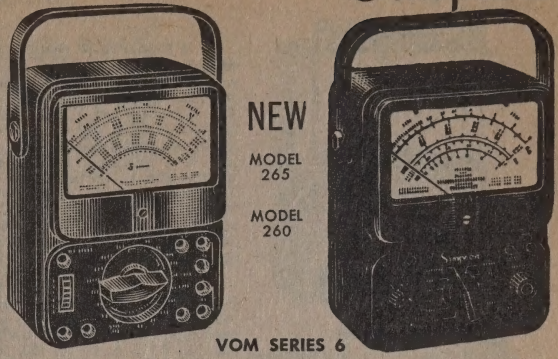
Designed to meet the specific needs of servicemen in the gas appliance, electrical heating, and appliance fields. This tester includes the VOM functions of the popular model 260, as well as providing a temperature measurement range of +100 to +1050°F. Has low millivolt drop on the DC ranges; ideal for checking transistorized solid-state equipment. Diode-protected taut-band movement. Complete with test leads with probes, 5 ft. thermocouple lead and operator's manual. Size: 5¼x7x3⅛". Shipping weight 6 lbs.
62F1693. NET **90.00**

ADD-A-TESTER ADAPTORS

Stk. No.	Type	Description & Range	Accuracy	Net
62F382	650	Transistor Tester. Beta: 0-5, 50, 250. Ico: 0-100 μA	Beta: ±5% Ico: ±3%	44.00
62F383	651	DC VTVM. Volts: 0-0.5, 1.0, 10, 25, 50, 100, 250, 500. Input Imp. 10 megohms.	±3% F.S.	52.00
62F384	652	Temp. Tester. −50°F to 100°F, 100°F to 250°F. Sensing Element: Thermistor included	±2°F from −30° to −220°F. ±4°F over remainder of range	49.00
62F385	653	AC Ammeter. 0-0.25, 1.0, 2.5, 12.5, 25 Amps. Freq: 50-3000 cycles.	±3% F.S.	30.00
62F386	654	Audio Wattmeter. Load Ranges: 4, 8, 16, 600 ohms. Wattage: 25 W (8,600), 50 W (4,16) continuous. Intermittent duty: 50 and 100 W.	±10% (±7% with 261 and 270).	34.00
62F2371	655	Microvolt Atten. 2.5 to 250,000 V. Freq: DC to 20 kc.	±1 dB	30.00
62F2372	656	Battery Tester. Up to 90 V.	±3% F.S.	30.00
62F393	657	Milliohmmeter. 0-0.1 (150 Ma. max. output), 0.25 (103 Ma.), 0.5 (90 Ma.), 1.0 (80 Ma.)	±2% F.S. (±1½ % with 261 and 270).	54.00
62F1194	661	DC Ammeter. DC Amperes: 0-10, 2.5, 5, 10, 25.	±2% F.S. (±1½ % with 261 and 270).	33.00

AMP-CLAMP

Model 150. Greatly increases range and versatility of 250, 255, 260, 261 and 270 series vom's; also can be used with any VOM having a 2.5 or 3-volt AC scale. Measures 0-250 A on 2.5V scale; 0-300 A on 3V scale. Accuracy is ±3% of full scale. 7x3x1".
62F2377. NET **25.00**



VOM SERIES 6

Model 260. Volt-Ohm-Milliammeter. External access battery and fuse department. Handier, more sensitive, more accurate. Polarity Reversing Switch for faster, easier DC measurements. Full Wave Bridge Rectifier System gives more accurate VAC measurements. Easy access to all components. Ranges—VDC (20,000 ohms-per-volt); 0-250 MV, 0-1 0-2.5 V, 0-10V, 0-50V, 0-250V, 0-500V, 0-1000V, VAC (5000 ohms-per-volt); 0-2.5V, 0-10V, 0-50V, 0-250V, 0-500V, 0-1000V; VAF (0.1 uf internal series capacitor): 0-2.5V, 0-10V, 0-50V, 0-250V; DB Vol. (0 DB to 1 MW across 600-ohm line): −20 to +10DB, −8 to +22DB, +6 to +36DB, +20 to +50 DB; DC Resistance: 0-2000 ohms (12 ohms center), +2000,000 ohms (1200 ohms center); Direct Current: 0-50 ua, 0-1 MA, 0-10 MA, 0-100 MA, 0-500 MA, 0-10 amp. Size: 5¼"x7"x3⅛". 6 lbs. with Leads.
62F300. NET **70.00**
62F305. 260 Series 6 M. As above but mirror scale. **NET** **73.00**
Model 260-6MRT. As above but with roll-top case and mirrored scale.
62F2269. NET **78.50**

ROLL-TOP SIMPSON 260-RT

Lightweight, carry-anywhere unit, same as Model 260 above, but has bakelite roll-top cover and convenient test-lead compartment. Shipping weight 6 lbs. Note: "Add-A-Tester" adapters (listed below) cannot be used with the roll top model.
62F303. NET **76.50**

LOW MILLIVOLT DROP VOM

Model 250. Contains all of the built-in features of Simpson's well-known model 260. Has provision for using the entire line of "add-a-tester" adapters high voltage probes, and other 260 series accessories. Ranges: DC volts: 0-50, 0-2050 mv; 0-2.5, 10, 250, 500, 1000 volts at 20k-ohms/v.; AC volts 0-2.5, 10-50, 250, 500, 1000 volts at 5,000 ohms/v. DC microamperes: 0-50 (with both 50 and 250 mv drop); DC ma.: 0-1, 10, 100, 500 (50 mv drop); DC amps: 0-10 (50 mv drop). AC volts: 0-2.5, 10, 50, 250, 500, 1000. DB (1 mw into 600 ohms ref. level): −20 to +10; −8 +50. Resistance: 0-2K, 200K, 20 meg-to-±22; ±6 to ±36; ±20 to ohms. Self-shielding, diode-protected, taut-band movement. Size: 5¼x7x3⅛". Wt. 6 lbs.
62F1692. NET **75.00**

• NEW INDUSTRIAL VOM

Model 265. Voltage—DC: 0.3V; AC and DC: 3, 12, 60, 300 and 600V. Accuracy: 2% and 3% of full scale for DC and AC respy. Sensitivity; 2000 and 5000 ohms/volt for DC and AC respy. Measures DC and AC current. Ranges up to 12 amps.
62F261. NET **105.00**

HIGH VOLTAGE PROBES

Stk. No.	Type	For Model	Description	Net
62F2832	00505	270-4	5 KV AC	4.50
62F2833	00506	260-6, 6M, 6P	5 KV DC	4.50
62F1727	00507	250, 255, 260 series	10 KV DC	19.00
62F346	00508	3, 4, 4M, 5, 5M, 5P, 6, 6M	25 KV DC	19.00
62F1729	00509	6P, 261, 267, 270 series	30 KV DC	19.00
62F2375	00161	2, 3, 4	10 KV AC	19.00

TEST LEADS

62F370	07500	260, 261, 262	Alligator Clip	3.25
62F325	07538	260, 261, 262	Leads	3.75
62F2834	00115	270	Combination probe	4.00
62F2376	00163	255	Thermocouple	7.00

CARRYING CASES

62F302	0805	250, 260, 261, 265, 270	Vinyl	17.50
62F301	1818	250, 260, 261, 265, 270	Leather	14.50
62F1697	0549	255	Utility	20.00
62F1737	0249	260-3-4-5, 5P, 261, 265, 270	Roll top	13.00

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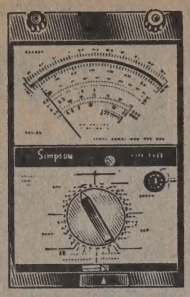
Simpson VTVM, FET VOMS & Accessories



2795

2795 SOLID STATE FET VOM

• Features 68 switch-selected ranges • Ideal for transistor applications

Model 2795. Features complete overload protection, 10 Megohm input impedance (on AC&DC ranges above 10 volts). Measures AC & DC current from 1 microampere (full scale). Measures AC & DC voltage from 1 millivolt full scale. Measures capacitance from 0.5 nf to 2000 μF in 6 ranges. Taut band suspension with mirror scale. Temperature compensated with 1.0% accuracy both AC and DC. Ranges: AC/DC Voltage: 0-1, 3, 10, 30, 100, 300 mV; 0-1, 3, 10, 30, 100, 300, 1000 Volts. AD/DC Current; 0-1, 3, 10, 30, 100,300 uA; 0-1, 3, 10, 30, mA; 0-0.1, 0.3, 1, 3, Amperes. Resistance: Rx (10 ohms at center scale), Rx10, Rx100, Rx1k, Rx10k, Rx100k. Capacitance: (mid scale values) 100, 10, uF: 100, 10, 1nF. Temperature: ±18° C from ambient, ±180° C from ambient; 1C Thermocouple type input. Test leads and manual included. Size: 8.53"x5.04"x3.49". Shpg. wt. 4.2 pounds.

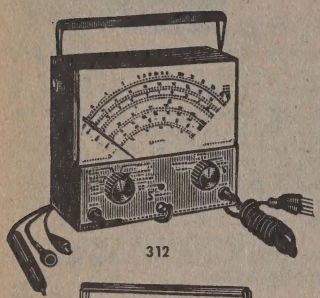
62F2381. Model 2795. Solid state FET VOM **NET** **250.00**

62F2382. Type 22923, Surface probe. **NET** .28.50

62F2383 Type 22924, Immersion probe. **NET** .28.50

62F2384. Type 22927. Carrying case. **NET** .21.50

62F2386 Type 22929 HF Probe. **NET** 75.00

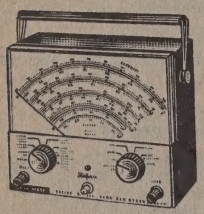


312

312 EXTRA HIGH IMPEDANCE WIDE SCALE VTVM

Higher input impedance means 40% less circuit loading and correspondingly greater accuracy in readings. Has 500 mv scale. Voltage ranges DC-0-500 mv, 0-1.5; 5, 15, 50, 150, 500. 1500 volts at 16 megohms input resistance; AC RMS; 0-1.5, 5, 15, 50, 150, 500, 1500 volts. 1 meg minimum input impedance; peak-to-peak; 0-4, 14, 40, 400, 1400, 4000 volts. Resistance ranges: R x 1, 10, x 100, x 100, x 1K, x 100K, x 1 meg. 10 ohms center scale. Accuracies are ±3% of full-scale value on all voltage ranges, ±3% arc on resistance. Frequency response is flat ±3% from 51 cps to 3 megacycles on AC voltage ranges through 150 volts; with special RF probe, range can be extended to 250 mc. Operates from 105/125 VAC, 50/60 cycles. Complete with No. 0150 AC,, /ohms/DC probe and operator's manual. Size: 7¾x6¾x3⅜". Wt. 4¾ lbs.

62F1688. NET **99.50**

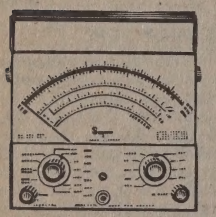


313

MODEL 313 SOLID STATE FET VOM

Model 313. Has input impedance of a VTVM combined with convenience features of a battery operated VOM. So stable, rarely necessary to touch the zero or ohms adjustment knob. Saves time of calibration after each range change. FET input handles large overloads without damage and the taut-band meter movement is varsitor protected from even 200, 000% overloads. The 313 uses just 1 9-volt transistor radio battery for over 300 hours of operation. A switch allows the battery condition to be checked constantly, and a "power on" indicator is provided. Large 7 inch scale designed for fast accurate readouts. Ranges: AC and DC volts: 0-0.3-10-100-300-1000. DC milliamps: 0.01-1-10-100-1000. Resistance: Rx 1, x10, x100, x1k, x10k, x100k, x1Meg, 10 ohm center scale. Accuracy: 3% of full scale on both AC and DC. Input impedance: 11 megohms 10 Meg.ΩAC. Supplied with leads, isolating probe, battery, and manual. Sizes: 7¾" x 6¾" x 3¾". Shipping weight: 5 lb.

62F2273. NET **130.00**

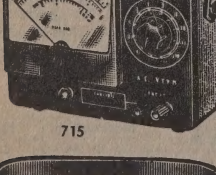


314

MODEL 314 SOLID STATE FET VOM

Model 314. Designed for modern circuit designer and trouble shooter. Measures very low AC and DC voltage levels and low power ohmmeter circuits without burning out transistors of IC's. Measures ranges down to 10 microamps DC and AC. 10 megohm input impedance on all voltage ranges with large, easy-to-read 7" meter face. 70 microwatts on low power ohmmeter range; Frequency range from 30 Hz to 100K. Accuracy ±2% DC, ±3% AC overload of 300 VDC on 50MV and 100M ranges: 1200 VDC on 300MV range and higher. DC voltage ranges: 0-0.05, 0.1, 0.3, 1, 3, 10, 30, 100, 300, 1000; AC ranges: 0-0.01, 0.03, 0.1, 0.3, 1, 3, 10, 30, 100, 300, 1000. AC/DC milliamperes: 0-0.010, 0.1, 1, 10, 100, 1000, Resistance: RX1 (10 ohm center), RX10, RX100, RX1K, RX10K, RX100K, RX1M. db: -40 to +60 Db. Size: 7¾" x6¾" x 3¾". Shpg. Wt. 4.6 pounds.

62F2380. NET **199.00**

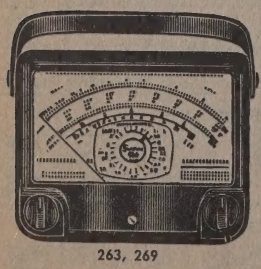


715

HIGH SENSITIVITY AC VTVM

Model 715. Sensitivity: 10 millivolts full scale on lowest range. Input impedance: Minimum of one megohm at 1 KC. Frequency response offers a greater versatility for general purpose application flat within one decibel between 10 cps and 400 KC. Meter scale provides DB markings on both the voltage range positions. AC rms volts 0-0.1, 0 .03, 0.1, 0.3, 0.1, 3.0, 10, 30, 100 and 300. Decibels: total range, —52 to + 52 DBM (at Zero DBM, reading is one millivolt across 600 ohms). Scale reads — 12 DB to +2 DB, Accuracy on all ranges: ±5% of full scale. Unit requires 110-125 VAC, 50-60 cycles Internal multipliers 1% precision resistors. Frequency response 10HZ to 400 HZ ±1db. Gray hammertone finish. Complete with operator's manual, and shielded input cable. Size: 7½"W x 5½ H x 3" D. Shpg. Wt. 3 lbs.

62F1182. NET **84.00**



263, 269

100,000 O.P.V. VOM

Model 269-3. Has a self-shielded taut band meter movement that gives better repeatability, plus faster pointer action. This meter movement is combined with a mirror scale; and knife-edge pointer, eliminating parallax errors. Large, readable scale is over 6" long. Accuracy is ±2% DC and ±3% AC, with new range coverage. One switch selects all 27 ranges. Sensitivity is 100k ohms/volt on DC and 5k ohms+volt on AC. The available ranges are as follows: DC volts 0-1.6-9-40-160-400-800-1600-4000, AC volts: 0-3-8-40-160-400-800, DC microamps: 0-16-160, DC milliamps: 0-1.6-16-160, DC amps 0-1.6-8, DB scale, (1Mw-600 ohms); —12 to +45.5 in 4 ranges. Resistance: 0-100-20k -2meg-20meg 200meg. Comes complete with No. 00115 test leads, 4000 volt DC probe extension, and comprehensive operator's manual. Size: 6"x7½"x3". Shipping Weight: 5 pounds.

62F330. NET **99.50**

DUAL SENSITIVITY 7" VOM

Model 263. Dual sensitivity Volt-Ohm-Millameter with accuracies of ±1.5% DC and ±3% AC (of full scale). Overlapping ranges offer greater accuracy expressed as a percentage of reading. Dioded overload protection prevents meter movement burn-out even on 200,000% overload. External battery compartment makes battery replacement easier. Uses 1½volt alkaline battery to insure greater stability on low ohms scale. Ranges: DC volts: 0.15-.75-3-7-5-30-75-300-750-3000 @ 20k ohms/volt, 0-0.3-1.5-6-15-60-160-600-1600-6000 @ 10k ohms/volt. AC volts: 0-2.5-7.5-30-150-750 @ 10k ohms/volt, 0-3-15-60-300-1500 @ 5k ohms/volt. DC current: 0-75ua-150μa-75ma-7.5ma-75ma-750mA-15mA-15mA-150mA-.15A-7.5A-15A. DB scale: —20 to +75.5 in 10 ranges. Resistance: 0-500-5k-50k-500k-5 meg ohms. Accuracy: 1½%, (2½%, 300, 6000 ranges). Size: 6" x 7¼" x 4". Shipping weight, 5 pounds.

62F1193. NET **99.50**

ACCESSORIES

Stk. No	Type	For Model	Description	Net
62F329	05262	262,263,267 268,388-3L, 269, 389-3L	Ever-Ready vinyl carrying case	15.50
62F1684	00577	312,313,314	Vinyl case	17.00
62F1694	00152	312 VTVM	High frequency	11.75
62F1695	00155	314 VTVM	High voltage	17.00
62F1737	00249	260-4-261, 263,270	Roll Top safety case	13.00
62F1748	00158	263	High voltage 30KVDC @ 10KΩ/v	19.00

Test Equipment

Simpson

160 HANDI-VOM

Model 160. Has accuracy and sensitivity of a full size VOM. Self-shielded taut band movement features outstanding repeatability and freedom from stray magnetic fields. Movement is varistor protected for even 200,000% overloads. With a scale length of 3". Built for today's vom needs, including solid-state circuit testing, 0.025VDC and 0-50 DCA ranges. 5 resistance ranges are provided for easy and accurate ohms measurements. Complete with test leads and operator's manual. Sizes: 4 9/16" x 3 9/16" x 1 3/4". Shpg. wt. 12 oz.
62F1723 ..... **59.00**

AC/DC VOM

Model 230-2. Contains sufficient ranges to do a complete servicing job. Designed for telephone, teletype and marine use. Excellent troubleshooter. 1,000 ohms per volt AC-DC. **Ranges:** DC: 10v, 50v, 250v, 1,000v. AC: 10v, 250v, 1,000v. DC: 10ma, 50ma, 250ma. **Resistance:** 0-1,000Ω, 0-100KΩ
62F2379. NET **45.00**

"HAMMETER" VOM

Model 240-4. Designed for general application around labs, classroom, ham-shack, etc. 1,000 ohms per volt AC-DC. **Ranges:** DC: 15v, 75v, 300v, 750v, 3,000v; AC: 15v, 150v, 750v, 3,000v. **DC:** 15ma, 150ma, 750ma. **Resistance:** 0-3,000Ω, 0-300KΩ.
62F313. NET **45.00**

OHMMETER

Model 372-2. Provides wide range of resistance measurements in a small package. Ideal for use in schools, on test benches or at inspection facilities. **Ranges:** 0-500, 0-5000, 0-50,000, 0-500,000 ohms; 0-5, 0-50 megohms. **Center Scales:** 5, 50, 500, 5,000, 50,000 ohms.
62F318. NET **41.50**

AC AMMETER

Model 370. Ideal for checking small motors, lineloads, etc., where AC current measurements are required. 60 Hertz. Self-contained current transformer. **Ranges:** 0-1, 0-2.5, 0-5, 0-10, 0-25 amperes. **Accuracy:** ±5% of full scale.
62F319. NET **40.00**

AC MILLIAMMETER

Model 378. Has five separate ranges. Typical applications are transformer vacuum tube tests. Contains current transformer and indicating instrument in one case. **Ranges:** 0-5, 25, 100, 250, 1,000 ma. **Accuracy:** ±5% of full scale.
62F365. NET **40.00**

DC MICROAMMETER

Model 374. Can be used with external resistors of multipliers as high sensitivity voltmeter at 20,000 ohms per volt. Can be shorted out of circuit by use of selector knob. **Ranges:** 0-50, 100, 250, 500, 1,000 microamperes. **Accuracy:** +3% of full scale.
62F361. NET **40.00**

DC MILLIVOLTMETER

Model 387. Checks safety thermocouples on gas-fired units. **Ranges:** 10, 30, 100, 300 and 1000 millivolts. **Accuracy:** ±3% of full scale from 50° to 120°. With test prods, alligator clips and terminals. **Size:** 3 x 5 7/8 x 2 1/2". **Shpg. wt.** 3 lbs.
62F367. NET **40.00**

SPECIFICATIONS

Ranges: DC Volts: 0-0.25, 1.0, 2.5, 10, 50, 250, 500, 1000; AC Volts: 0-2.5, 10, 50, 250, 500, 1000. **DC Microamperes:** 0-50. **DC Milliamperes:** 0-1, 10, 100, 500. **DB Scale** 1 mW into 600Ω: -20 to +10, -8 to +22, +6 to +36, +20 to +50. **DC Resistance:** R x 1 (30 center), R x 10, R x 100, R x 1k, R x 10k. **Accuracy:** DC: ±2%; AC: ±3%. **Sensitivity:** DC: 20,000 Ω/volt; AC: 5,000 Ω/volt. **Movement Type:** Taut Band

AC VOLTMETER

MODEL 371. Designed primarily for testing line voltages applied to motors, heating equipment and many other industrial applications. **Ranges:** 0-150, 0-300, 0-600 volts. **Accuracy:** ±3% of full scale.
62F360. NET **40.00**

LOW-OHMMETER

Model 362-2. Permits highly accurate readings between 0.1 and 25 ohms. For checking motor armatures, switch and relay contact resistances, shorts between windings and grounds in radio chassis wiring, electrical equipment, etc. **Ranges:** 0-5, 0-25 ohms. **Accuracy:** ±3% of linear arc length.
62F368. NET **41.50**

DC AMMETER

Model 375. Provides complete range from a fraction of an amp to 25 amps without external shunts. Ideal unit for use with unmetered power supplies. **Ranges:** 0-1, 2.5, 5, 10, 25 amperes. **Accuracy:** 3% of full scale.
62F362. NET **40.00**

DC MILLIAMMETER

Model 373. General purpose tester. Valuable in a number of applications. Provides DC current transformer and indicating instrument in one case. **Ranges:** 0-1, 5, 10, 25, 50, 100, 250, 1,000 ma. **Accuracy:** ±3% of full scale.
62F323. NET **40.00**

BATTERY TESTER

Model 379. Provides accurate indications of condition of all standard flashlight, hearing aid (mercury cells) radio batteries. Complete with test leads no. 08375 and operator's manual. **Ranges:** 0-1.5, 4.5, 6.0, 7.5, 9.0, 15.0, 22.5, 30.0, 45.0, 67.5, 90.0v.
62F366. NET **40.00**

AC VOLT-AMP-WATTMETER

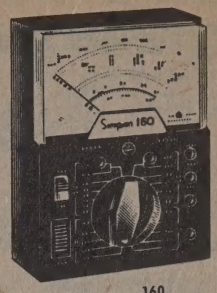
Model 390. AC/DC volts, AC amps and AC watts with one meter. Useful for practically any appliance. Complete with test cord assembly no. 08418 and operator's manual. **Volts:** 0-150, 300. **Amps:** 0-3, 15. **Watts:** 0-300, 600, 1,500, 3,000. **Accuracy:** ±5% of full scale.
62F317. NET **75.00**

"MIDGETESTER" VOLT-OHMMETER

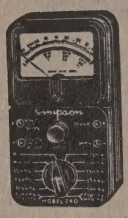
Model 355. Ideal for radio appliance and TV servicemen. **Sensitivity:** 10,000 ohms per volt on both AC/DC. **Accuracy:** ±3% on DC, ±5% on AC of full scale voltages. **Ranges:** AC/DC volts: 0-3, 12, 60, 300, 1,200. **Ohms:** 0-10k, 100k, 1 meg, 10 meg. **Size:** 2 3/4 x 4 1/2" x 1". **Shpg. wt.** 1 lb.
62F335. NET **50.00**

ACCESSORIES

Stk. No.	Type	Description	For Model	NET
62F1682	2225	Carrying case. "Handi-VOM".	160	11.00
62F2385	02929	Vacuum formed case.	160	11.00
62F1686	2055	Probe Tip Leads. "Handi-VOM".	160	3.50
62F369	8381	Prods and Elbow Terminals	230, 240, 260-2,372	3.75
62F1725	8375	Alligator Clips and Elbow Terminals	230,240,260-2,372	3.25
62F343	8376	Alligator Clips/Spade Term.	370,371,373,374,375, 376,377,378	3.25



160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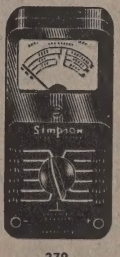
362

372

378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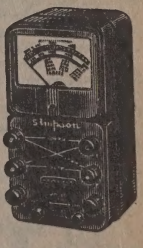


390

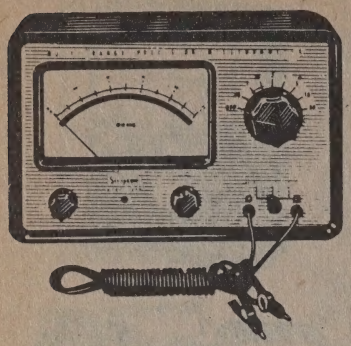
387

Model 355

Test Equipment

Simpson

PRECISION MILLIOHMMETER

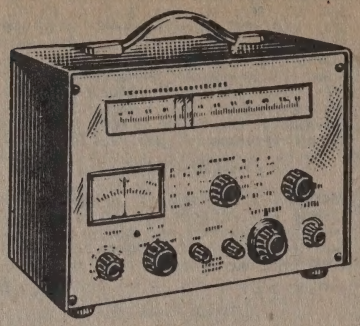


- Designed to measure low values of resistance.
- Size: 11⅜"x7⅜"x3¼"

Model 1699. This instrument was designed to accurately measure low values of resistance. It determines the value of an unknown resistance by comparing it with a known standard internal resistance. The usual low-resistance measurement errors are avoided by using test leads terminating in Kelvin Clips coupled with a unique circuit which has separate current and voltage paths. This results in ±1% of full scale accuracy—even on the 0-0.05 ohm range. Ranges: 0-0.05-0.1-0.25-0.5-1.0-5.0-10.0-50.0 ohms. Size: 11⅜"x 7⅜"x 3¼". Shipping weight: 6 Pounds.

62F1189. NET **195.00**

PRECISION R-L-C BRIDGE

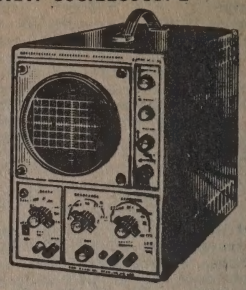


- Used for measuring capacitance, inductance, resistance and "Q"
- Powered by two long-life 9-volt batteries

Model 2785. Precision multi-purpose bridge for measuring capacitance, inductance, resistance and "Q". Powered by two long-life 9-volt batteries, built-in generator provides all the voltages needed for its wide range of measurements. Generator operates at the standard test frequency of 1kHz. External voltage input jack provided for testing components at other frequencies. DC used for all resistance measurements, with voltage directly from the batteries, or rectified from the generator for those ranges requiring higher voltage.

62F2318. NET **425.00**

NEW GENERAL PURPOSE OSCILLOSCOPE



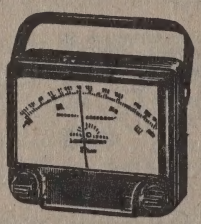
- For color TV servicing and ind. use
- High linearity sweep with automatic sync

MODEL 455. Bandwidths: Vertical—DC to 10 MHz DC coupled, 10 Hz to 10 MHz AC coupled (—3 dB at high frequency); Horizontal—DC to 500 kHz DC coupled, 2 Hz to 500 kHz AC coupled. Sensitivity: Vertical, 10 mV/cm to 5V/cm; Horizontal, 300 mV/cm; x 1 x 10 step attenuator and fine control. Line voltage: 120 VAC or 240VAC, 50/60 Hz (operating range, 105 to 125 or 210 to 250 VAC). Power required: 100 VA max. Cathode Ray Tube—Type: 5UP 1-F; Size: 5" round; Display area: 6 x 10 cm. Accn. voltage: 1.5 kV. Approx. size: 10⅜ Hx 8" Wx 16½" D. Approx. Wt. 24 lbs.

86F675. NET **295.00**

TEMPERATURE METERS

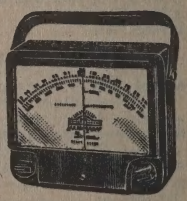
388-3L THERM-O-METER



The Therm-o-meter measures the temperature of air, gases, liquids, or solids by means of thermocouple type leads from —50°F to +1000°F. Both Fahrenheit & Centigrade readings can be made in 15 to 30 sec. and up to a distance of 7½'. A selector switch on the 388-3L connects any one of the three leads into the meter circuit. The lead wires are small enough to pass through a closed door and gasketing. The meter movement is self-shielding. A compensator circuit automatically corrects room temperature effects from 60 to 100°F. With one general purpose lead, battery, and operator's manual. $7\frac{15}{16}$x6x$2\frac{15}{16}$". Shipping weight. 4 lbs.

62F350. NET **90.00**

DUAL RANGE THERM-O-METER



Model 389-3L may be used to measure temperatures of gases, liquids, or solids in many fields; frozen food packaging, ice manufacturing, freezer storage, refrigeration, photo processing, air conditioning, and numerous others. Using the three leads, readings may be made in three different locations at once. There are two ranges. A low from —50°F. and a high from 100°F to 250°F. Accuracy is within 3°F in any position, near center of scale within 2°F or better. Compensation for room temperature effects. Large easy to read 7" meter. Self shielded core magnet, minimizes heavy electrical interference. Includes sensing probes with thermistors, tip and 15' lead, and batteries. Black bakelite case. $7\frac{15}{16}$x6x$2\frac{15}{16}$". Wt., 6 lbs.

62F391. NET **85.00**

TEMPERATURE LEADS, PROBES AND METER ACCESSORIES

TEMPERATURE TEST LEADS AND PROBES

Model 0789. Free Air Temp. Probe. For Model 385-3L, 652-3L, Adaptor.
62F308. NET 14.00

Model 0790. Surface Temperature Probe. For Models 385-3L, 389-3L, 652-3L, Adapter.
62F398. NET 11.00

Model 0187. Surface Temperature Thermocouple (1000° F MAX.) For Model 388-3L.
62F351. NET 13.00

Model 0010. 15 foot. Thermister Lead. For Model 385-3L
62F396. NET 11.00

Model 0216. 30 foot Thermister Lead. For model 385-3L.
62F397. NET 12.00

CARRYING CASES

Model 5262. Ever-Ready carrying case for Models 262, 267, 268, 388-3L, 389-3L. Vinyl.
62F329. NET 14.00

METER SAFE/GUARD

- Fast and easy to install
- Has low leakage and sharp knee characteristics

Simpson Safe Guard

Model 12621. Fast, easy to install. Provides meter movement protection for series 1,2, 3, or 4, 260 (or any other 20,000 ohm per volt (VOM). Prevents electrical damage to the meter movement, regardless of polarity, even with currents of as much as 200 milliampers applied. Use with AC or DC. Has low leakage, sharp knee characteristics.

62F1698. NET **2.88**

Environmental Measurement Equipment

Simpson

SPECIAL COMBINATION OFFER!

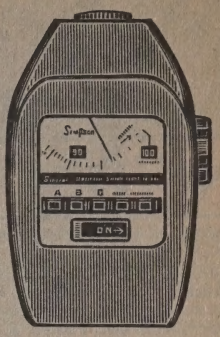
$345.00

Contains everything you need to make fast accurate noise measurements. Includes Model 885 Sound Level Meter, Model 889 Calibrator, three 9V batteries, adjusting screwdriver, wrist strap and protective case. Wt. 2½ lbs.
62F264. NET..... 345.00

MODEL 885 SOUND LEVEL METER

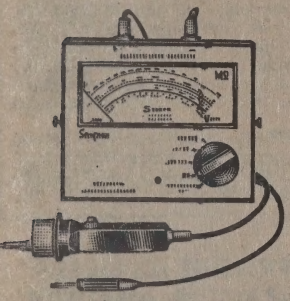
- **Meets OHSA, Walsh-Healy ACT and ANSI**
- **Fast and slow response time per ANSI**

Full coverage, 40-140 dB in 10 dB increments with 20 μNewtons/m² as 0 dB reference. A, B, C weightings. Calibrated ceramic microphone. Output jack for recorders, analyzers. Built-in tripod. Conforms to ANSI standards, SI-4, 1971, Type 3. Acc: ±1.0 dB, 63 Hz-4 kHz; 2.0 dB, 31.5 Hz-8 kHz. Calibration, front adjustable. Uses two 9 V batteries. Burgess 2U6 or equivalent supplied. Oper. Temp: −10° to +50°C. 90% RH oper. humidity. High-impact polycarbonate case. ¼-20 threaded hole for tripod. Dim: 3.63"Wx5.38"Hx2.09"D. Includes manual. Wt. 1 lb.
62F262. Model 885. **NET..... 250.00**
62F2391. Model 00575. Carrying case. **NET.....9.50**
62F2392. Model 00576. Safety wrist strap. **NET.....2.50**



MODEL 889 CALIBRATOR

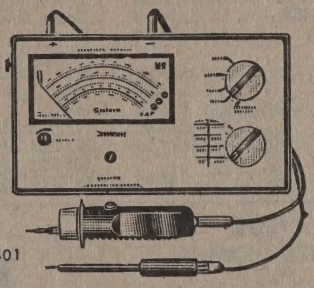
For calibrating Model 885. ±1 dB accuracy. Single switch control. Built-in LED battery test indicator. Acoustic output: Freq, 1000 Hz. Pressure Level, 114 dB ref. 20 μN/m². 0-+40°C operating temp. Battery operated. 9 V, Burgess 2U6. 5"Lx2¼" Dia. Wt.: 1 lb.
62F263. Model 889. With batt., adj. screwdr. **NET..95.00**



Model 400

INSULATION TESTERS

Portable Battery Operated

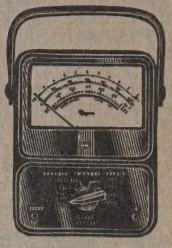


Model 401

Model 400. Tests insulation on systems up to 500V. Voltage up to 600V. Continuity testing. Battery-saver push button. Light-up probe for quick visual checkout. Accuracy: ±1.5% FS. Res. Ranges: 0-0.4MΩ, 0.01-5MΩ, 2-200MΩ. Internal Res: 0.2MΩ. Continuity Testing: on-off point of lamp 500 ohms. Power Req: six 9V batteries. Test Voltage: 2 kV RMS. Complete kit includes batt., 3' leads (one with illuminating probe, one with plug-in alligator clip), carrying strap, instruction manual. Dim: 5.6"x4.6"x3.2" Wt: 3 lbs.
62F2393. Model 400. Complete Kit. **NET..... 185.00**
62F2395. Model 01615. Leather carrying case. **NET.....17.00**
62F2397. Model 00737. Plug-in probe. For 400 and 401. **NET.....2.50**
Model 401. Same as above except test up to 1000 VAC and 1500 VDC. 4 switchable test voltages. Open Circuit Voltage: 5 VDC. Internal Res: 1 K. Dim: 9.6"x5.5"x4.13". WT: 4.9 lbs.
62F2394. Model 401. Complete Kit. **NET.....375.00**
62F2396. Model 01616. Leather carrying case. **NET.....19.00**

AC CURRENT LEAKAGE TESTER

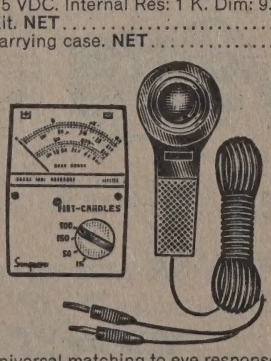
- **5 mA sen.**
- **1-10 mA Range**
- **±2% Acc.**



Model 229 Series 2. Tests 120/240 VAC appliances and electrical equipment by measuring amount of AC leakage current between appliance and ground. Measures current as low as 5 microamperes. Detects shorts and near shorts. Provides AC current measurements from 1-10 mA ranges: 0-0.3, 1, 3, 10 milliamperes. ±2% accuracy at 60 Hz. Fully protected up to 150 Vac on all ranges. Resolution 5 μA on 0-0.3 mA range. Complete with test leads, batteries, and operator's manual. 5x7x3½". Shpg. wt. 3½ lbs.
62F324. NET..... 95.00
Model 805. Leather carrying case.
62F302. NET.....17.50

MODEL 408 ILLUMINATION LEVEL METER

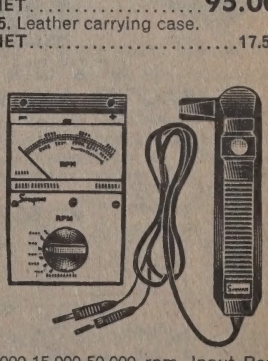
- **Portable**
- **Four Ranges**
- **Multiple Uses**



Measures illumination intensity of natural and artificial light. Accessory tube makes possible measurement of luminance of surfaces which are either self-luminous or illuminated by ambient light. Can also serve as exposure meter. Universal matching to eye response without additional filter. Accurate to 85° angle of incidence through built-in correction lens. Range: 0-15/50/150/500 foot candles. 1.8" dia. selenium photocell. Exposure Meter Table, for incident light measurements from .5-7400 foot candles, light values for 50 ASA film, 0-14, exposure values @ f8, 60 sec-1/250 sec. Table on back of meter. Plastic impact case. Complete kit includes meter, remote sensor, x100 range extension filter, luminance measurement tube, carrying case and instruction manual. Size: 3.2" x 4.6" x 1.6". Shpg. Weight: .62 lbs.
62F2398. Model 408. Complete Kit. **NET..... 125.00**

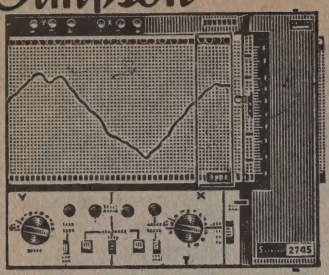
MODEL 410 PHOTO TACHOMETER

- **Portable**
- **Four Ranges**
- **50,000 RPM Sen.**



Measures speed of motors, generators, machines, and rotating parts to 50,000 RPM. Contactless—no physical contact with rotating part. Core magnet movement with spring loaded pivot suspension. Accuracy: ±2.5%. Ranges: 1500-5000-15,000-50,000 rpm. Input Res: 10K ohm. Oper. Temp: 0-40°C. Sensitivity of pick-up head: 0.2"-2" (.5-5cm) with light marking on dark background or reverse (marking provided, for example, by self-adhesive tape, chalk, paint). 2"-12" (5.0-30 cm) with reflective marking on non-reflective background or reverse (example: silver, fluorescent tape, etc.). Supply Voltage: indicating instrument, one 9 V battery; pickup head, two 1.5V batteries. Working Position: Horizontal. Dimensions: indicating instrument, 3.6"x5.98"x1.7", pick-up head, 1.42"x8.0"x1.9". Shipping Wt: 1.6 lbs.
62F2399. Model 410. Incl. batteries and manual. **NET..187.00**

Simpson Test Equipment



PORTABLE X-Y RECORDER

Model 2745. Full X-Y plus Y-T recording. Variable or switch selected ranges incl. suppressed zero, bipolar. Independent for both axes. Ten time bases for X axis, time sweep for Y-T. Battery condition ind. Ink or inkless operation. Supplied with chart paper rolls and sheets, ink and inkless type; 2 styluses; 2 fiber tip pens, red and blue; 6 test leads; dust cover, batteries and manual. Size: 8.08"Wx10.24"Dx3.59"H. Shipping Weight: 7.72 lbs.

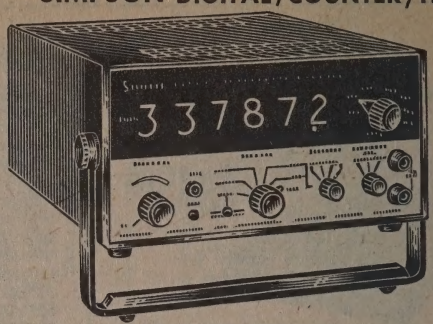
SPECS. **Ranges:** 1, 2, 5, 10, 20, 50 mV/cm. adj. 40-100%. **Drive Speed:** 1, 2, 4, 10, 20 sec or min/cm. **Input Imp:** 15 megohm @ 20 mV/cm. **Rec. Width:** X=15cm, Y=10cm. **Response Time:** X=0.5, Y=0.7 sec. **Power:** 8, 1.5V "D" batt. or line operation. 50-100mA.

62F2420. Model 2745. Complete Kit. **NET** **750.00**

ACCESSORIES

62F2430. 22907 52.4' Chart paper roll, ink type. **NET** **12.00**
62F2431. 22906 52.4' Chart paper roll, inkless. **NET** **26.00**
62F2432. 22909 7" Chart paper pad, ink type. **NET** **9.50**
62F2433. 22908 7" Chart paper pad, inkless. **NET** **26.00**
62F2421. 22910 1-500 A/cm. shunt for current sensing. **NET** .. **34.50**
62F2422. 23481 1, 2, 5V/cm. Voltage divider. **NET** **67.10**
62F2423. 22911 Stylus. **NET** **1.50**
62F2424. 22913 Red fiber tip pen. **NET** **2.35**
62F2425. 22928 Blue fiber tip pen. **NET** **2.35**
62F2426. 22912 Set of 6 test leads. **NET** **6.90**
62F2427. 22930 110/220VAC, 50-60Hz. Power supply. **NET** ... **125.00**
62F2428. 22931 Leather carrying case. **NET** **35.00**
Sound Level Adapter 22935. Use with 885 Sound Level meter to convert 2745 to Sound Level Recorder.
62F2429. NET **45.00**

SIMPSON DIGITAL/COUNTER/TIMER



- **Total function Capability**
- **7 gate times-switch selected**
- **5 Hz to 32 MHz frequency range**

Measures frequency, period, multiple period, frequency ratio, multiple ratio, time interval and totalization. Overrange, gate time indicators, and reset switch. Sample rate adj. from 5/sec to hold. Standard TTL compatibility. Internal 100 KHz test signal. 4"Hx8¼"Wx11"D. Wt. 8 lbs.

Specs: **Temp. Range:** 0-50°C operating, −40° to +70°C storage. **Temp. Stability:** ±1 part in 10^6 max. over range of 0°-50°C. **Accuracy:** ±1 count. **Max. Input Voltage:** 240V RMS. **A-Input Imp:** 1 megohm shunted by 30 pf. **B-Input Imp:** 600K ohms shunted by 30 pf. **Ext. Osc. Requirements:** Freq, 1 MHz square wave. Amplitude Logic 1, +3V-+5V. Logic 0, 0V-+4V. 117/234 VAC, 50-60 Hz. 20 watts.

62F2315. Model 2725A. 5 digit. **NET** **425.00**
62F2361. Model 2726. 6 digit. ±5 parts/10^6 yr. Aging. **NET** .. **475.00**
62F2390. Model 2726A. 6 digit. ±1 part/10^6 yr. Aging. **NET** .. **575.00**
62F2360. 00238. Replacement Probe. **NET** **7.85**

SPRAGUE TO-6A TEL-OHMIKE

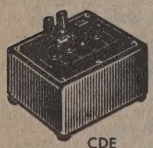
Capacitor analyzer measures up to 2000 mf in 5 ranges. Also measures insulation resistance, power factor, leakage current. 115 VAC, 50-60 Hz. 11¾"x14⅝"x6⅛". Shipping Wt: 13 lbs.

62F632. NET **149.95**

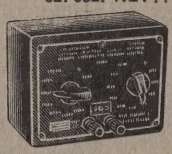
SPRAGUE M-3 COMPACT CAPACITOR ANALYZER

Capacitance and power factor measurements. Capacitor discharges when test switch is released. Steel case finished in blue. 110-125 VAC, 50-60 Hz. Wt: 6 lbs.

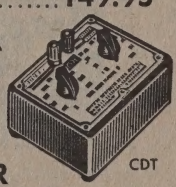
62F629. NET **17.68**



CDE



RDA



CDT

CORNELL DUBILIER CAPACITOR AND RESISTOR DECADES

CDC, CDA & CDE Capacitor and **RDA** Resistor decade boxes provide accurate source of precision values for breadboarding and substitution. Direct-reading value ranges, six-way molded nylon terminal posts, and calibration chart for capacitance boxes. Size: 3¹³⁄₁₆x5x3⅝, weight 2 lbs.

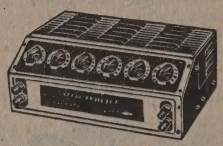
Stock No.	Model	Max. Cap. Mfd.	Steps Mfd.	1-9	10-Up
62F645	CDB-3	1.1	0.01	19.87	18.17
62F646	CDC-3	10.0	1.0	32.90	30.13
62F647	CDE	150	10	19.55	18.17

Stock No.	Model	Res. Ohms	Steps Ohms	1-9	10-Up
62F655	RDA	1-110	1	22.79	20.87
62F656	RDB	100-11K	100	25.15	22.99
62F654	RDC	10K-1 meg	10K	22.59	20.64

CDT decade capacitors provide a reliable source of precision selected capacitance for substitution purposes in a wide variety of applications. Features CDE capacitors, smooth range selection, & heat- and shock-resistant phenolic cases. Capacitance tol: ±5% (10-100 mfd.), ±10% (100-1000 mfd.). Capacitor Dielectric: Polarized Tantalum Foil—10-100 mfd. Plain: 100-1000 mfd. etched. Maximum Voltage: 50 VDC Polarized Capacitance, mfd.: Min.—10; Max.—1100; Step—10. 2 Rotary Switches. Shipping Weight: 7 lbs.

62F638. NET **139.54**

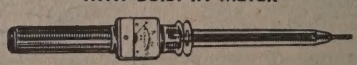
CLAROSTAT POWER RESISTOR DECADE



Model 240C. Permits changing resistance values in a working circuit at the flip of a switch. Ideal for checking voltage regulation of power supplies, since load can be varied over wide range. Any value from 1-999,999 ohms in 1 ohm steps available. Power rating of 225 watts. Max. voltage should not exceed 1000 VDC or 660 VAC. Ventilated metal cabinet. Size: 13"x8½"x5¾". Shipping Wt: 11 lbs.

62F730. NET **115.50**

POMONA AC & DC VOLTAGE TEST PROBES WITH BUILT-IN METER



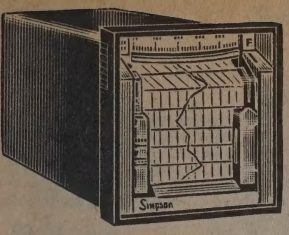
Test probe featuring a built-in voltmeter. Easy to make high voltage adjustments: Small enough to fit in tool box or caddy. No batteries. Sensitivity 20,000 ohms/volts (50 ua) movement. Accuracy: ±3% full scale. Length: 14¾" overall. Wt. 8 oz.

Stk. No.	Type	Volts	Mult. Res.	Net
34F887	2900	30,000	600 Megohm	19.95
34F967	3157*	15,000	300 Megohm	29.95
34F968	3163*	6,000	120 Megohm	29.95
34F970	3200*	10,000 AC	20 Megohm	29.95

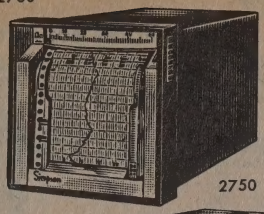
*Supplied with Model 3295 Carrying Case.

NEW! Chart Recorders

Simpson

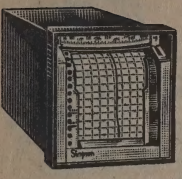


2760



2750

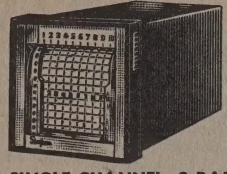
413

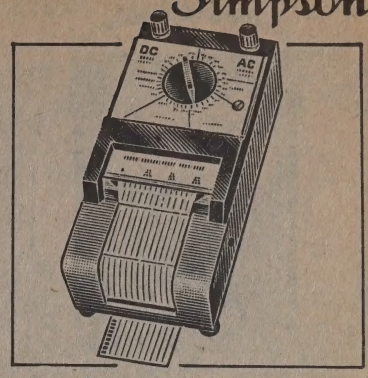


2761/62

MINIATURE STRIP CHART RECORDERS

2755





NEW SINGLE RANGE TEMPERATURE RECORDER

Model 2760. Taut Band movement is temperature compensated. Accuracy is ±1.5% F.S.

Stk. No.	Ranges	Sensor	Net
55F5419	−60°C to 0°C	Pt-100 Res. Bulb	170.00
55F5420	0 to +60°C	Pt-100 Res. Bulb	170.00
55F5421	0 to +100°F	Pt-100 Res. Bulb	170.00
55F5422	0 to +100°C	Pt-100 Res. Bulb	170.00
55F5423	0 to +500°F	I/C Thermocouple	180.00
55F5424	0 to +800°F	I/C Thermocouple	180.00
55F5425	0 to +1500°F	C/A Thermocouple	180.00
55F5426	0 to +2500°F	C/A Thermocouple	180.00

TEMPERATURE SENSORS

Stk. No.	Type	Description	Net
55F5427	Pt-100 Res. Bulb	Stainless 0.187 x5.0", 10' leads	37.00
55F5428	I/C Thermo-couple	Stainless, 0.187 x5.0", 10' leads	18.00
55F711	I/C Thermo-couple	Stainless over-braid, 235", 20 ga.	25.65
55F710	I/C Thermo-couple	Glass cloth over-braid, 34", 30 ga.	4.20
55F709	I/C Thermo-couple	Glass cloth over-braid, 137", 24 ga.	4.95
55F5429	C/A Thermo-couple	Stainless, 0.187x 5.0", 10' leads	20.00

MINIATURE ELECTRICAL VALUE RECORDER

Model 2750. Use specially formulated paper which requires no ink. Paper take-up reel is built-in. Optional snap-on window provides direct paper feedout. Specifications are identical to those listed under Model 2755 except for: Accuracy: ±1.5% F.S. Impression Rate: 3 secs.

Stk. No.	Range	Net
62F2274	0-10 Microamperes DC	167.00
62F2275	0-50 Microamperes DC	153.00
62F2276	0-100 Microamperes DC	147.50
62F2277	0-500 Microamperes DC	142.00
62F2278	0-1 Milliampere DC	140.00
62F2279	0-1/0-1 MA, Dual Channel DC	180.00
62F2280	0-50 Millivolts DC	142.00
55F5417	0-5 Amperes AC	153.00
62F2281	0-150 Volts AC	148.00
55F5418	100-130 VAC, Segmental Scale	175.00

SINGLE-CHANNEL 3-RANGE RECORDER

Model 2761. Range coverage is from −50 to +250°F in 100° spans. Accuracy is 3°F maximum. Std. chart speed is 20/120 mm/hr. with a clamp rate of once every 6 seconds. Size: 3¾"x9¼"x3¾". Wt. 4 lbs.

Stock No.	Model	Range °F	Net
62F2319	2761	(−50 +50) (+50 +150) (+150 +250)	190.00

DUAL CHANNEL 2-RANGE RECORDER

Model 2762. Designed to monitor and record temp. of the freezer and cooling compartment of refrigerators. Range coverage is from −40 to +50°F and +50 to +150°F. Accuracy: 2°F maximum. Std. chart speed, Size and Wt. are the same as for 2761. Power Input: 105 to 130 VAC, 50 to 60 Hz.

Stock No.	Model	Range °F	Net
62F2320	2762	(−40 +60) (+50 +150)	210.00

10 CHANNEL EVENT RECORDER

Model 2755. Used for inkless, continuous recording the on/off status of ten separate sources. Accuracy: 10 ms. (nominal) pen response. Chart Speeds: (switch selectable) 20/120 mm-per-hour. Impression Rate: continuous. Chart Paper: Pressure sensitive. 2.6" wide, 50' long. Take-up Reel: Built in. Automatic, motor driven. Motor Drive: Synchronous, 90-160 VAC, 60 Hz. 3 VA. Size: 3¾"x9¼"x3¾". Shpg. wt. 5 lbs.

Stk. No.	Type	Volts	Power/ Solenoid	Net
62F2288	22203	6 VDC	1.2 W	175.00
62F2325	22202	12 VDC	1.2 W	175.00
62F2326	22201	24 VDC	1.2 W	175.00
62F2327	22200	115 VAC 60 Hz	2.2 W	175.00

ACCESSORIES FOR 2750 AND 2755

Stk. No.	Description	Net
62F2282	Portable carrying handle	12.50
62F2283	Plastic window	3.00
62F2284	Gear unit for 30/180 mm/hr	20.00
62F2285	Gear unit for 60/360 mm/hr	20.00
62F2286	Gear unit for 100/600 mm/hr	20.00

"MULTICORDER" MODELS 604 AND 605

Specs. Ranges: DC Millivolts: 0-100, 500 for 604 and 0-12, 30, 60 for 605. DC Volts: 0-2.5, 10, 25, 100, 250, 500 for 604 and 0-3, 15, 60, 300, 600 for 605. AC Volts: 0-10, 25, 100, 250, 500 for 604 and 0-6, 30, 150, 300, 600 for 605. Size: 9¾"x4¾"x4". Wt. 5½ lbs.

Model 604. 62F1689. NET 260.00
Model 605: 62F2287. NET 260.00

ACCESSORIES FOR 604 AND 605

Stk. No.	Type	Description	Net
62F1691	00682	Gear Unit, 30/60/90 in/hr. for 604, 605.	30.00
62F2297	06526	Shunt, 0-5 DC Amperes for 604 only.	21.65
62F2298	06527	Shunt, 0-25 DC Amps. for 604 only.	21.65
62F2299	06528	Shunt, 0-50 DC Amps. for 604 only.	21.65
62F2300	06531	Shunt, 0-100 DC Amps. Shunt, 0-12, 30, 60 DC Amps. for 604, 605	21.65
62F2351	02461	Current Transformer, 0-30, 120, 600 AC Amps. (±3%, 45-65 Hz.) for 605 only.	28.90
62F2352	02462	Current Transformer, 0-30, 120, 600 AC Amps. (±1%, 45-65 Hz.) for 605 only.	54.55
62F1690	02612	50 div. calibrated chart paper, 10 rolls/box, for 604.	20.00
62F2387	02614	30 div. calibrated chart paper, 10 rolls/box, for 605.	20.00

PORTABLE TEMPERATURE RECORDER

Model 413. Thermoscript. Size: 6.5x3.6x1.8". Wt. 2.2 lbs. approx.

Stk. No.	Type	Description	Net
62F2477	23310	+30° to +150°F	160.00
62F2478	23312	0° to 120°	160.00
62F2479	23314	+30° to +90°	160.00

CHART PAPER FOR RECORDER 413

62F2378	23300	+30° to +150°F	20.00
62F2480	23302	0° to +120°F	20.00
62F2481	23304	−30° to +90°F	20.00

CHART PAPER FOR MODELS 2750, 2755, 2760, 2761, AND 2762

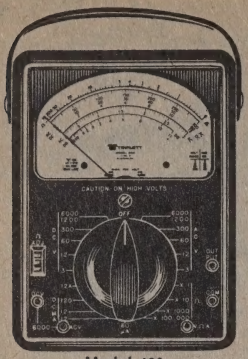
Stk. No.	Type	For	mm/hr.	Cal.	Each
62F2289	22310	2750	20	30 div.	20.00
62F2290	22311	2750	20	50 div.	
62F2291	22312	2750	30	30 div.	
62F2292	22313	2750	30	50 div.	
62F2293	22314	2750	60	30 div.	
62F2294	22315	2750	60	50 div.	
62F2295	22316	2750	100	30 div.	
62F2296	22317	2750	100	50 div.	20.00
62F2353	22380	2755	20	.....	
62F2354	22381	2755	30	.....	
62F2355	22382	2755	60	.....	
62F2356	22383	2755	100	.....	
62F2363	23237	2761	20	.....	
55F5430	23238	2761	30	.....	

Stk. No.	Type	For	mm/hr.	Cal.	Each
62F2365	23239	2761	60	.....	20.00
55F5431	23240	2761	100	.....	
62F2362	23241	2762	20	.....	
55F5432	23242	2762	30	.....	
62F2364	23243	2762	60	.....	
55F5433	23244	2762	100	.....	
55F5490	23248	2760	20	0-500°F**	20.00
55F5491	23249	2760	20	0-800°F**	
55F5492	23250	2760	20	0-1500°F**	
55F5493	23251	2760	20	0-2500°F**	
55F5434	23200	2760	20	60°C*	20.00
55F5435	23201	2760	20	100°C*	
55F5436	23209	2760	20	0-100°F*	
55F5437	23202	2760	20	150/300°C*	

Stk. No.	Type	For	mm/hr.	Cal.	Each
55F5438	23203	2760	20	200/400°C*	20.00
55F5439	23204	2760	30	60°C*	
55F5440	23205	2760	30	100°C*	
55F5441	23206	2760	30	150/300°C*	
55F5442	23207	2760	30	200/400°C*	
55F5443	23208	2760	60	60°C*	
55F5444	23210	2760	60	150/300°C*	
55F5445	23211	2760	60	200/400°C*	
55F5446	23212	2760	100	60°C*	
55F5447	23213	2760	100	100°C*	
55F5448	23214	2760	100	150/300°C*	
55F5449	23215	2760	100	200/400°C*	

*Platinum Resistance, **Thermocouple Type

Test Equipment



Model 630

MODEL 630—VOM

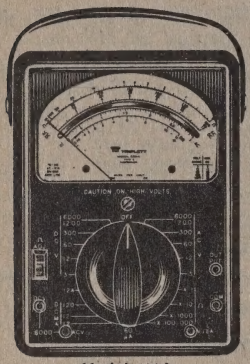
Features 20,000 DC, 5000AC ohms—volts sensitivity. Single 20 position switch selects both circuit and range. Fuse protected ohmmeter circuit prevents burnout. Suspension movement. DC accuracy is ±2% on all ranges. AC response, 5 Hz to 50 KHz. Ranges: DC and AC volts; 0-3-12-60-300-1200-6000; DC current, 0—60 μA, 0-1.2-12-120 mA, 0-12 amps. Resistance 0-1000-10,000 ohms and 0-1-100 megs. dB, —20 to +51 in 4 ranges; output volts, 0-3-12-60-300 volts. Jack with condenser in series with AC ranges. Size: 7½x5½x3 11/32". Supplied complete with batteries, alligator clips 48" test leads, instruction book. Shpg. wt. 5 lbs.

62F212 NET **69.00**

MODEL 630—A VOM TYPE 3

As above, but with ½% precision multiplier resistors for ±1½% accuracy on DC readings; ±3% accuracy on AC readings. Simplified mirrored scale; only 4 arcs for all 27 ranges. Diode overload protection with suspension movement. Case, Molded black. Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. wt. 5 lbs.

62F211. NET **79.00**



Model 630A

MODEL 630—PL VOM

Outstanding linear ohm scale; low reading 0.1 ohm; high to 100 megs. One switch selects any range. Usable with frequencies through 500 Kc. DC polarity reversing switch. High sensitivity. Accuracy: ±2% DC; ±3% AC. Ranges—VDC: 0-2.5-10-50-250-1000-5000 at 100 Microamperes. VAC: 0-3-10-50-250-1000-5000 at 5000 ohms/V. dB -20 to +11, +21, +35, +49, "0" dB at 1 mW on 600 ohm line; DC μ a: 0-100 at 250 mV. DCmA 10-100-1000 at 250 mV; DC Amp.: 0-10 at 250 MV; ohms, 1000 (4.4 ohm center scale), 10,000; megohms: 0-1-1000 (4400 ohms V), jack w. condenser in series with AC ranges. Case molded fully insul. Leads, alligator clips, batteries and instruction book. 3 11/32x5½x7½. Shpg. wt. 4¼ lbs.

62F241. NET **73.00**

MODEL 630—PLK VOM

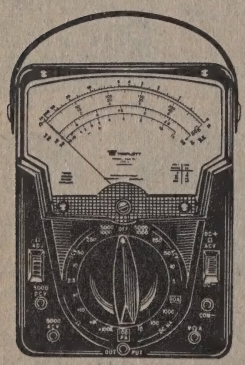
Transistorized relay circuit provides protection from burn-outs. 20 position range switch not affected by stray magnetic fields, usable with frequencies through 500 hz. Sensitivity: 20,000 ohms/VDC, 5,000 ohms/VAC. Resistors directly connected to switch to form a simplified unit. Leads are 48 inches long. DC Volts: 0-2.5-10-50-250-1,000-5,000 at 20,000 ohms/volt; 0-0.25 at .100 microamperes. AC Volts; 0-3-10-50-250-1,000-5,000 at 5,000 ohms/volt. Decibels: —20 to +11 +21. +35, +49, "O" DB at 1 mW on 600 ohm line. DC Microamperes: 0-100 at 250 mV, DC Milliamperes: 0-10-100-1000 at 250 Mv. Jack with condenser in series with AC ranges. —2% DC, +3% AC accuracy. Size: 3 11/32"x5½"x7½". Shipping weight, 5 pounds.

62F1775. NET **113.00**

MODEL 630—APL VOM

Volt Ohm-Milliammeter. Labtype featuring ½% resistors, mirrored scales. ±1½% DC accuracy, 3% AC accuracy. Other features same as 630PL.

62F242. NET **83.00**



Models 630 PL, PLK

MODEL 630—APLK VOM

Transistorized Electronic Switching Circuit guards against accidental burnouts! Polarity reversing switch and 0-50 microampere suspension type movement. Diode network across meter protects against instantaneous transient voltages. Automatically checked by using X100K ohms range. One 20 position range switch. Accuracy ±1½% on DC. ±3% AC. DC VOLTS: 0-2.5- 10-50-250-1,000-5,000 at 20,000 ohms/volt 0-0.25 at 100 microamperes. AC VOLTS: 0-3-10-50-250-1,000-5,000 at 5,000/volt. DC MICROAMPERES: 0-100 at 250 mV. Ohms: 0-1000 (4.4 ohms center scale), 10,000. Megohms: 0-1-100. Jack with condenser in series with AC ranges. Case: Molded, fully insulated; 3 11/32"x5½"x7½". Shpg. wt. 5 lbs.

62F1775 NET **123.00**

MODEL 630—NS

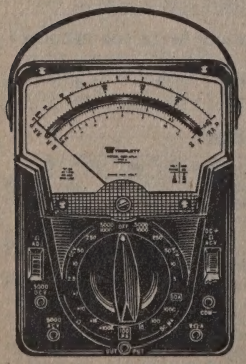
Model 630-NS. Has 62 ranges. 200,000 ohms per volt DC, 20,000 ohms per volt AC. Suspension meter movement. DC Volts: 0-0.6-3-12-60-300-1200 at 100,000 ohms/volt; 0-0.3-1.5-6-30-150-600 at 200,000 ohms/volt. AC Volts: 0-3-12-60-300-1200 at 10,000 ohms/volt; 0-1.5-6-30-150-600 at 20,000 ohms/volt. Ohms: 0-100 (4.4 ohms center scale), 10,1000; megohms: 0-1-100. Decibels; —26 to +51. "O" dB at 1 mW on 600 ohm line. Accuracy ±1% ½° DC; ±3% AC. Similar in appearance to 630 APL. 3 11/32x5½x7½". Wt. 5 lbs.

62F168. NET **122.00**

MODEL 630—NA VOM

As above except 10,000 and 20,000 ohms/V DC and 5000 and 10,000 ohms/V AC. 70 ranges.

62F228. NET **103.00**



Models 630 APL,APLK,

CARRYING CASES AND REPLACEMENT LEADS

Model 639. Black cowhide leather case. Space for tester and accessories. For models 630, 630-A, 630-NA, 630-NS, 630-PL, 630-APL, 630-PLK, 630-APLK.

62F213. NET **15.30**

Model 639-P. Same as 639, but lined with ⅜" sponge rubber.

M¾¼F234. NET **21.70**

Model 639 N Same as 639 but with center cover flaps, permits complete access to tester without removal from case.

62F233. NET **15.30**

Model 669. Black leather case with strap handle, space for tester, leads, accessories. For 666-R.

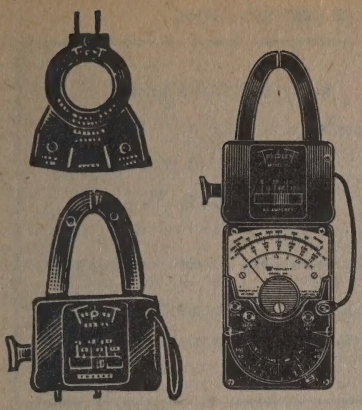
62F210,NET **10.10**

79-127. Replacement leads for Models 630-630-A, 666-R, 630-PL, 630-APL, 630-PLK, 630-APLK, 630-NA, 630-NS, 630-M, and 631.

62F245 NET **4.00**

TRIPLETT

PORTABLE MINIATURE VOM's



VOM/AC AMMETER SET

Model 100. Complete set includes Model 310 pocket-size VOM, Model 10 clamp-on AC Ammeter Adapter, Model 101 Line Separator, No. 311 Lead attachment for separating VOM and Adapter and Model 379 case. VOM has 20,000 ohms per volt DC and 5,000 ohms per volt AC. Accuracy, 3% DC, 4% AC range. AC and DC V ranges to 1200 volts in five ranges; current to 600 mA in four ranges, ohms to 20 megs in four ranges. Clamp-on adapter converts 310 to ammeter. Reads current in 6 steps. 101 separator increases ammeter sensitivity. Case holds 310 and 10 with pocket for 101 Line Separator. AC clamp-on will read up to 300 amps AC. Shpg. wt. 7 lbs. **Model 100-C.** Same as Model 100 except with Model 310-C and Model 10-C. **Model 100-FET.** Same as Model 100 except with Model 310-FET.

Stock No.	Model No.	Type	Each
62F249	100	3014	82.00
62F252	100-C	3010	92.00
62F1315	100-FET	3013	115.00

MODEL 10 CLAMP-ON AMMETER

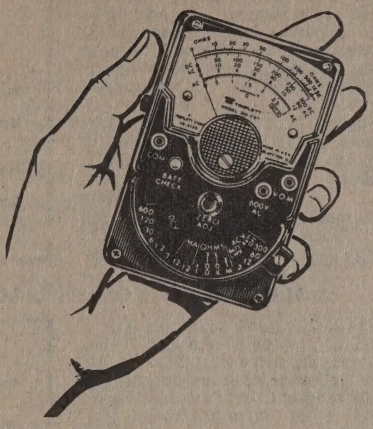
Checks all line loads instantly without breaking the circuits. Easy ranges switch. Ranges: 0-6-12-30-60-120-300. Clips around single wire to read AC amperes direct. Use with Adapter 101 to divide instantly two-conductor cords. A lever securely locks the Model 10 to Model 310 when used in combination. Model 10 can be left attached to Model 310 when the latter tester is used as an AC-DC VOM only. The only neccessary change is to remove the lead plug from the Model 310 VOM jack and insert it in jack provided in the Model 10 housing. Model 10-C for use with Model 310-C. Wt. 1 lb.

Stock No.	Model No.	Type	Each
62F235	10	60211	21.00
62F251	10-C	60210	21.00

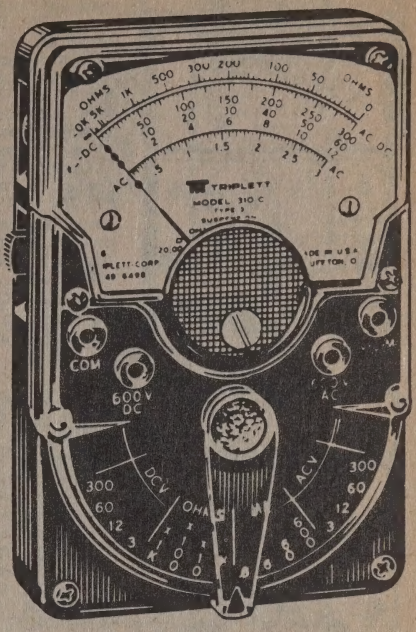
MODEL 101 LINE SEPARATOR

Used to separate one conductor of a two-conductor cable so that the Model 10 can be used on circuit having a two-conductor cable. Also extends the range of the Model 10 to low AC currents. AC RANGES. Direct Range: Ampere 0-6-12-30. Divide by 10: Milliampere 0-600-1200. Amperes 0-1.2-3-6-12. Divide by 20: Milliamperes 0-300-600-1500. Amperes 0-1.5-3-6. Line Separator divides 2 conductor cords and increases No. 10 sensitivity 10X & 20X. Shpg. wt. 1 lb.

Stock No.	Model No.	Type	Each
62F238	101	60218	8.40



Model 310-FET



Model 310-C

MODELS 310 & 310-C VOMs

Model 310. Complete miniaturized VOM with selector range switch. Rugged, high-torque, barring instrument. Standard sensitivity 20,000 ohms per volt DC, and 5000 ohms per volt AC. One selector switch minimizes chance of incorrect setting and burnouts. SPECIFICATIONS: Standard sensitivity, 20,000 ohms per volt DC and 5,000 ohms per volt AC. Range: VDC. 0-3-12-60-300-1200 (at 20,000 ohms per volt). VAC 0-3-12-60-300-1200 (at 5,000 ohms per volt). OHMS: 0-20,000-200,000. MEGOHMS: 0-2-20. DC MICROAMPERES: 0-600 at 250 millivolts. DC MILLIAMPERES: 0-6-60-600 at 250 millivolts. Accuracy, 3% DC, 4% AC. Case: Molded, black, fully insulated 2¾" x 1⅞" x 4¼". Batteries: NEDA 15V 220(1), 1½V 910F (1): Complete with 42" leads, alligator clips, batteries and instruction manual. Scale length: 2⅛". Shpg. wt. 2 lbs.

62F230. NET 46.00

Model 310-C. Similar to Model 310, but has 15,000 ohms per volt on AC, 600 volt ranges in place of 1200 Volts range of 310. Also features tautband meter movement. Lever range switch, reversing switch for DC. Range switch fully enclosed. One selector switch minimizes chance of incorrect settings and burnouts. Shpg. wt. 1 lb.

62F292. NET 59.00

MODEL 310-FET VOM

Hand-size FET VOM with 10 megohm DC input resistance and diode overload-protected suspension movement. Low voltage range of 300 mV DC; x1 megohm range. Single range switch; DC polarity-reversing switch.

SPECIFICATIONS: DC VOLTS: 0-0.3-1.2-6-30-120-600. Input resistance 10 megohms. AC VOLTS: 0-3-12-60-300-600 (5,000 Ohms per Volt). OHMS: 0-5k-500k-50M-5,000M (50 Ohm center scale on low range). DC MILLIAMPERES: 0-0.12-1.2 at 300 mV. ACCURACY: ±3% DC; ±4% AC. SCALE LENGTH: 2⅛". METER: Self-Shielded, diode overload protected suspension movement; DC polarity-reversing switch. CASE: Molded, black, 2¾" x 1⅞" d x 4¼" h. BATTERIES: NEDA 7V 1501M (1), 1½V 910A (1). Complete with 42" leads, alligator clips, batteries and instruction manual. Shpg. wt. 2 lbs.

62F250. NET 78.00

ACCESSORIES

MODEL 379 LEATHER CASE

For 310 and Model 10 clamp-on ammeter combination. Has pocket for Model 101 line separator. Black leather, strap. Wt. 3 lbs.

62F239. NET 9.70

MODEL 369 LEATHER CASE

Black case for 310, 310-C and 310 FET. meters. Trouser belt slips through loop on back of case. 1 lb.

62F231. NET 5.10

MODEL 311

Long lead to separate No. 10 from No. 310 for easy reading in awkward spots. Wt. 10 oz.

62F237. NET 4.00

Needle Tip Replacement Leads

Model 79-153. Replacement leads for model 310 and 310 C. Wt. 10 oz.

62F246. NET 4.00

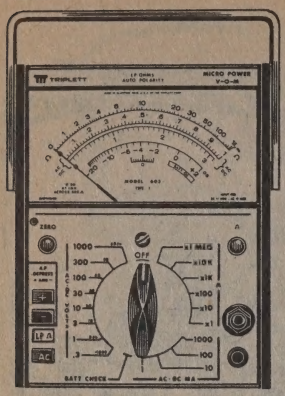
Blunt Tip Replacement Leads

Model 79-296. Blunt Tip replacement lead, for Model 310 series.

62F1316. NET 6.10

Test Equipment

MODEL 601 FET VOM WITH LOW POWER OHMS



Model 601. Type 2. Portable battery operated solid-state VOM with pushbutton function switches and FET circuitry for 11 megohm impedance on all AC and DC ranges. 601 has accuracy of ±2% of full scale DC and ±3% on AC. Frequency response on AC ranges is 50 to 50kHz. 7 conventional and 7 low power ranges designed to prevent electrical damage to IC's. In-circuit resistance measurements can be made without diode or transistor loading. In use, 75 mV is applied across device under test and max. power applied is .1 mW.
62F1768. NET.....182.00

Model 603. Similar to above, but 6 ranges and 70 mW power source, 20 Hz to 10 kHz. Type I. Automatic polarity.
62F265. NET.....165.00

60-407. AC Current Leakage Adapter. For 601 series meters. 7 ranges, 10 μA f.s. to 30 mA, f.s.
62F266. NET.....27.50

Model 601 Specifications

Ranges: AC & DC Volts: 0-.1-.3-1-3-10-30-100-300-1000 (Plus 0-.01-03 AC).
Ohms: 1-10-100-1k-10k-100k-1 meg (10 Ohm center scale).
Current: 0-10-100μA-1mA-10mA.

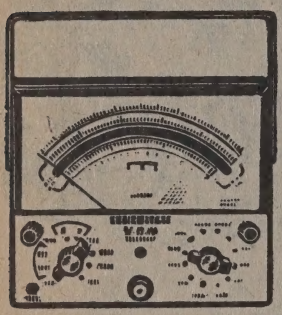
Size: 6½x5⅛x3⅛".

Meter: Diode overload protected, suspension movement.

Frequency Response: 50 to 50kHz on AC ranges.

Complete with test leads, battery and instruction manual.

MODEL 801 FET VOM WITH LOW POWER OHMS



Model 801. Type 2. Offers low power ohms in 8 ranges with 35 mV power source and 1-ohm center scale; high sensitivity of 0.0005 volts AC full scale at 10 megohms input resistance; plus 8" meter with 73 ranges. One probe used for all functions. Small contact probe has built-in sliding switch which places megohm resistor in series with instrument on DC voltage readings. DC voltage ranges accurate to ±2% on all ranges except 1500 volts, ±3%. AC accuracy ±3% on all ranges. DC current, ±3%. AC current, ±4%. With leads, probe, case.
62F267. NET.....231.00

60-413. Leakage Adapter. For 801 series. 8 ranges, 10 μA f.s. to 30 mA f.s.
62F268. NET.....33.00

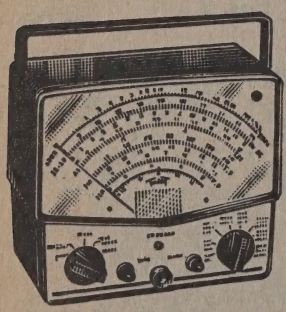
Model 801 Specifications

Ranges: DC Volts: 0-.05-.15-.5-1.5-5-15-50-150-500-1500
AC Volts: .005 to 1500 volts
dB: −70 to +66 dB
Ohms: 0-100-1k-10k-100k-1M-10M-100M-1000M (1 ohm center scale on low range)
AC/DC Microamps: 0-5-15-50-150-500 at 45 mV
AC/DC Milliamps: 0-1.5-5-15-50-150-500 at 45 mV

Size: 8x5x7"

Frequency Response: 50 Hz to 50 kHz

VACUUM TUBE VOLTMETER



Model 850. Long 7" easy-to-read scale plus .5 DC volt range for transistorized circuits. Meter is connected into cathode circuit of 12AU7 for high stability. Accurate to within ±3% on all AC and DC ranges. Ohms accurate within ±3% of full scale based on DC scale. Features 29 ranges for maximum flexibility in lab, shop, or in the field. Oversized meter is color-coded to simplify readings, even under adverse conditions. 11 megohm input resistance. Has one 12AU7 tube and one 6AL5 tube, uses standard 115 volt, 50-60 Hz power. Molded black case takes years of rough use without shattering or cracking. Power cord is grounded for added safety. Uses NEDA 1½ volt 14F battery (included) for resistance measurements. Meter complete with 48" test leads, alligator clips with protective rubber shields, and instruction manual.
62F269. NET.....113.00

Model 850 Specifications

Ranges: DC Volts: 0-.5-1.5-5-15-50-150-500-1500
AC Volts: 0-1.5-5-15-50-150-500-1500
Ohms: 0-1k-10k-100k-1M-10M-100M-1000M (10 ohm center scale)
Peak-to-Peak Volts: 0-4-14-40-140-400-1400-4000

Size: 7⅝x3¾x6⅞"

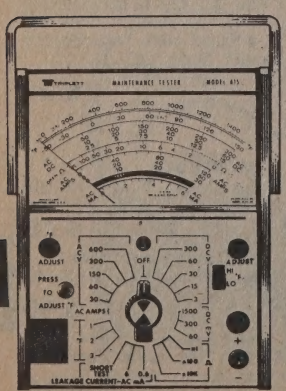
Frequency Response: 15 Hz to 3 MHz

Meter: 7" length. Spring-backed instrument jewels, polarity reversing.

Power: 115 Volts, 50-60 Hz., AC

MODEL 615 MAINTENANCE AND APPLIANCE TESTER

Measures Volts, Ohms, Degrees Fahrenheit and Leakage Current



Multi-purpose, multi-range tester designed to meet the needs of the residential maintenance man or serviceman. Its AC and DC voltage ranges give accurate readings for troubleshooting electrical circuits and controls. Low millivolt DC ranges are included to allow troubleshooting of thermocouple and control circuits found in heating equipment.
Three resistance ranges test for continuity and resistance. Two temperature ranges for testing heating and cooling systems. Three separate inputs are provided for the temperature ranges, allowing measurements of temperature at three different locations by just turning the switch. The tester also measures leakage current—stray current that can flow between appliances and ground when a person touches both. With 48" leads, thermocouple probe, alligator clips, batteries.
62F272. NET.....130.00

Model 615 Specifications

Ranges: DC Volts: 0-.06-.3-1.5-3-15-30-60-300 at 20,000 ohms/volt
AC Volts: 0-3-30-60-150-300-600 at 5000 ohms/V
Ohms: 0-1k-100k-1 megohm
Temperature: −50°F to +150°F; −50°F to +1500°F.
AC Current Leakage: (through a network that simulates the human body) Ranges: Short test; 0-0.6-6 mA AC.

Meter: 4½" scale length. Diode overload protection.

Size: 6½" h. x 5⅛"w. x 3 3/16 d.

TRIPLETT Environmental Test Equipment

SOUND LEVEL METERS

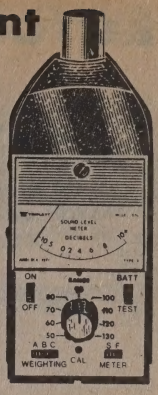
Model 370. Ideal for rapid surveys and checks on noisy environments in all industrial, commercial and manufacturing processes. A, B, C weighting. Fast/Slow meter response. **Specifications. Measuring range:** 40 dB to 140 dB (re. .0002 microbar) in 10 dB increments. **Accuracy:** Exceeds ANSI Standard S1.4-1971 for Type 3 Sound Level Meters. **Output (full Scale):** Approximately 100 mV RMS into a 10K ohm load for a full scale meter reading. Output impedance is less than 10 ohm. **Operating temp. range:** 20°F to 125°F (−7°C to 50°C); temp. coeff. is +.02 dB/°F (+.036 dB/°C). **Storage temp. range:** 0°F to 150°F (−18°C to 65°C) with battery removed. **Operating humidity range:** 5% to 85% relative humidity. **Magnetic field:** 1-Orsted field of 50 or 60 Hz has no measurable effect on the Model 370. **Tester Construction: Meter:** Suspension movement with 1.5" dial length. **Case:** Flat black aluminum with high impact plastic cone; 7¼" long x 2" deep x 3" wide. **Wt.** 1 lb. with batteries. **Batteries.** 2-9V NEDA 1604: life is approximately 40 hours with typical intermittent operation.

66F650. NET **250.00**

Model 375. As above, except for the following: Used especially as general purpose meter. **Accuracy:** Exceeds ANSI Standard S1.4-1971 for Type 2 Sound Level Meters.

66F651. NET **325.00**

Model 371.



Model 370.

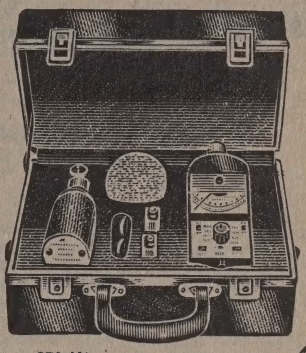
SOUND LEVEL CALIBRATORS

Model 371. Portable, completely self-contained, solid-state acoustic calibrator used for making accurate and reliable field and in-plant calibrations on various types of microphones and sound-measuring instruments. **Specs. Freq.:** 1000Hz ±3%. **Sound Pressure Level:** 114 dB, ref. .0002 microbar. **Accuracy:** ±0.5 dB at 73.5°F (23°C) and 760 mm Hg. **Temp. Coeff.:** Between 0 and −.006 dB/°F (−.01 dB/°C). **Operating Environment: Temp.:** 32°F to 125°F (0°C to 50°C). **Humidity:** 5-85% R.H. **Dimensions:** 4⅝" long x 2" dia. **Wt.** 1 lb.

66F652. NET **125.00**

Model 372. As above, except as noted below. **Frequencies:** 125, 250, 500, 1000 and 2000 Hz ±3%. **Sound Pressure Level:** 100 dB or 114 dB (ref. .0002 microbar). **Accuracy:** ±0.3 dB −500 Hz, ±0.5 dB − other frequencies at 73.5°F (23°C) and 760 mm Hg. **Dimensions:** 5¾" long x 2¼" diameter.

66F653. NET **240.00**



370-K1.

SOUND LEVEL KITS

Specifications. Model 370-K1. Sound level kit—includes Model 370 Sound Level Meter —Type 3, Model 371 Acoustic Calibrator—1 Frequency with adapter for ½" microphone, Neck Strap for Model 370, Foam Wine Screen, Molded Plastic Case, batteries and instruction manuals.

66F654. NET **397.00**

Model 370-K2. As above, except that the Model 371 is replaced by the Model 372—5 frequencies.

66F655. NET **512.00**

Model 375-K1. As in Model 370-K1 except that the Model 370 is replaced by the Model 375 Type 2 with a corresponding neck strap for the same.

66F656. NET **472.00**

Model 375-K2. As in Model 370-K2, but with Model 375, Type 2.

66F657. NET **587.00**

NOISE DOSIMETER

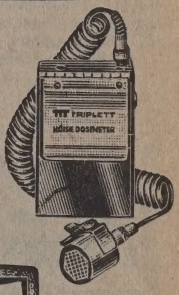
Model 376. Light weight, small size and very handy to carry. Measures the fractional exposures C_n/T_n where C_n indicates the total time of exposure at a specific noise level and T_n indicates the total permissible time at that level. It continually sums these fractional exposures and displays a number representing the percentage of allowable exposure to which the instrument has been subjected. Switch for 90 dB cutoff. 115 dB alarm indicator. **Specifications. Measuring range:** 90 to 115 dB. **Weighting Network:** "A" weighted response meets ANSI S1.4 1971 Standard. **Accuracy (1000 Hz):** Within ±1 dB of the ideal smooth curve stated in the Department of Labor Occupational Noise Standard. **Output: AC:** AC analog output approximately 1.5 volts RMS into 100K ohm load at 115 dB. **DC:** Unfiltered DC output approximately 1.2 volts DC into 100K load at 115 dB. **Operating temp. range:** 5°F to 125°F (−15°C to 50°C), wear inside protective clothing at temp. below 32°F. **Operating humidity range:** 5-85% R.H. **Tester Construction: Case:** Blue aluminum, 2⅝" w x 1¾₁₆" d x 4½" h. **Wt.** ¾ lb.

66F658. NET **480.00**

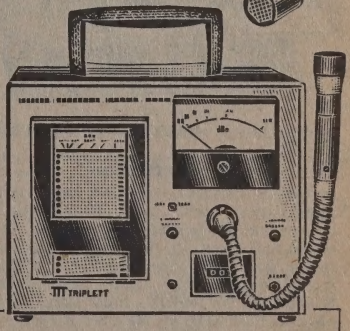
Model 380. Sound Level Recording Integrator. As above, except as mentioned below. Fully automatic, portable instrument that computes and records on paper tape the cumulative daily noise exposure to determine if the noise level is within the legal tolerance of the Walsh-Healey Contracts Act and the Occupational Safety & Health Act. **Recorder: Stylus type:** Hot pen continuous writing. **Chart Speed:** 6" per hour. **Range:** 90 dB to 115 dB. **Chart length:** 75 ft/roll. **Take-up Reel:** Internal take-up roll for tape. **Operating temp. range:** 32°F to 100°F (0°C to 38°C). **Tester Construction: Meter:** Suspension movement with 3.16" dial length. **Case:** Blue Aluminum, 10½" w x 8½" d x 8¾" h. **Wt.** 11 lbs. **Power Requirement:** 115 volts 60 Hz at 1 amp. max.

66F659. NET **945.00**

Model 376.



Model 380.



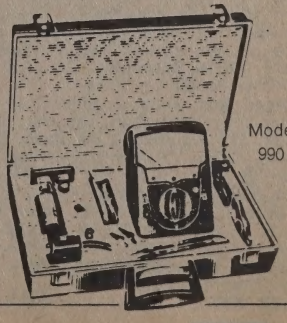
MODEL 990 TYPE 2 INDUSTRIAL MAINTENANCE ANALYZER

This kit consists of Model 900 Type 2 Meter, AC Ammeter Adapter, Line Separator, Tachometer-Generator, Temperature Probe, High DC Current Shunt, Carrying Case and leads. Measures AC/DC Volts, Ohms, AC/DC current, temperature, dB and rpm. Has burn/out proof solid-state overload protection; DC polarity-reversing switch. **Model 900 Type 2: DC Volts: Ranges:** 0-2. 5-10-50-250-1,000-5,000 (20,000 ohms per volt); 0-0.25 at 100 μA. **Accuracy:** ±2% of full scale all ranges, except 5,000 volts ±4%. **AC Volts: Ranges:** 0-3-10-50-250-1,000-5,000 (5,000 ohms per volt). **Accuracy:** ±3% of full scale all ranges, except 5,000 volts ±5%. **Ohms: Ranges:** 0-1K-10K-1MΩ-100MΩ. (4.4 ohm center scale on low range). **Accuracy:** ±2% of full scale all ranges. **DC Microamperes: Ranges:** 0-100 at 250 mV. **Accuracy:** ±2% of full scale. **DC Milliamperes: Ranges:** 0-10-100 at 250 mV; 0-1,000 at 400 mV. **Accuracy:** ±2% of full scale all ranges. **DC Amperes: Ranges:** 0-10 at 600 mV. **Accuracy:** +2% of full scale all ranges. **Decibels: Ranges:** −20 to +49 ("0" dB at 1 mW on 600 ohm line). **Accuracy:** ±2% full scale all ranges. Scale, lower arc, lettered −20 to +11 dB. **Output Volts (AC): Ranges:** 0-3 10-50-250 (5,000 ohms per volt). **Accuracy:** ±3% full scale all ranges. **Tester Construction: Meter:** 50 μA suspension movement with approximately 4½" scale length. **Case:** Molded, black, 3¹¹⁄₃₂" x 5⅛ x 7½". **Wt.** 10 lbs.

66F661. Model 990 kit. **NET** **243.00**

66F660. NET **113.00**

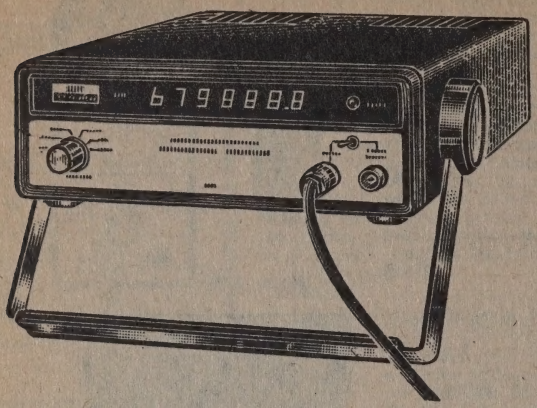
Model 900. Meter only: Wt. 4 lbs. with batteries.



Model 990

19

WESTON Digital Frequency Counters and Scalers



FREQUENCY COUNTERS

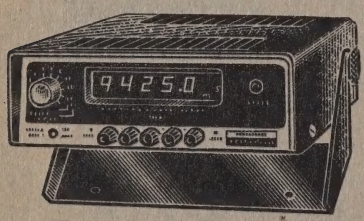
- **Separate Inputs**
- **LED Readouts**
- **Solid State IC Design**

Separate inputs . . . high, 1 megohm/15 pf and low, 50 ohm impedance inputs for matching a wide range of signal sources. Seven digits of high visibility LED readout plus overrange. Leading zero blanking. Resolution down to a tenth of a Hz. 1 MHz. time base. External clock input . . . useful for extremely high precision work: permits frequency ratio measurements. Front panel pushbutton reset . . . first new display is always correct . . . a convenience on longer time base settings. Carrying handle quickly locks into any of three positions, providing a handy tilt stand.

Model No.	Stock No.	Each
1253	57F1729	625.00
1254	57F1730	795.00
1255	57F1731	975.00

	Model 1253		Model 1254		Model 1255	
Freq. Range—	A Input	B Input	A Input	B Input	A Input	B Input
	1 Hz to 65 MHz	10 MHz to 200 MHz	1 Hz to 65 MHz	10 MHz to 200 MHz	1 Hz to 65 MHz	10 MHz-200 MHz direct†
Typical*	1 Hz to 230 MHz		1 Hz to 230 MHz		1 Hz to 600 MHz	
Input Imp.	A input, 1 megohm/15 pf, B input 50 ohms.					
Input Sen.*	10 mV @ 35 MHz; 15 mV @ 200 MHz.		50 mV @ 600 MHz			
Max. Input*	A input, 200 V rms @ 10 MHz, derated to 45 V rms & 35 MHz B input, 5 V rms.					
Time Base	1 MHz crystal		1 MHz TCXO		1 MHz TCXO	
Settability	±0.1 Hz		±0.1 Hz		±0.1 Hz	
Long Term Stability	1 part, 10^6/mo. 7.5 parts, 10^6/yr.		1 part, 10^7/mo. 1 part, 10^6/yr.		1 part, 10^7/mo. 1 part, 10^6/yr.	
Temperature Stability	±10 parts, 10^6, 0-40° C		±10 parts, 10^6, 0-40° C		±10 parts, 10^6, 0-40° C	
Ranges	Hz—10 sec., kHz—1 sec., MHz—100 msec., MHz—10 msec. Ext. Oscillator Input ±10^7, ±10^6, ±10^5 & ±10^4.					
External Oscillator	Input freq. DC-2 MHz. Sen., TTL level or 2.5 V rms w/50 Ω source res. Protection. ±5 pk to ±10V pk.					
Remote Programming	None	Standard				
Inputs	None	TTL-level data req. to control Range, Reset, Input Select, Count Inhibit. Logic 0, 0.8 V; Logic 1, 2.0 V <5.5 V				
Outputs	None	7 digits 8-4-2-1 BCD, Overrange Flag, Dec. Points, Print Command, 5 V ref. (will drive all remote programming) Circuit Grd.				
Time Base Ranges	None	Hz—10 sec., kHz—1 sec., MHz—0.1 sec., MHz—0.01 sec., MHz—0.001 sec., GHz—100 usec., GHz—10 usec., GHz—1 usec.				
Readout	Seven 7-segment LEDs overrange ind.					
Display Time	0.2 sec. plus gate interval.					
Reset	Man. frt. panel	Man. frt. panel: remote reset w/ext. programming				
Oper. Temp.	10 to 40° C ambient.					
Power Req.	120/240 VAC, 50/60 Hz, 45 watts.					
Dimensions	2¾"H x 8½"W x 12⅞"D					
Shipping Wt.	10 pounds					

(†) 40 MHz to 600 MHz prescaled by 10. (*) Guaranteed.

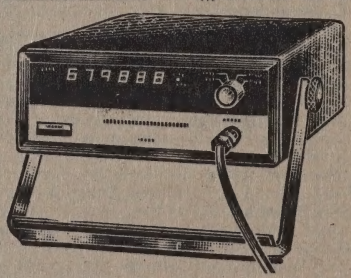


MODEL 1251 PROGRAMMABLE TIMER

- **Zero Crossing of TTL-Level**
- **5 Digits of BCD Output**

Measures time interal, period, period average, events, and ratio. Programmable ranges and reset. 5 digit LED readout. True differential input. 100 nsec resolution. Overrange and completion flag. Can be computer programmed and commanded. **START/STOP INPUT—Input Imp:** 1 megohm shunted by 50 pF. **Max. Input Volt:** ±50 VDC ref. to grd. **Sen:** zero crossing mode 100 mV RMS. TTL/relay mode, TTL compatible. **GENERAL-Range:** Time A-B: 0.1 μs to 10^4 sec. Period Av: 5×10^{-8} sec. to 9999.9 sec. Events: 1-99999. **Resolution:** Time A-B: 100 ms-100 ns. Period Av: 100 ns/no. of periods averaged. **Acc:** ±1 count, ±time base acc., trigger error (start/stop). **Ext. Osc. Input Range:** DC-12.5 MHz. **Time Base: Freq.** 10 MHz. **Aging:** <5 ppm/yr. Line Volt. **Stability:** <1 part in 10 for 10% line variation. **Temp. Stability:** ±5 ppm 10°-40° C ambient. ref. at 25° C. Max. Cable: 18". **Power Req:** 105-125 V, 50/60 Hz. 23 W (210-250 int. change). **Fuse:** 125 V, ¼ A. Slow blow and 250 V. ½ A. **Dimensions:** 9⅛"d, 6¾"w, 2¼" h. Net Weight: 4½ lbs.

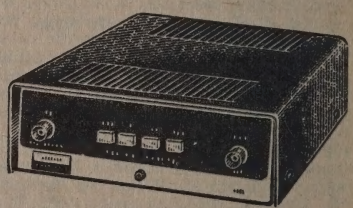
57F1732. NET..... 495.00



MODEL 1252 FREQUENCY COUNTER

Compact, lightweight autoranging counter. Input impedance of 1 megohm. Solid-state design. Automatic blanking of redundant zeros. Carrying handle converts to tilt stand. Autorange and two preset gate intervals. Basic time base produced by convential crystal clock. Provision for connection of external clock frequencies. **INPUT—Freq. range:** 5 Hz-30 MHz. min. **Sen:** 10 mV RMS. **Max. Volt:** 200 V RMS. **TIME BASE OSC—Freq:** 1 MHz. Setability: ±0.1 ppm. Max. **Aging Rate:** 7.5 ppm/yr. **Temp. Stability:** ±0°-40° C ambient. **EXT. OSC—Freq:** DC-2 MHz. **Sen:** TTL or 2.5V RMS from 50Ω source. **Protection:** −5V pk. to +10V pk. **RANGES-GATEINTERVAL—Manual:** kHz, -1s, MHz.-10ms. **Auto;** kHz-10s, kHz,-1s, MHz.-100ms or MHz-10ms (dep. on incoming signal). **GENERAL—Display Time:** 200ms + gate interval. **Power Req:** 105-130 V, 50/60 Hz. 20 W max. (210-260 V, 50/60 Hz. with int. change) **Fuse:** 125 V.-¼ A, 125 V slow blow. 250 V.-⅛ A, 250 V slow blow. **Dimensions:** 7¼" wide, 10½" deep, 2¾" high (less handle). Net Weight: 4 lbs.

57F1733. NET..... 295.00



MODEL 1259 600 MHZ SCALER

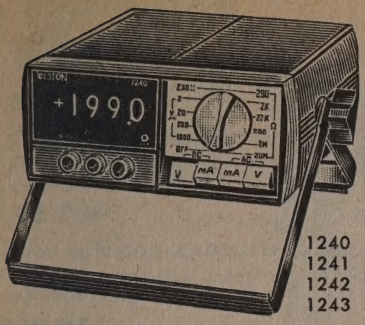
- **Push Button Range Selection**
- **Integrated Circuit Regulator**

Excellent performance, high reliability, and low cost. Hybrid circuit for good response, high sensitivity. State of the art decade counter and emitter coupled logic. Integrated circuit power supply. Push-button selected scales. 1, 10, 100. XI range provides 17 dB of amplification. Output amplitude is 1 volt peak to peak. Will drive almost all counters. Fuse protected input up to 5 volts RMS. **INPUT—Freq. Range: ÷1-Sine or square wave:** 10 MHz. to 100 MHz. **÷10-Sine wave;** 40 MHz. to 600 MHz. (typical 15 MHz to 600 MHz). **Square wave:** 10 MHz-600 MHz. **÷100-Sine Wave:** 40 MHz to 600 MHz (typical 15 MHz to 600 MHz). **Square wave:** 10 MHz to 600 MHz. **AMPLITUDE**—Min. −50 mV RMS. Max: −2.0 V RMS (to maintain 2:1 VSWR) protected to 5 V RMS. **IMPEDANCE**—50Ω with 2:1 VSWR from 10 MHz to 600 MHz and 2 V RMS input voltage, AC coupled. **OUTPUT—Amplitude:** 1 VP-P. Imp: 50Ω, AC coupled. **POWER REQ.:** −120 V, 50/60 Hz, 7 W. Can be set to 240 V with internal switch and fuse change. **DIMENSIONS**—9⅛" deep, 6¾" wide, 2¼" high.

57F1734. NET..... 455.00

Digital Multimeters

WESTON®



1240
1241
1242
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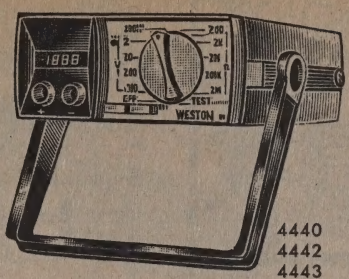

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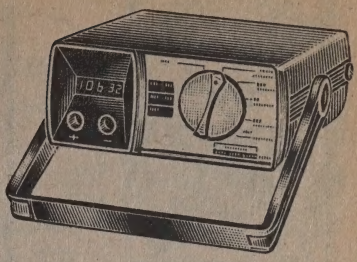


4444

MODEL 1240 AND 1241 DIGITAL AC/DC MULTIMETERS

Compact. 26 ranges for AC and DC voltage, current, and resistance. Single range selector. Feather-touch function switches. Overload protected by either resistor-diode network or fuses. 200 mV range allows use of Weston transducers, DC shunts, etc. Out-of-range and automatic polarity indication. High impact glassed filled thermoplastic case for excellent shock resistance. Fully recessed controls. Carrying handle converts to adjustable tilt stand. RANGES: **DC Volts:** 0-0.2-2-20-200-1000V, ±0.1% rdg. acc. ±1 digit; Input Imp. 10 megs exc. 0.2V, 100 megs and 2V, 1000 megs. **AC Volts:** 0-200mV; 0-2-20-200-500V, 0.5% rdg. acc. ±1 digit; Input Imp. 1 megohm; Freq. 40 Hz-10 kHz. 1% acc., 10 kHz-20 kHz. **DC Current:** 0-200 μA; ±0.25% acc., ±1 digit; 0-2-20 mA, ±0.2% acc.; 0-200 mA, ±0.3% acc.; 0-2 A, ±0.5% acc. Voltage Drop: 0.2 V nominal. **AC Current:** 0-200 μA, ±0.75% rdg. acc. ±1 digit; 0-2-20 mA, ±0.7% acc.; 0-200 mA, ±0.8% acc.; 0-2 A, ±1% acc.; Voltage Drop: 0.2 V nominal. Freq: 40 Hz 10 kHz. **Resistance:** 0-200-2K-20K-200K ohms, 0-2 megohms, ±0.5% acc., ±1 digit; 0-20 megohms, 1-2% rdg. acc. SPECIFICATIONS: **Temp:** 10°-40° C. **CMR:** 80 db @ 60 Hz with 1000 unbalance. **NMR:** 35 dB @ 60 Hz. Readings: 5 per sec., non-blinking display. **Temp. Influence:** 0.005% rdg. per ° C. **Humidity:** 85% @ 36° C. **Vibration:** 5-10 Hz for 1 hr. @ 0.4 G; 10-50 Hz for 11 msec @ 2 G. **Shock:** 50G on 3 axes. **Power Req:** 115 or 230 VAC, +15%, −10%; 50-400 Hz, 6 W nominal. **Size:** 7" wide x 7.9" deep x 3" high. Weight 4 lbs.

Model 1240. 55F5187. NET **394.50**

Model 9740-0269562. Leather carrying case for Models 1240, 1241, 1242, 1243. Shpg. wt., 1 lb.

55F5191. NET **19.50**

Model 9740-270520 Power Supply: Rechargeable battery powered supply for Models 1240, 1241, and 1250. Up to 6 hrs. use. Leather case. Battery not supplied.

55F5188. NET **99.60**

Model 9740-270145 Battery: for above. Standard Globe gel/cell. 12 volts.

55F5189. NET **30.00**

Model 1241. Same as 1240 but reads only DC current and resistance. Same ranges as 1240.

55F5190. NET **289.00**

MODEL 1242 AND 1243 DIGITAL AC/DC MULTIMETERS

±19999 display. Compact. Completely portable. Dual-slope integration for excellent accuracy and stability. 25 ranges for AC and DC Voltage, AC and DC current and resistance. Overload protected. Fully recessed controls. Single range selector. Feather touch touch function switches. Allows use of transducers.

RANGES: **DC Volts:** 0-0.1-1-10-100-1000 V, ±0.05% rdg acc., ±1 digit. Input Imp: 10 megs exc. 0.1 V, 100 megs and 1 V, 1000 megs. **AC Volts:** 0-100 mV, 0-1-10-100-500 V with ±0.2% rdg acc. ±0.05% FS for 60 Hz-10 kHz; ±0.25% rdg acc. ±0.05% FS for 40-60 Hz; ±0.5% rdg acc. ±0.15% FS to 20 kHz. Input Imp: 1 megohm. **DC Current:** 0-100 μA and 0-1-10-100 mA with ±0.15% rdg. acc. ±1 digit; 0-1 A with ±0.2% rdg acc. ±1 digit; Voltage Drop: 0.1 V. **AC Current:** 0-100 μA and 0-1-10-100 mA with ±0.35% rdg acc., ±0.05% FS; 0-1 A with ±0.4% rdg acc., ±0.05% FS. Voltage Drop: 0.1 V. Freq. Range: 40 Hz-10 kHz. **Resistance:** 0-1000Ω, ±0.15% rdg acc., ±1 digit; 0-10K-100K, ±0.1% rdg, ±1 digit; 0-1 meg., ±0.25% rdg, ±1 digit; 0-10 megs, ±0.5% rdg, ±1 digit.

SPECIFICATIONS: **Operating Temp:** 10°-40° C. **Overrange:** 100% exc. 1000 VDC and 500 VAC ranges. **CMR:** >80 dB @ 60 Hz with 1000 Ω unbalance. **NMR:** 40 dB @ 60 Hz. **Readings:** 10 per sec, non-blinking display. **Humidity:** 85% @ 36°C. **Vibration:** 5-10 Hz for 1 hr. @ 0.4G; 10-50 Hz for 11 msec @ 2G. **Shock:** 50 G on 3 axes. **Power Req:** 115 or 230 VAC, +15%, −10%, 50-400 Hz, 8.5 W. **Size:** 7"w x 7.9"d x 3" h. **Weight:** 4½ lbs.

62F1425. Model 1242. NET **595.00**

Model 1243. Same as 1242 plus isolated 8421 BCD output in parallel form compatible with T²L logic, at rear of meter.

57F1724. Model 1243. NET **695.00**

MODEL 4440 PORTABLE DIGITAL MULTIMETER

3½ digit. Solid-State. Light weight. Shock proof. Dual slope high impedance bipolar A/D converter. Single MOS LSI plug-in chip for logic circuits. Auto-polarity. Auto-blanking. Overload protection. High impact plastic case. Supplied with four nickel cadmium "C" cells and battery charger—which plugs into 117 V, 60 Hz outet. Battery test switch. Can also use std. carbon type "C" cells.

RANGES: **DC Volts:** 0-199.9 mV, 50 meg inpt. imp; 0-1.999 V, 500 megs; 0-19.99-199.9-999 V, 10 megs. ±0.3% rdg acc. ±1 digit. **AC Volts:** 0-199.9 mV, 0-1.999-19.99-199.9-999 V, ± 5% rdg acc. ±3 digits. Input Imp: 10 megohms. Freq: 40 Hz-10 kHz, 40 Hz-2 kHz on 1000 V range. **DC Current:** 0-199.9 μA, ±5 digit acc. AC Current: 0-199.9 μA, ±0.7% acc. ±5 digits. **Resistance:** 0-199.9-1999-19.99 K-199.9K; 0-1.999 megohms, ±0.5% acc., ±3 digits. Voltage Drop: 0.2 V exc. 2 V for 1.999K and 1.999 meg.

SPECIFICATIONS: **Display:** 1999 non-blinking. Leading "O" blanking. **Conversion Rate:** 4 per sec. **CMR:** 80 dB. **NMR:** 35 dB. **Temp:** 15°-35° C, 10°-50° with derated acc. **Power Req:** Rechargeable or std. C batt., or 115 VAC, 50-400 Hz. **Size:** 5.45"w x 7.25" d x 2.25" h. **Weight:** 2⅛ lbs.

62F1426. Model 4440. NET **250.00**

MODEL 4442 PORTABLE DIGITAL MULTIMETER

3½ digit. Solid-state. Dual slope high impedance bi-polar A/D converter. Auto-blanking and polarity. Single chip for logic circuitry. Overload protection. Supplied with four nickel cadium "C" cells and battery charger.

RANGES: **DC Volts:** 0-199.9 mV-1.999 V, .05% rdg ±1 digit. 0-19.99-199.9-1000 V, .1% rdg ±1 digit. **AC Volts:** 0-199.9 mV-1.999-19.99-199.9 V, .3% rdg ±1 digit. 40 Hz-10KHz. 0-1000V .5% rdg ±1 digit, 40 Hz-2 KHz. 199.9 mV-1.999-19.99-199.9 V, .6% rdg ±1 digit, 10 KHz-20 kHz. 0-1000 V, 1% rdg ±1 digit, 2 KHz-10 KHz. **DC Current:** 0-199.9 μA-1.999 mA, .2% rdg. ±1 digit. **AC Current:** 0-199.9 μA, .4% rdg ±1 digit, 40 Hz- 10 KHz. 0-199.9 μA-1.999 mA, .75% rdg ±1 digit, 10 KHz-20 KHz. **Resistance:** 0-199.9Ω-1.999 K, 1 mA @ 0.2 + 2V, .25% rdg. ±3 digits. 0-19.99 K-199.9 K, 10 μA @ 0.2 + 2 V. .1% rdg ±1 digit. 0-1.999 M, 1 μA @ 2 V, .2% rdg ±1 digit. 0-19.99 M, .1 μA @ 2 V, .5% rdg ±1 digit.

SPECIFICATIONS: **Conversion Rate:** 4 per sec. **CMR:** 80 dB. **NMR:** 38 dB. **Power Req:** "4" cells or std. line. **Temp:** 25°C 3°C, 0°C-50°C at derated acc. **Size:** 2.25"h x 5.45"w x 7"d. **Weight:** 2½ lbs.

57F1726. Model 4442. NET **275.00**

Model 4443. DC Volt, Ohms, Current only. Same ranges as Model 4442.

57F1727. NET **250.00**

MODEL 4444 DIGITAL MULTIMETER

Instant autoranging obsolates conventional range selection switch. Automatically adjusts itself for proper readout. 4 digit scale length. Bright LED display. Automatic decimal point, polarity and units indication. Light, rugged casing.

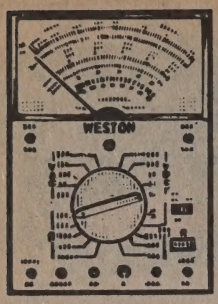
RANGES: **DC Voltage:** 0-100mV-1V-10V, ±0.02% rdg ± 2 digits. 0-100-1000 V, ±0.03% rdg ±1 digit. **AC Voltage:** 0-100mV-1V, ±0.1% rdg ±8, ±4 digits. 0-10-100-700V, ±0.2% rdg ±7, ±3, ±3 digits. **Resistance:** 0-1KΩ, ±0.05% rdg ±3 digits. 0-10-100KΩ-1 MΩ ±0.05% rdg ±1 digit. 0-10MΩ, ±0.25% rdg ±2 digits. **DC Current:** 0-10μA, ±0.05% rdg ±3 digits. 0-100 μA-1 mA, ±0.05% rdg ±1 digit.

SPECIFICATIONS: **Temp:** 0°-45° C. **CMR:** >120 dB ex. AC at 50+ 60 Hz > 70 dB. **NMR:** > 60 dB. Readings: > 3/sec, DC and ohms; > 2/sec, AC. **Power Req:** 117/234 V+10%-15%, 50/60 Hz. **Size:** 2.25"h x 5.45"w x 7"d. **Weight:** 2½ lbs.

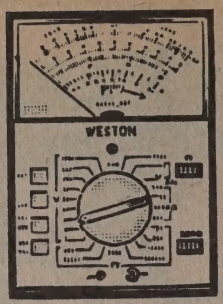
57F1728. Model 4444. NET **575.00**

ACCESSORIES FOR SERIES 1240 & MODEL 4440 MULTIMETERS

Stock No.	Type No.	Description	Each
57F1718	9970-0271962	High volt. probe, less res.	19.00
57F1719	9970-0271959	900 meg res. for 50KV probe	4.75
57F1720	9970-0271960	475 meg res. for 25KV probe	4.75
57F1721	9970-0272890	990 meg res. for 50KV probe	4.75



Model 660



Model 666

SERIES 660 "DROP-PROOFED" VOMs

Major design advancement. Warranted in writing to work even after five accidental drops. Rugged self-shielded taut-band mechanism. Diode protected movement. Temperature compensation. Pluggable circuit boards for easy repair. Scales calibrated for dB measurements. Recalibration without disassembling. External fuse replacement. Controls flush with end of case. Single range switch. Self storing handle. Input terminals spaced for use with double banana jacks. All models supplied with leads and batteries. Choice of five different models as listed below.

MODEL 660 VOM

Precision instrument built for service in most demanding field environments. Completely "drop-proofed". Rugged self-shielded taut-band mechanism. Temperature compensated. Diode protected meter movement. Polarity reversal switch for AC voltages. Critical circuits employ 1% precision resistors. Specially calibrated scales for dB measurements. Externally replaceable fuse and single range switch. Full range coverage provided.

SPECIFICATIONS

Accuracy: 2% DC (1.5% on 50 A range); 3% AC.
Sensitivity: 20,000 per Volt DC. 5,000 per Volt AC.

RANGE

DC Millivolts	0-250
DC Volts AC Volts	0-2.5-10-50-250-500-1000-5000 0-2.5-10-50-250-500-1000-5000
VAC Output DC Microamps DC Milliamps DC Amps	0-2.5-10-50-250 0-50 0-1-10-100-500 0-10
OHMS	RX1, 0-2K, 20Ω center: RX10, 0-20K, 200Ω center; RX100, 0-200K, 2,000Ω Center: RX1K, 0-2 megs, 20KΩ center: RX10K, 0-20 megs, 200 KΩ center.
dB Scales*	−10 to +10; +2 to +22; +16 to +36; +30 to +50; +36 to +56.

(*) 1 mW, 600 ohm line.

Size: 5"w x 2¼"d x 7"h. **Weight:** 2 lbs. (batteries incl.).
62F1420. Model 660. NET **68.00**

MODEL 661 HIGH ACCURACY VOM

Same as Model 660 with the addition of a mirror scale and improved basic accuracy to 1% DC and 2% AC. ½% precision resistors. Ranges the same as 660.
62F1421. Model 661. NET **76.50**

MODEL 662 OVERLOAD-PROTECTED VOM

Same as Model 660 but with built-in overload protection up to 220 V. AC/DC (exc. 10 A DC range). or to 1000 V on higher ranges. Ranges the same as 660.
62F1422. Model 662. NET **101.50**

MODEL 663 HIGH ACCURACY OVERLOAD-PROTECTED VOM

Same as Model 660 but with mirror for high accuracy and built-in overload protection. Accuracy: 1% DC, 2% AC. Ranges same as 660.
62F1423. Model 663. NET **110.00**

MODEL 666 SOLID STATE CIRCUIT TESTER VOM

Designed for semiconductor circuit troubleshooting. 10 megs input imp. All features of 660 plus differential pair FET input to high gain IC op amp. Fully frequency compensated. Input reversal switch provided. Size, wt., same as 660.

SPECIFICATIONS

Accuracy: 2% VDC; 3% VAC; 3% DC Current; 4% AC Current.
Sensitivity: 10 megs DC; 10 megs, 100 pF, AC.

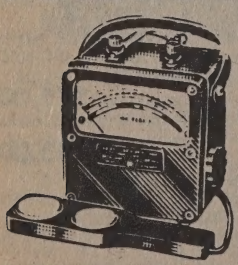
RANGES

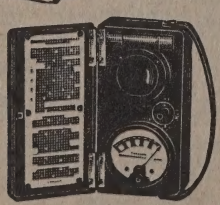
DC Millivolts DC Volts	0-100-300. 0-1-3-10-30-100-300-1000.
AC Millivolts AC Volts	0-100-300. 0-1-3-10-30-100-300-1000.
DC Microamps DC Milliamps	0-1-10-100. 0-1-10-30.
AC Microamps AC Milliamps	0-1-10-100. 0-1-10-30.
Ohms	RX1, RX10, RX100, RX1K, RX10K, RX100K, RX1 Meg.
dB Scales	−40 to −18; −30 to −8; −20 to +2; −10 to +12; 0 to +22; +10 to +32; +20 to +42; +30 to +52; +40 to +62.

62F1424. Model 666. NET **139.00**

SERIES 660 ACCESSORIES

Stock No.	Description	Each
57F1715	Std. Leather carrying case. Wt. 12 oz.	16.00
57F1716	Leather case, velvetine lining.	19.50
57F1717	Protective cover flap. Not for 666.	4.50
57F1718	High voltage probe, less resistor.	19.00
57F1719	900 meg resistor for probe, 50 kV	4.75
57F1720	495 meg resistor for probe, 25 kV	4.75
57F1721	990 meg resistor for probe, 50 kV	4.75
57F1722	RF probe, 10 kHz to 50 HMz, 660 only	19.50





LIGHT MEASURING INSTRUMENTS

SUNLIGHT ILLUMINATION METER

Model 756-9901003. A portable instrument for light measurements requiring a high degree of accuracy over broad range of light values. Ideal for research and routine work as a master instrument for checking other light measuring instruments and devices. All types of commercial lighting, regardless of color composition, can be read directly—no correction factors are necessary. The VISCOR filter corrects for color, the Cosine filter for angle of incidence. Incorporates ranges of 0-120/1200/120000 foot-candles. Requires only 1 PHOTONIC cell equipped with a quartz filter so that ultra-violet portion of spectrum is included in the light measured. Includes carrying case.
62F1401. NET **756.00**

LIGHT METER

Model 614 Foot-Candle Meter. Any type of commercial lighting can be measured directly. Photo-electric cell is mounted on a hinge, so that it will pick up measurements from a wall or ceiling without unnecessary moving of the meter. Ranges: 0 to 100—0 to 250 and 0 to 500 foot candles, each with a separate scale. With Viscor and cosine correction filters. Size: 7x3⅜x2½". Shpg. wt., 2 lbs.
62F474. NET **299.50**

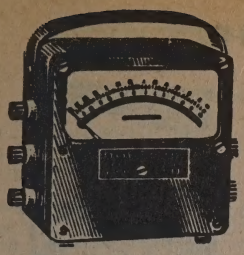
LIGHT MEASURING INSTRUMENTS

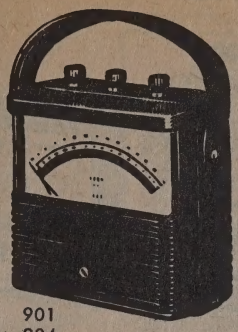
Model 703. Type 7 Sight-meter. Handy pocket-size sightmeter for industrial and office use. Will function accurately in any position. Range is 0 to 100 foot candles (with Viscor and cosine correction filter). 1 lb.
62F476. NET **120.00**

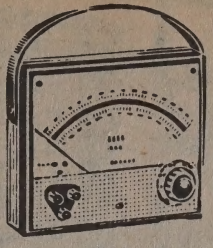
Model 703-3A. As above, but 0-75 foot-candles and unfiltered.
62F1124. NET **90.50**

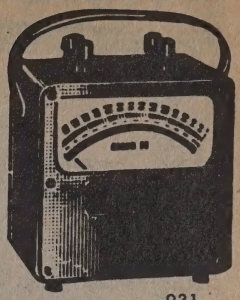
Model 9959. Leather carry case for above.
62F1125. NET **6.00**

Model 9924. Multiplier disk (x10). Extends range to 10 times normal full scale value. Not usable with cosine corrected instruments.
62F1137. NET **6.00**









MODEL 432 WATTMETERS

A true electrodynamometer used for AC, single phase and DC power measurements. Will measure true RMS values when used on commerical wave forms since the wave form error, in general, is exceedingly small and practically unreadable. Accuracy: ½% AC at frequencies from 25-125 Hz. Current ranges self contained up to 300V, 50 amps. Power Consumption: Potential circuit at 115 V, 60 cycles-1.2 watts, 1.2 volt amperes. Current circuit at 5 amps, 60 cycles- 0.65 watt, 0.68 volt amperes. Size: 3¼"x5"x5¼". 3¼ lbs.

Stock No.	Type 432-	Normal Volts	Normal Amps	Watts Max.	Watts Min.	NET
62F1346	9901001	150/75	1	150	75	311.00
62F1347	9901011	300/150	50	15 kw	7.5 kw	311.00
62F1348	9902007	300/150	10/5	3/1.5 kw	1.5/.75 kw	311.00
62F1349	9902013	300/150	5/2.5	1500/750	750/375	337.00
62F1470	9902009*	300/150	5/25	300/150	150/75	358.00
62F1471	9902010*	300/150	10/5	600/300	300/150	358.00
62F1472	9902005	300/150	10/5	3/1.5 kw	1.5/.75 kw	311.00
62F1473	9902004	300/150	5/2.5	1500/750	750/375	311.00
62F1474	9901015†	300/150	5	1.5 kw	75 kw	337.00

(*) Low factor use: V + A max. value. (†) Gen. use 25-1000 cps.

MODEL 433 AC METERS

Portable instruments highly accurate for industrial AC testing. Knife-edge pointers and mirror scales. Self-shielded permanent magnet movable iron type. ¾% acc. Size: 5¼"x5"x3¼". 5 lbs.

Stk. No.	Range	Approx. Res.	Scale Div.	NET
AC AMMETERS STD. FREQ. 25-500 Hz				
62F436	5	0.020	100	143.00
62F437	10/5	0.0083/0.028	100	165.00
62F438	10/5/1	0.030/0.070/0.37	100	227.00
62F1099	3/1.5/0.75	0.18/0.43/0.59	150	227.00
62F1131	30/7.5/3	0.0090/0.036/0.040	150	227.00
62F1345	50/20/5	0.0084/0.0011/0.020	100	227.00
AC MILLIAMMETERS STD. FREQ. 25-1000 Hz				
62F1095	100/50		100	171.00
62F1094	500/250		100	171.00
AC VOLTMETERS STD. FREQ. 25-125 Hz				
62F1097	10/5	24/12	100	154.50
62F439	150	5300	150	152.00
62F1105	150/75	5300/2680	150	154.50
62F441	300/150	22,00/11,000	150	154.50
62F442	600/300/150	44,00/22,000/11,000	150	182.00
62F1096	750/300/150	55,000/22,000/11,000	100	182.00

MODEL 633 AC CLAMP VOLT-AMP & AMP METERS

Measures AC current through any given conductor (up to 2" diameter) without breaking the circuit. Acc. ±3%. Insulated for 750-volt service. 13¾x4¾x2½". Ship. wt. 4½ lbs.

Type A-1. 500-250-100-50-25-10 amps.
62F1111. NET **174.50**
62F1112. **Type A-2.** 1000-500-250-200-25-10 amps. NET 174.50
62F1113. **Type A-3.** 2000-1000-500-250-100-50 amps. NET 174.50
Type VA-1. 1000-250-100-25-10 amps. 700-350-175 volts.
62F1118. NET 184.50
LEATHER CARRYING CASE for above units.
62F1119. NET 17.00

MODEL 749 POCKET CLAMP AC VOLT-AMMETER

Measures AC current and voltage without breaking circuit. Conductors up to 1" round or 1¾"x⅜" rectangular. Pocket size. Positive jaw contact. Fully insulated 750 Volt Services, core magnet shock mounted mechanism. Spring back jewels. Large smooth action trigger. Shatter-proof wraparound plastic window. 0-6, 15, 30, 60, 150 and 300 amps. Shpg. wt. 2½ lbs. Incl. leads and case.
67F481. NET **60.75**
Type 9886. Plug in adapter for above, facilitates current measurements of double conductor feeds without breaking the circuit. Used on direct reading or as a 10-to-1 divider for low current measurements. Simplifies voltage testing during current checks.
62F482. NET 7.50

MODEL 901 DC METERS

DC Model with shadow reducing, wide angle window that is non-breakable and specially treated against electrostatic effects. Self-shielded permanent magnet moving coil type. Accurate within 0.25 of 1%. Has 5½" hand calibrated mirror scale and knife edge pointer. Size: 7½x3¼x3⅜". Wt. 5 lbs.

Stock No.	Range	Scale Div.	NET
DC VOLTMETER—5000 ohms/volt			
62F1136	750/300/150/75/30/15/3	150	295.00
DC AMMETER			
62F1344	50mv/20/5/2	100	268.00
DC MILLIAMMETERS			
62F1146	1000/500/200/100/50/20/10	100	278.00

MODEL 904 AC METERS

Same as Model 901, except AC with 0.5 of 1% accuracy, Radial vane, Moving Iron type.

Stock No.	Range	Scale Div.	NET
AC VOLTMETERS STD. FREQ. 50-450 CPS.			
62F1143	750/300/150/75/30/15/7.5/5.3	150	400.00
AC AMMETERS STD. FREQ. 25-1000 CPS.			
62F1149	50/20/10/5/2/1	100	348.50

MODELS 911, 912 PORTABLE/PANEL METERS

A-C or D-C. Combination portable/panel instrument. Large 7.2" mirror back scale. Knife edge pointer. Easily read scale maximum natural illumination. Self-shielding mechanism. Spring back jewels. Large, sure-grip knob on range switch. Rugged, compact case. Accuracy: ±1% F S on d-c voltmeters, milliammeters (±2% F S value on 300, 1000 v. d-c); ±2% F S value on rectifier type a-c voltmeters 10-through 300 volts. ±3% F S value on rectifier type a-c voltmeters for 1000 volt range and 3 volt range above mid-scale. **Model 911** has 20,000 ohms per volt and **Model 912** has 5,000 ohms per volt. 7½"x6½"x2⅜". Weight 5½ lbs.

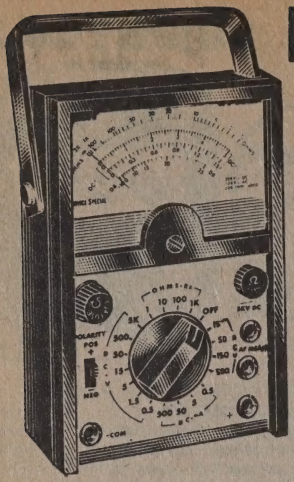
Model 911. DC-VM. Range: 1000/300/100/30/10/3/1 volt @ 20,000 ohms/V.
62F1229. NET **103.00**
Model 911. DC Ammeter 1/3/10 amps. 10/30/100/300 milliamps.
62F1230. NET 103.00
Model 911. DC. Milliameter .1/.3/1/3/10/30/100 milliamps.
62F1231. NET 103.00
Model 912. AC-VM. Range: 3/10/30/100/300/1000 V @ 5000.
62F1232. NET 117.50

MODEL 931 DC METERS

Compact. Light weight. 0.5% accuracy. Hand calibrated mirror scale. Knife-edge pointer. Self-shielded permanent magnet moving coil type. Scale length: 4.04". Black bakelite case with handle. Size: 5½"x5"x3¼". Weight: 4 lbs.

Stock No.	Function	Range	Scale Div.	NET
62F1100	DC Voltmeter, 1000 Ω/V	150/15/3	150	164.00
62F431	DC Voltmeter, 1000 Ω/V	750/300/150	150	164.00
62F1121	DC Voltmeter, 5000 Ω/V	75/30/7.5	150	182.50
62F1132	DC Voltmeter, 5000 Ω/V	300/150/3	150	182.50
62F1122	DC Voltmeter, 5000 Ω/V	750/300/150	150	182.50
62F1133	DC Ammeter	10/5/1	100	165.00
62F432	DC Ammeter	30/15/3	150	165.00
62F1145	DC Ammeter	50/25/10	100	165.00
62F1134	DC Milliammeter	15/1.5/0.15	150	179.50
62F1102	DC Milliammeter	150/15/1.5	150	160.50
62F435	DC Milliammeter	1500/150/15	150	160.50
62F1101	DC Milliammeter	3000/300/30	150	160.50

19

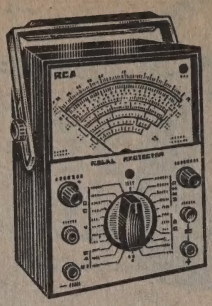


WV-529A VOLT-OHM MILLIAMMETER

- **Convenient 3 to 1 Step Ranges**
- **Ideal For Schools, Shops, And Labs**
- **High Impact Plastic Case**
- **Up To 5000 VDC**

Taut band meter movement. Diode protect-against burnout. High-impact plastic case with recessed panel. Up to 5,000 volts DC in 7 stages with out add-on accessories, with acc. ±3% of full scale. AC range of 0 to 500V in 4 stages with ±4% acc. DC current range of 0 to 500mA in 4 stages with accuracy of ±3%. Measures 1 ohm to 2 megohms with accuracy of 3%. Uses two 1.5V, AA size penlite batteries. Complete with test leads, batteries and spare fuse. Size: 4½" x 6⅜" x 1⅞". Wt. 1 lb.

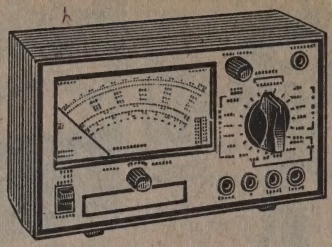
86F652 ..... **53.50**



WV-532A RELAY PROTECTED VOM

Solid state relay circuit prevents overload damage. Measures DC voltage from 0.05 to 1500V; direct current from 5 μA to 500 mA; AC from 0.5 to 1500V; and resistance from less than 1 ohm to 10 megohm. Decibel scales included. Sensitivity: 20,000 ohms-per-volt on DC, and 10,000 ohms-per-volt on AC. Batteries (two 1.5V "C" batts., and two 9V batts.) not included. Size: 5⅞" x 7¾" x 2⅜". Wt. 2.8 lbs.

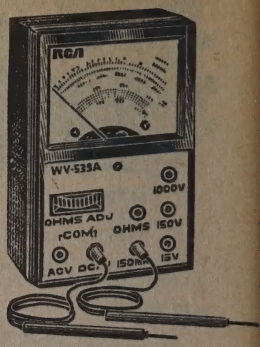
62F1778 ..... **99.95**



WV-536A SHOP/SPECIAL VOM

Bench-type VOM. Polarity switch permits measurement of negative DC without reversing the test leads. Measures DC from 50 mV to 2500V w/±3% acc. AC from less than 1V to 1000V w/±4% acc. direct current from less than 5 μA to 5A w/±3% acc. Resistance; 1 ohm to 1 megohm w/±3% acc. and dB from −20 to +62 dB. Sensitivity; 30,000 Ω/V, 10,000 Ω/V. Size: 7¾" x 4¼" x 3". Wt. 1 lb. 11 oz.

62F1779 ..... **49.90**



WV-539A HANDYMAN VOM

Pocket size multi-tester. Safe and simple to use meter which measures DC and AC voltage as well as direct current and resistance on an easy to read color coded meter face. Made with precision 1% resistors. Ranges; AC/DC. 0 to 1000V. Direct current; 0 to 150 milliamperes. Res; 100 to 100,000 ohms. One 1.5V penlite batt. needed. Supplied with test probes, basic measuring instructions, and connectors. Size: 2⅜" x 3¹⁵⁄₁₆" x 1⅜". Wt. 5 oz.

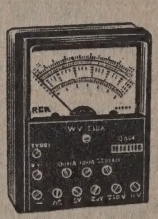
62F1780 ..... **8.95**

BLUE LINE METERS

WV-520A VOLT-OHM MILLIAMMETER

High sensitivity: DC; 100K ohms/volt, AC; 10 K ohms/volt 3 color aluminum panels and meters with mirror scales. 1% precision resistors for all ranges. Meter movements protected against burnout. DC range: 0 to 1500V in 8 stages. ±3% accuracy. AC range 0 to 1500V in 6 stages. ±4% accuracy. DC current 0 to 15 μA to 5A in seven stages. Resistance: 1 ohm to 20 megohm in four stages. Complete with test leads and two 1.5 volt batteries. Size: 5¼" x 7½" x 2⅜". Shpg. wt. 3 lbs.

62F1679 ..... **55.00**



516A

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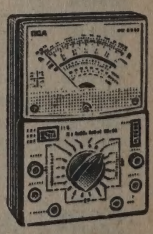


519A

Type WV-516A. Compact, economical, and lightweight unit which measures DC or AC RMS volts from 0.1 to 1000V in four ranges. DC current from 10 mA to 250 mA in three stages. Resistance from 2 ohms to 200K ohms in two ranges. Three color meter scales. Accuracy; ±3% DC, ±4% AC. Sensitivity; AC/DC 2000 ohms/volt. Meter movements protected against burnout. Complete with test leads and 1.5V battery. Size; 2¾" x 4¹⁵⁄₁₆" x 1⅜". 1 lb.

62F1675 ..... **11.50**

WV-517A. Has convenient panel switch for selection of all functions and ranges. Measures DC from .01 to 600V in four ranges. AC(RMS) from 0.2 to 600V in four stages. DC current from 10A to 300 mA in three stages. Resistance from 1 ohm to 5 megohms in three stages. Decibel from −20 dB to 37 dB. Accuracy DC ±3%; AC ±4%. Sensitivity; DC 20K ohms/volt; AC 10 K ohms/volt. With test leads and two 1.5V batteries. 4¾" x 3¼" x 1⅛". 1 lb.

62F1667 ..... **19.75**

Type WV-518A. Mirror scale and panel-mounted fuse to protect ohms divider resistors from burnout. DC from .01 to 500V in four stages. AC (RMS) from .05 to 500V in four stages. DC current from 10A to 500 mA in four ranges. Resistance from 1 ohm to 2 megohm. Accuracy; DC ±3%, AC ±4%. Sensitivity; 20K per volt, DC. 10 k per volt AC. With test leads and 2 batteries. Size; 5⅛" x 3½" x 1⅞". Wt. 1⅛ lbs.

62F1677 ..... **33.75**

Type WV-519A. Three color aluminum panels and meters with mirror scales. Has DC polarity switch. 1% precision resistors for all ranges. DC range from 0 to 1500V in 8 stages. AC range from 0 to 1500V in 6 stages. DC current from 5 μA to 6A in five ranges. Resistance from 1 ohm to 100 megohm in four ranges, and decibels from −20 to 57 dB. Accuracy, DC; ±3%, AC; ±4%. With test leads and two 1.5V +1-22.5V batts. 12 month warranty on parts and labor. Size; 6⅜" x 4¼" x 1⅞". 2 lbs.

62F1678 ..... **41.25**

Famous Volt Ohmyst Test Equipment

RCA

TYPE WV-77E VOLTOHMYST

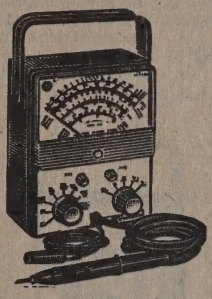
- Burn Out Proof Meter Circuit
- Color Coded Scales
- Zero Center DC Volts

Designed to measure resistance and voltage in seven overlapping ranges; AC rms sine-wave voltages from 0.1 V to 1500 V; DC from 0.02 to 1500V; peak to peak voltages from 0.2 to 4000V; and resistance values from 0.2 ohm to 1000 megohms. Use of electron tube as full wave signal rectifier. ±5% accuracy. Rating of 105 to 125V (can be rewired for 240V). Frequency; 50 to 60 Hz. Size; 7¾" x 5⅝" x 4¾". Wt. 5 lbs.

62F1673 ..... **69.50**

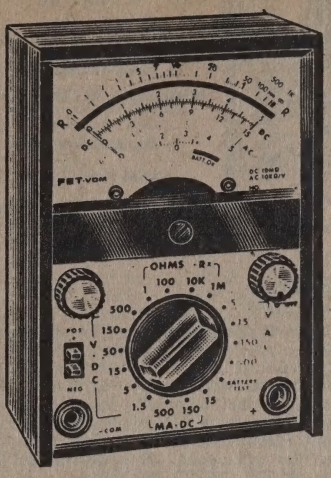
TYPE WV-500B SOLID STATE BATTERY OPERATED VOLTOHMYST

- Zero Centering Of Meter Pointer
- Protected Against Burnout
- 11 Megohm Resistance



Service, industrial, and lab use. Measures DC from 0.01 to 1500 V; DC current from 2 microamperes to 1500 milliamperes; AC (rms) from 0.1 to 1500V; AC peak to peak from 0.5 to 4200V, and resistance values from 0.2 ohms to 1000 megohms. Seven overlapping ranges are provided for AC rms and resistance measurements, and eight ranges for DC voltage and current measurment. Accuracy for AC and DC: ±3%. Drift free operation with minimum effect due to temperature variations. With DC/AC ohms probe, cable, alligator clip, 2 current leads, batteries, and book. Size; 6⅛" x 5¼" x 3⅛". Wt. 3½ lbs.

62F1654 ..... **99.00**



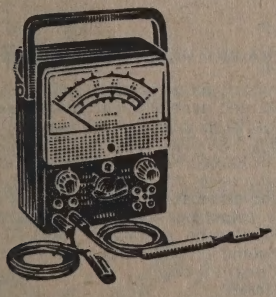
NEW

WV-530A FET VOLT-OHM MILLIAMMETER

- Completely Portable
- High Input Resistance
- Polarity Switch

Features a measuring circuit that uses FET solid-state devices. High impedance input and extended measuring ranges similar to VTVM's. DC voltage from 100 millivolts to 500 volts, AC voltage (RMS) from 200 millivolts to 500 volts, direct current from 1 milliampere to 500 milliamperes and resistance from less than 1 ohm to 1,000 megohms. A zero center scale and battery test function included. Protective circuit prevents damage to either the meter movement or FET devices due to accidental overload. Accuracy; DC voltage and current, ±3%; AC voltage, ±4%. Resistance; ±3% of scale length. Battery operated, one 1.5V penlite cell and one 9V battery. Batteries not included. Dark blue, high impact case, three color panel and meter. Size; 3½" x 5⅛" x 2". Wt. 14 oz.

62F1680. NET **59.90**



WV-38A VOLT-OHM MILLIAMMETER

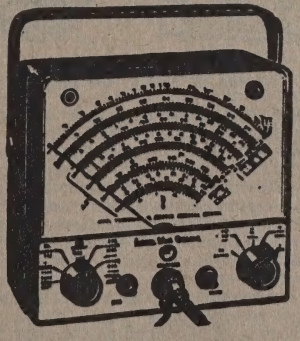
- 2 Color Markings On Front Panel
- Fuse Protection For Ohms Divider
- Polarity Reversal Switch

Completely portable requiring no external power source. Five internal batteries (not provided) used for ohms function (4 penlite cells and 1 "D" cell). 0 to 5000V DC range in 8 stages. 0 to 5000V AC range in 6 stages. Accuracy; ±3% DC, ±5% AC. Input resistance; 20,000Ω/V DC and 5000Ω/V AC. Size; 5¼" x 6⅛" x 3⅛". With probe, test leads, and clip. Shpg. wt. 4 lbs.

62F052 ..... **66.00**

WG-270A. Carrying case for WV-38A.

62F053. NET 6.00

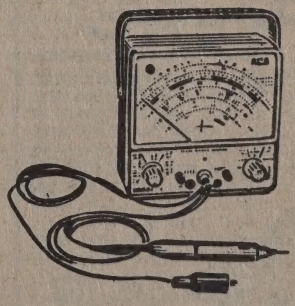


WV-98C SENIOR VOLTOHYMST

- 200 Microampere Meter
- 6½" Color Coded Meter
- Scale For Transistor Circuits

All measurements made with single unit probe adapted to either DC, AC and resistance measurements by a built in switch. Input resistance of 11 megohms on all DC ranges reduces loading of the test circuit. DC/AC range of 0 to 1500V in 7 stages. Overall accuracy of +3%. Measures peak to peak sine, complex waveforms to 4200V. Size; 6½"h x 7"w x 3¾"d. With probe, cable, clip, battery, insulator, and book. Shpg. wt. 8 lbs.

62F060 ..... **99.00**

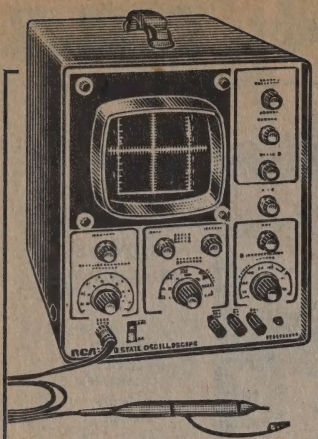


WV-510A MASTER VOLTOHMYST

- All Solid State
- Battery/AC Operation
- 6½" 2-Color Meter

Operated from internal batteries (not included) or from 120V AC power line. On battery operation power cord can be removed for complete portability. 0 to 1500V range; 8 stages in DC, 7 stages in AC. DC current from 0 to 1500 mA. Overall accuracy ±3%. Megohm resistance of 21 on all DC ranges. Size; 6½"h x 7"w x 3¾"d. Wt. 6 lbs.

62F1667 ..... **135.00**



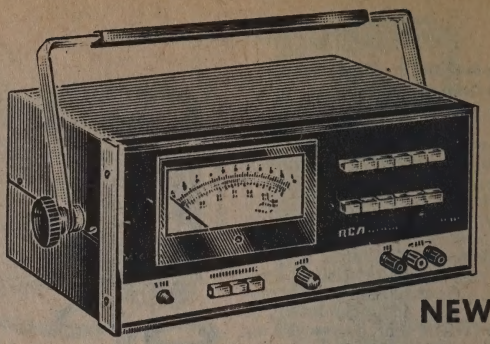
NEW

WO-535A DUAL MODE 5" OSCILLOSCOPE WITH TRIGGERED RECURRENT SWEEP

- One Step Calibration
- Solid State Circuitry
- Regulated Power Supply

Triggered sweep permits viewing small segments of complex waveforms such as vertical interval test signals. Freq. resp: Vert. amp. DC function; DC to 10 MHz; AC function 5Hz to 10 MHz. Horzontal amp. 3.5 Hz to 2 MHz. Deflection sensitivity; Vert. amp. Direct probe, 15 mV P-P per in. (5.9 V P-P per cm.), Low cap. probe; 150 mV P-P per in. Rise time; vert. amp. 35 ns. Trigger mode; freq. range, 5 Hz to 1 MHz in 6 adjustable ranges. Sensitivity; 5 mV. Power req. 105-130V. Frq. 50-60 Hz. Aver. power; 30 w. With direct/low cap. probe, cable, ground lead, and instruction book. Size; 9"w x 11⅜"h x 16½"d. Wt. 25 lbs.

86F661 ..... **329.00**



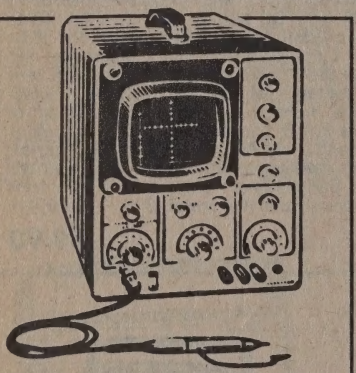
NEW

WV-511A ULTRASENSITIVE PICOAMMETER

- Measures Low Levels of DC
- Zero Center Scale
- Recorder Output

Designed to measure low levels of DC from 1pA to 30 mA. Recorder output a 1V or 1 mA. The 1 mA output can adjust to match the recorder input load up to 1500 ohms. Also used as a high input resistance voltmeter that requires an electrometer and as a megohmeter to measure resistance up to 10,000 megohms using external 10 mV source. ±2% zero drift. Max. rise time; 10 milli-seconds. Power req. 120V or 240V AC, 50-60Hz. With plug, cable, and clips. Size; 12"w x 5¼"h x 8¼"d. Wt. 10 lbs.

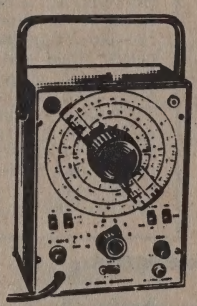
62F1681 ..... **250.00**



WO-505A 5" SOLID STATE—OSCILLOSCOPE

Flat face 5" CRT with illuminated graph screen calibrated in volts and return trace blanking. Freq. resp; Vert. amp is flat, ±1 dB, from DC to 5 mHz, usable to MHz. Sweep frq. adjusted to 1 mHz in 6 ranges, permits lock in of signals to 10 MHz. Sensitivity; direct probe, 15 mV P-P per in. Lo-cap. probe; 150 mV P-P per in. Horizontal amp; 0.4V P-P per in. Rise time; 0.1 microseconds. Power req; 105-130V, 50-60 Hz. Aver. power cons. 30w. Power supply regulated to prevent trace bounce due to line voltage fluctuations. Size; 11⅜h x 16½"l x 9"w. Wt. 25 lbs.

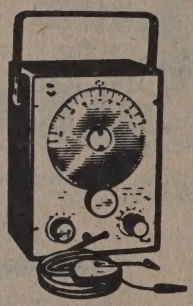
62F1668 ..... **299.00**



WR-50A RF SIGNAL GENERATOR

Suited for aligning and signal tracing of AM, FM, Hi-Fi, CB, HAM and TV receivers. Variable oscillator covers frequencies from 85 kHz to 40 MHz in six stages. Built-in crystal calibrating oscillator circuit with front panel crystal socket. Sweep output at 10.7 MHz and 455 kHz with return trace blanking for sweep alignment of radio receivers. Two step RF attentuator switch plus a continuously variable attenuator control. RF output modulated with internal 400 Hz oscillator or external audio signal. RF output; 0.05V rms. ±2% calibration accuracy. Rating; 105-130V, 50-60 Hz. 15W consumption Size; 5⅜"w x 4¾"d x 7¾"h. Wt. 5 lbs.

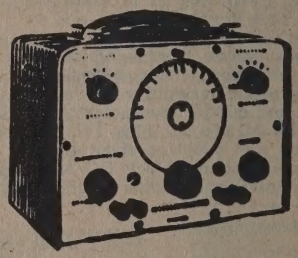
62F086 ..... **79.00**



WA-504A AUDIO SIGNAL GENERATOR

Compact, all solid state unit. For audio, Hi-Fi, and general applications. Frequency range; 20 Hz to 200,000 Hz. Low distortion of 0.25%. Flat output voltage ±1.5 dB from 30 Hz to 100,000 Hz. Output voltage; 10V rms. in sine wave; 10V P-P in square wave. 10 to 1 step attenuator and continuously adjustable output control. Voltage; 105-130V, 50-60Hz. Can be rewired for 240V, 50-60 Hz. Consumption; 8W. Size; 7¾"h x 4¾"d x 5⅜"w. Wt. 3 lbs.

62F1656 ..... **99.00**



WA-44C SINE/SQUARE WAVE AUDIO SIGNAL GENERATOR

For measuring frequency response of amplifiers, resonant frequencies of loudspeaker enclosures, finding input and output impedances, determining values of inductors and capacitors, and measuring intermodulation distortion. One scale dial. Separate 60 Hz output for intermod. dist. Frequency range; 20 Hz to 200,000 Hz. Less than ⅛ of 1% distortion over the audio-frequency range. Operated from 50/60 Hz, 105-125V source. Consumption; 40W. Variation; ±1.5 dB. Output voltage adjustable to 6 volts. Total distortion; 0.5% over range of 30 Hz to 15 KHz. Size; 10¹¹⁄₁₆"w x 7"h x 6⅛"d. Wt. 10½ lbs.

62F013 ..... **99.00**

ACCESSORIES FOR TEST EQUIPMENT

WG-289. High voltage probe.
62F020 ..... 15.00

WG-411A. Slip-on high voltage probe.
62F1658 ..... 15.00

WG-297. High voltage probe.
62F057 ..... 15.00

WG-210. Megohm resistor.
62F083 ..... 4.25

WG-211. Megohm resistor.
62F084 ..... 4.25

WG-206. Megohm multiplier resistor.
62F082 ..... 4.25

WG-299E. DC/AC ohms probe and cable.
62F061 ..... 9.75

WG-300B. Direct/low cap. probe & cable.
62F062 ..... 12.00

WG-350A. Probe for demodulation.
62F092 ..... 6.00

WG-302B. RF/IF/VF signal tracing probe.
62F064 ..... 13.50

WG-354A. Voltage divider probe.
62F067 ..... 12.50

WG-351A. Crystal diode probe.
62F059 ..... 6.00

WG-301A. Slip-on crystal diode probe.
62F063 ..... 9.00

WG-410B. DC/AC ohms probe and cable.
62F1665 ..... 9.00

Test Equipment

RCA

WE-130A SOUND LEVEL METER

- **Simple To Operate**
- **Completely Portable**
- **Single Color Coded Scale**

NEW

Easy to use instrument for measuring environmental sound levels. Prevents possible hearing loss and determines if a sound level violates the law. Also used to check the effectiveness of acoustical materials. Performance and accuracy complies with ANSI spec. 1.4, 1971 as a type S3A Special Purpose sound level meter. Range extends from 70 to 110 dBA in one easy to read color coded scale. Meter freq. response; "A" weighted. Ceramic, omnidirectional microphone element. Slow meter response time. Accuracy: ±1 dB 50°F to 89°F, ±2 dB 32°F to 49°F, ±2 dB 90°F to 110°F. All of above determines whether sound levels exceed limits specified by Walsh Healey Act. Supplied with high impact leatherette carrying case, lanyard, four 1.5V AA penlite batteries, and instruction book. Size: 3"wx6⅛"lx1 15/16"d. Wt. 11¼ oz.
62F2860. NET.....75.00

CLAMP TESTER FOR SERVICING ELECTRICAL EQUIPMENT

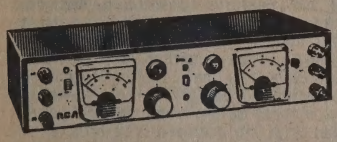
- **Measures AC Current, Volts and Ohms**
- **Completely Sealed in Plastic**

NEW

WV526A

Measures AC current up to 300A. Requires no direct connection to the electrical circuit. "Stop lock" permits you to measure current in a dark or hard-to-get-at area, lock the reading, remove the tester, and evaluate the results at your convenience. AC current (60Hz) ranges from 0 to 300A in seven stages, with an accuracy of ±3%. AC voltage ranges from 0 to 150V, 300V and 600V with ±3% accuracy. Resistance ranges from 1 ohm to 1,000 ohms (30 ohms center scale) with accuracy of ±3%. Supplied with line splitter/current transformer, test leads, clip leads, shorting plug, case, 1.5V AA battery and extra fuse. Size: 2¾"wx7½"lx1½"d. Wt. 9½ oz.
86F651. NET.....54.00

WP-700A DC POWER SUPPLY



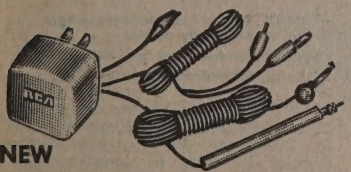
Solid state. Electronic short circuit protection. Negative feedback regulator maintains constant output voltage with low ripple. Three convenient five way terminals for DC plus. DC minus and ground. 0-20V current to 200 mA. Line reg; 30 mV. Load reg; less than 50 mV. With 3 wire AC power cord. Adjustable voltage output. Size: 4"x6½"x3". Wt. 2 lbs. 11 oz.
62F001. NET.....48.00

WP-702A. Same as above, but dual unit.
62F000. NET.....96.00

WP-703A. 0-20V. Current to 500 mA.
62F002. NET.....60.00

WP-704A. 0-40V. Current to 250 mA.
62F003. NET.....60.00

WC-528A, WC-528B QUICKTRACER TRANSISTOR/DIODE CHECKERS

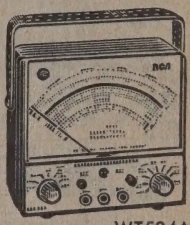


NEW

WC-528A. Can be used with any general purpose scope. Locates defective transistors quickly. Works in circuit or out. Wave forms eliminate reading meter scales. Combines features of curve tracing and diode checking. Designed for rapid point-to-point checks of transistors (excluding FET's), zeners, other diodes, and many capacitors and resistors. Supplied w/12 page booklet on trans. checking and direct plug-in (no AC cord).
86F655. NET.....14.75

WC-528B comes w/material for mounting.
86F656. NET.....14.75

NEW WT-524A TRANSISTOR/FET TESTER



WT524A

Large, easy to read 6½" mirrored scale meter, with special scales for I_C, I_{CBO}, I_{DSS}, and I_D currents. Drain current allows testing at pre-determined current level. Provides AC beta (h_{fe}) test of bipolar transistors from 0 to 1000 and a transconductance (GM) test of FET's. Also checks diodes, SCR's, triacs, and unijunction transistors. In-circuit or out-of-circuit testing. Also measures zero-bias drain current and DC drain current up to 20 mA, and out-of-circuit gate leakage. With socket adapters, test leads, and power cord. Size: 6½"hx7"wx4¼"d. Wt. (incl. accessories), 5 lbs. 12 oz.
86F650. NET.....159.00

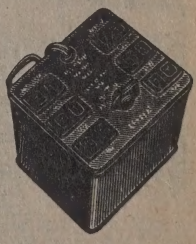
WT-501A TRANSISTOR CHECKER

WT501A

WP26A

Battery operated and completely portable. Tests both low and high power transistors, and has both NPN and PNP sockets to allow convenient transistor matching for complimentary symmetry applications. Tests out-of-circuit transistors for DC beta from 1 to 1000, collector-to-base leakage as low as 2 microamperes, and collector to emitter leakage from 20 μA to 1 amp. Low impedance circuitry assures reliable in-circuit testing. 100 μA meter movement used in measuring circuits. Collector current adjustable from 20 mA to 1 ampere in four ranges, permitting most transistors to be tested at rated current level. Complete DC Forward Current Transfer Ratio Curve can be plotted. Includes zero control to cancel the effect of leakage on in-circuit current gain reading. Three color coded test leads provided for in-circuit testing, and for out-of-circuit testing of transistors that will not fit into the panel sockets. Batteries (two 1½V "D" cells) not included. Size: 6⅜"hx5¼"wx 3⅛"d. Shpg. wt. 3 lbs.
62F1655. NET.....69.50

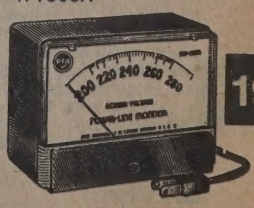
ISOLATION TRANSFORMER AND AUTOTRANSFORMERS



WV503A

Provides instant high-low medium line-voltage testing. **WP-26A** and **WP-25A** designed as either an adjustable isolation transformer or adjustable autotransformer. **WP-27A** designed as an adjustable isolation transformer only. Primary to secondary leakage less than 0.1 mA. **WP-27A** has 400V/A rating (100-150V). **WP-26A** and **WP-25A** has load rating of 500VA of direct receptacles.
62F047. WP-25A. 275VA isolated. Wt. 12 lbs. **NET**.....33.00
62F1666. WP-26A. 400VA isolated. Wt. 15 lbs. **NET**.....44.00
62F150. WP-27A. Wt. 16 lbs. **NET**.....60.00

POWER LINE MONITOR

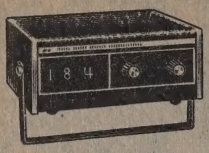


WV-120A and **WV-503A** are designed for use where it is important to know the power line voltage at all times. Provides a continuous indication of the AC line voltage at a glance, without handling probes and switches. Can be used on AC power lines w/freq. from 25 to 500 Hz. Moving vane type meter gives accurate rms readings even when line voltage is not pure sine wave. Range: 25 Hz to 400 Hz. Meter Accuracy: ±2% at center scale, ±3% at both ends. Size: 3 15/16"x5"x3 1/16". Wt. 1½ lbs.
62F1657. WV-120A. 100 to 140 V. **NET**.....23.00
62F058. WV-503A. 200 to 280 V. **NET**.....23.00

19

Precision Test Equipment

SOLID-STATE DIGITAL MULTIMETER

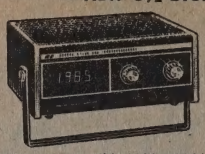


- 1% DC Accuracy
- 100% Overrange
- 10 megohms Input Imp.

Model 281. Ranges: DC: 0-100 mV, 1, 10, 100, 1000 V; 0-100 μA, 1, 10, 100, 1000 mA. **AC:** 0-100 mV, 1, 10, 100, 1000 V RMS; 0-100 μA, 1, 10, 100, 1000 mA. **Max. Input: DC:** 1500 VDC or DC +AC peak. **AC:** 1000 V RMS or 1500 V peak. **Accuracy:** ±1% of reading, ±1 digit for DC Voltage; ±1.5% of reading, ±1 digit for DC Current, AC Voltage and AC Current. **Voltage Drop** (Measured at terminals): 100 mV at full range for DC Current; 100 mV RMS at full range. **Polarity Switching:** Function switch has polarity reversal position for DC Voltage. **Frequency Response:** 20 Hz to 1000 Hz for both AC Voltage and AC Current. **Resistance:** Ranges: 0-10, 100, 1K, 10K, 100K, 1M, 10M ohms. **Accuracy:** 2% of range, 10 to 1M ohms; 3% of range, 10M ohm range. **Test Voltage:** 0-10 ohm range, 0.1 V at full range. 100 to 10M ohms, 1.0 V at full range. **General: Overload Protection:** DC/AC volts, diode and series current-limiting resistance. Ohms ranges, fuse. **Size:** 3½" x 7" x 9". **Net wt.** 3 lbs. **Power Requirements:** 105-125 VAC, 50-60 Hz. With test leads and PR-21 probe.

62F556. NET **169.95**

• NEW 3½-DIGIT DIGITAL VOM

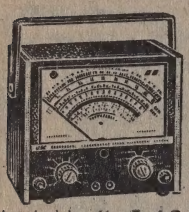


- 0.5% DC Accuracy
- Automatic Polarity
- 10 megohms Input Imp.

Model 282. Ranges: DC: 0-1, 10, 100, 1000 V; 0-1, 10, 100, 1000 mA. **AC:** 0-1, 10, 100, 1000 V RMS; 0-1, 10, 100, 1000 mA. **Resistance;** 0-100, 1K, 10K, 100K, 1M, 10M ohms for Resistance. **Max. Input: DC:** 1500 VDC or DC + AC peak. **AC:** 1500V peak or 1500 V DC + AC peak. **Voltage Drop:** Nominal F.S. drop across shunts, 100 mV for DC and AC Current. **Frequency Response:** 50 Hz to 1 kHz for AC Voltage. **Accuracy:** 1, 10 and 100 V ranges, ±0.5% of reading, ±1 L.S.D.; 100 V range, ±1% of reading, ±1% L.S.D. on DC voltage. 1, 10, 100V ranges, ±1% of reading, ±1 L.S.D.; 1000 V. range, ±1.5% of reading, ±1 L.S.D. on AC voltage. 1, 10 and 100 mA ranges, ±1% of reading, ±1 L.S.D.; 1000 mA range ±1.5% of reading ±1 L.S.D. on DC current. 1, 10 and 100 mA ranges 1.5% of reading, ±1 L.S.D.; 1000 mA range, ±2% of reading ±1 L.S.D. on AC current. 100, 1000, 10,000, 100,000 and 1 megohm ranges, ±1% of reading, ±1 L.S.D. 10 megohm range, ±2% of reading ±1 L.S.D. on resistance. Size, Wt. and Power: Same as for Model 281. With test leads and PR-21 probe.

62F557. NET **199.95**

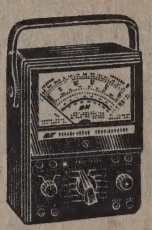
• NEW SOLID-STATE ELECTRONIC MULTIMETER



Model 290. Ranges: DC: 0-50, 150, 500 mV; 1.5, 5, 15, 50, 150, 500, 1500 V; 0-50, 150, 500 μA; 1.5, 5, 15, 50, 150, 500 mA; 1.5A; **AC:** 0.5, 150, 500 mV RMS; 1.5, 5, 15, 50, 500, 1500 V RMS; 0-50, 150, 500 μA; 1.5, 5, 15, 50, 150, 500 mA; 1.5A. **Peak-to-Peak Ranges:** 0-140, 440 mV; 1.4, 4.4, 14, 44, 140, 440, 1400 and 4400 V. **Input Resistance:** 15 megohms, ±1.5%, including 100K ohm isolating resistor in PR-21 probe. **Input Impedance:** 15 megohms shunted by 41 pF. **AC Rejection:** 46 dB minimum for DC Volts. **Internal V. Drop:** (At input terminals) 50 mV, all ranges for both DC and AC Current. **Frequency Response:** 50, 150 V ranges, ±0.5 dB, 30 Hz to 250 kHz; ±3 dB, 5 Hz to 750 kHz for AC Volts; ±.5 db, 20 Hz to 5kHz; ±3 db, 7 Hz to 16 kHz for AC current. **Accuracy:** ±1.5% F.S. for DC Volts; ±3% F.S. @ 60 Hz; ±5%, 500 and 1500 V ranges for AC Volts; ±3% F.S., except ±4% on 1.5 A range for DC Current; ±4% F.S. @ 60 Hz; ±5% on 50 μA and 1.5A ranges for AC Current. **Resistance: Low-Power Ranges** (33 mV source): Rx0.1, Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1M. **High-Power Ranges** (1.25 V source): Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx1M. **Mid-Scale Reading:** 1 ohm, Rx0.1; 10 ohms, Rx1 range. **Accuracy:** ±3° of arc. **Power Requirements:** 105-125 VAC, 50/60 Hz. **Size:** 7¼" x 8" x 3⅝". Net wt. 4¼ lbs.

62F558. NET **139.95**

20,000 OHMS/VOLT VOLT-OHM-MILLIAMMETER



Model 120P. Features a resettable, electronic overload protection circuit that prevents accidental destruction of instrument, shunts, multipliers, meter, pointer and sensitive rectifier. Especially useful feature for schools, or inexperienced personnel. When overload occurs, a reset button pops up, and cannot be reset until the overload is removed. Protects all ranges except the 10-ampere and 1000 VDC ranges. Meter movement is a precision, taut-band self-shielding annular type, to withstand damage from shock or vibration. **Specifications: Volts: DC:** 0-.25, 1, 2.5, 10, 50, 250, 500, 1000 V; **AC:** 0-2.5, 10, 50, 250, 500, 1000 V RMS. **Accuracy:** ±2%, F.S. for DC; ±3%, F.S. for AC. **DC Current:** 0-50 μA (±1.5% F.S.); 0-1, 10, 100, 500 mA and 0-10 A (±2% F.S.). **AC Output Volts:** 0-2.5, 10, 50, 250 VAC. **Frequency Response:** 0-50 VAC, 1 dB to 100 kHz; 250 VAC, 1 dB to 20 kHz. **Resistance:** Rx1, Rx100, Rx10,000; center scale, 12 ohms. **Accuracy:** 2° of arc. **Decibels:** −20 to +10 dB, −8 to +22 dB, +6 to +36 dB, +20 to +50 dB. (Zero dB = 1 mW across 600-ohm line.) **Size:** 5¼" x 7" x 3⅜" deep. Net wt. 2½ lbs. With test leads and batteries.

63F070. NET **89.95**

LC-12. Leather carrying case for 120P.

63F075. NET **8.95**

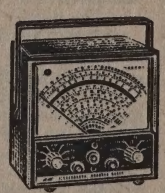
SOLID-STATE ELECTRONIC VOM

- Hi-Lo-Power Ohms Ranges
- .1 VAC range
- .1 VDC range
- 10 megohms Input Impedance

Model 277. General. Multipliers: 1% precision-type, frequency compensated. **Meter:** 4½"; 50-microampere movement; mirrored scale. **Protection:** Meter and F.E.T. input fully protected from overloads; current and resistance circuit overload protection by fuse. **DC Volts:** 0-.1, .3, 1, 3, 10, 30, 100, 300, 1000 V. DC zero center capability on all ranges. **Accuracy:** ±2% F.S. **Input Resistance:** 15 megohms. **AC Volts:** 0-.1, .3, 1, 3, 10, 30, 100, 300, 1000 V RMS. **Peak-to-Peak Ranges:** 0-.28, .88, 2.8, 8.8, 28, 88, 280, 880, 2800 V. **Accuracy:** ±3% F.S. **Input Impedance:** 10 megohms shunted by approximately 100 pF. **Frequency Response:** Flat to 150 kHz. **DC Current:** 0-1, 10, 100 μA, 1, 10, 30, 100, 300 mA, 1.A. **Accuracy:** ±3% F.S. **Resistance: Low-Power Ranges:** Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1 megohm (.068 test volts). **High-Power Ranges:** As above, but 1.5 test volts. **Mid-Scale Reading:** 10 ohms (on Rx1 range). **Decibels:** From −20 dB to +60 dB. **Accuracy:** ±3% F.S. **Reference:** dB=1 mV into 600 ohms. **Size:** 5⅛" x 7¼" x 3⅝" deep. **Net wt.** 2 lbs. Requires one 1.5V "D" cell and one 9V NEDA 1604 cell. With PR- probe, less batteries.

62F559. NET21 ..... **99.95**

VACUUM TUBE VOLTMETER

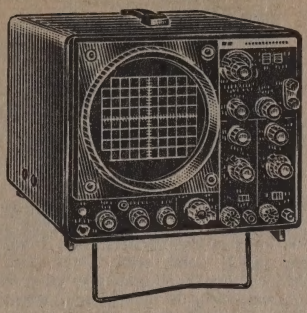


- With DC supply for resistance ranges —no ohms battery needed
- Separate peak-to-peak and RMS scales
- Special calibration on low AC ranges

Model 177. This VTVM has a total of 37 ranges with a special 0.5 volt DC scale for transistors. 100-microamp meter. Special dB scale for amplifier gain measurements. Zero center scale for FM alignments. Large 7" mirrored meter. 1% precision resistors in all critical circuits. DC polarity reversal switch. **Specifications: DC Volts:** ±0-0.5, 1.5, 5, 15, 50, 150, 500, 1500. **AC Volts, RMS:** 0-1.5, 5, 15, 50, 150, 500, 1500. **AC Volts, Peak-to-Peak:** 4, 14, 40, 140, 400, 1400, 4000. **AC Response:** ±1 dB, 40 Hz to 3 MHz (600 ohm source, 5 volt range). **Resistance, Full-Scale:** 1K, 10K, 100K ohms; 1, 10, 100, 1000 megohms; **Resistance, Mid-Scale:** 10, 100, 1K, 10K, 100K ohms; 1, 10 megohms. **Input Resistance:** 11 megohms (1 megohm in probe). **Accuracy: DC:** ±3% of full scale; **AC:** 5%. **Power:** 105-125 VAC, 50-60 Hz. **Size:** 5"1⅜/16 x 7¼" x 3⅝". Net wt. 6 lbs. Complete with the B & K PR-43 DC/AC Ohms test probe with switch and ground lead. Speeds signal-tracing and circuit-checking.

62F598. NET **99.95**

DUAL-TRACE TRIGGERED SWEEP OSCILLOSCOPE

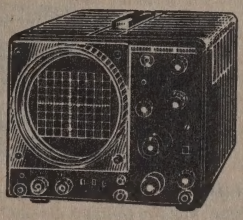


Model 1470. Used in the following: Industry, labs, schools, TV-stereo servicing. Design and troubleshooting. Viewing simultaneously two waveforms that are frequency—or phase-related—or that have a common sync voltage, such as in digital circuitry. Comparison of outputs of multiple stages triggered by the same pulse. Checking frequency dividers. Checking differential amplifiers for balance. Relay testing and sequencing. Measuring amplifier phase shift. **Specifications: Vertical Amplifiers: Sensitivity:** 10 mV /div to 20 V /div, ±5%, divided into 11 calibrated ranges. Concentric variable control between ranges. Response: DC, DC to 10 MHz; AC, 2 Hz to 10 MHz (−3 dB). Risetime: 35 nanoseconds. Maximum Input: 300 volts DC + AC peak; or 600 volts p-p. **Input Impedance:** 1 megohm shunted by 35 pF. **Operating modes:** CH. 1 only; Alternate; chopped; Add; CH. 2 invert (push-push switch). **Chopping Frequency:** 140 kHz. **Tilt:** 5% or less. **Overshoot:** 3% or less. **Sweep System: Type:** Automatic and triggered. **Sweep Time:** 1 μsec /div to .1 sec /div (±5%), in 16 steps (1-2-5 sequence). Concentric variable control between ranges. **Magnification:** 5X at all speeds, for maximum sweep speed of .2 μsec /div. **Triggering: Sync:** Normal; TV-H (100 Hz to 1 MHz); TV-V (100 Hz to 3 kHz). **Source:** Internal, Ch. 1 or external. **Slope:** Positive or negative. **Range:** 20 Hz to 10 MHz (min. 1 div. deflection on CRT). **TV Sync:** Sync separator circuit generates sweep sync pulses from TV composite video waveforms. **Horizontal Amplifier: Sensitivity:** 300 mV /div. **Response:** DC to 800 kHz (−3 dB). **Input Impedance:** 100K ohms, shunted by 40 pF. **Calibration Source:** Line frequency square wave, 1 volt p-p. **Intensity (Z-Axis) Modulation:** 30 volts, p-p, minimum. **CRT:** Flat-faced, 5", high sensitivity, medium persistence. **Graticule:** 8 x 10 div., variable illumination. **Size:** 9 x 10 x 17". Compact, low-profile design. Net wt. 23½ lbs. With handy tilt-stand. **Vector Overlay:** Supplied. **Probes:** Two required; not supplied. **Power Requirements:** 105-125 VAC, 50-60 Hz; 3-wire cord.

62F573. NET **529.95**

TRIGGERED SWEEP OSCILLOSCOPE

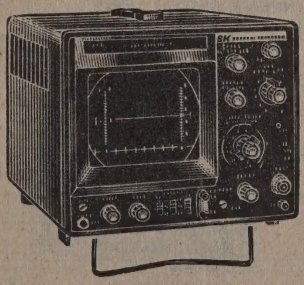
- **DC to 10 MHz bandwidth**
- **Fully auto sync**
- **100% solid-state**
- **10 mV/div sensitivity**
- **Vectorscope for ease of use**



Model 1460. New precision scope automatically synchronizes and displays entire complex TV signal or any portion thereof on 5" CRT. High-accelerating anode voltage allows writing speeds up to 0.1 μsec /div. Active filter triggering circuit and 5X magnification circuit assure sharp, high-intensity patterns. Fully protected drift-free FET input stage and self-contained probe permit direct or low 10:1 capacity operation. Replaceable probe tips accommodate many job requirements. **Response: vertical amplifier,** DC to 10 MHz at 10 mV /div. sensitivity; **horizontal amplifier,** DC to 800 kHz. **Sweep positions:** 19 plus TV-H, TV-V and VIT test signals. **Power Requirements:** 105-125 /234 VAC, 50-60 Hz; 20 watts. 3-wire line cord. **Size:** 9 x 10 x 17". Wt. 27 lbs. With handy tilt stand and Mylar Vector overlay. Less probe.

62F2850. NET **399.95**

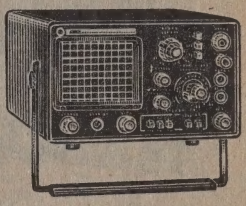
TRIGGERED SCOPE WITH "CALI-BRAIN"



Model 1465. Specifications: Vertical Amplifier: Sensitivity: .1 volt full scale (16.6 mV/div.) to 200 volts full scale. Concentric control provides continuous variation between calibrated ranges. **Response:** DC, DC to 10 MHz; AC, 2 Hz to 10 MHz (both −3 dB). **Risetime:** 35 nanoseconds. **Overshoot:** 3% or less. **Tilt:** 5% or less. **Maximum Input:** 600 volts, peak-to-peak. **Input Impedance:** 1 megohm, shunted by 35 pF. **Sweep System: Type:** Automatic and triggered. **Sweep Time:** 1 μsec /div. to 20 msec /div. (±5%) in 10 steps (1-2 sequence), each with fine adjustment. **Magnification:** 5X at all speeds; increases maximum sweep speed to .2 μsec /div. **Triggering: Type:** Internal, line and external. **Slope:** Positive and negative. **Range:** 20 Hz to 10 MHz (minimum 1 div. deflection on CRT). **TV Sync:** Sync separator circuit generates sweep synchronizing pulses corresponding to vertical and horizontal sync pulses of complex waveforms, including TV signals, and VITS (Vertical Interval Test Signal). **Horizontal Amplifier: Sensitivity:** 300 mV /div. **Response:** DC to 800 kHz. **Input Impedance:** 100K ohms, shunted by 40 pF. Other specifications including Size, Net wt. and Power Requirements are same as Model 1470. Less probe.

62F575. NET **379.95**

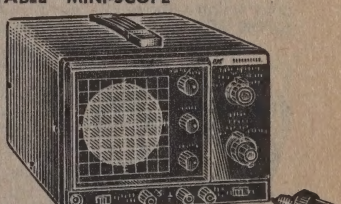
MODEL 1431 OSCILLOSCOPE



Specifications. Vertical Amplifier: Sensitivity: 10 mv. /div. to 20 v / div., ±5%, divided into 11 calibrated ranges, each with fine adjustment. **Freq. Response:** DC, DC to 10 MHz (−3 dB); AC, 2 Hz to 10 MHz (−3 dB). **Risetime:** 35 nanoseconds. **Overshoot:** 3% or less. **Input Imp.:** 1 megohm, shunted by 35 pF. **Max. Input Voltage:** 600 volts p-p. **Sweep Circuit: Sweep System:** Automatic and triggered. **Sweep Time:** 0.5 μsec /div. to 0.5 sec /div. (±5%), divided into 19 calibrated ranges (1, 2, 5 steps), each with fine adjustment. Special TV-H position displays two horizontal lines and TV-V position displays two vertical fields. **Magnification:** 5 times, at all speeds; increases max. sweep to 0.1 μsec /div. **Linearity:** 0.5 sec /div. to 2 μsec /div. ranges: 3% or less. 1.0 μsec / div. to 0.5 μsec /div.: 5% or less. **Horizontal Amplifier: Sensitivity:** 300 mv. /div. **Response:** DC-1 MHz (−3 dB). **Input Imp.:** 1 megohm, shunted by 30 pF. **Calibration Voltage:** 1 kHz square wave, .8 volts p-p (±5%). **Intensity Modulation:** 30 volts p-p, minimum. **Dimensions:** 5" x 8" x 11¼" deep. **Net wt.:** Approx. 8 lbs. **Power Requirement:** 105-125 VAC, 50-60 Hz. Less probe.

62F574 ..... **399.95**

• NEW 3" PORTABLE "MINI-SCOPE"



Model 1403. Specifications: Vertical Amplifier: 20 mV /div. or better. **Response:** DC, DC to 2 MHz (−3 dB); AC, 2 Hz to 2 MHz (−3 dB). **Overshoot:** 5% or less. **Maximum Input:** 600 volts, peak-to-peak. **Input Impedance:** 1 megohm, shunted by 30 pF. **Attenuator:** 1, 1 /10, 1 /100 multiplier, ±5%. **Gain Control Range:** Continuously variable range greater than 22 dB. **Horizontal Amplifier: Sensitivity:** 500 mV /div. or better. **Response:** DC to 250 kHz. **Input Impedance:** 1 megohm, shunted by 40 pF. **Sweep System: Type:** Recurrent. **Time Base Ranges:** 10-100 Hz, 100-1 kHz, 1 kHz-10 kHz, 10 kHz-100 kHz; continuously variable between ranges. **Sweep Linearity:** ±5%. **Synchronization:** Internal, negative. **Signal Required for Sync:** Minimum of 1.0 div. deflection on screen of CRT. **Intensity Modulation:** 25 volts, peak-to-peak. **Size:** 5¼" x 7⅜" x 11¼" deep. **Net wt.:** 8½ lbs. **Power Requirements:** 117 /234 VAC, 50-60 Hz; 15 watts. 3-wire grounded AC line cord. Leads, spare fuse, instructions.

62F576. NET **179.95**

Model PR-20 Probe. Combination 10:1 /DIRECT probe with spring-loaded clip-on tip. Input-impedance: Low-capacity, 10:1, 10 megohms /18 pF; DIRECT, 1 megohm /120 pF. For 1440, 1460, 1465, 1470, 1431 scopes.

62F578. NET **19.95**

Model PR-16 Probe. Above, but less the spring-loaded tip.

62F579. NET **14.95**

Model LC-14. Case for 1403.

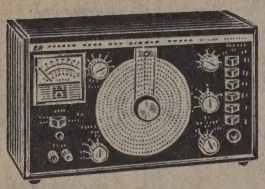
62F577. NET **9.95**

• NEW MODEL 1601 REGULATED DC SUPPLY

Simplified current limit setting does not require application of short circuit to output terminals. 0-50VDC, continuously variable, over full range, with a single control. 0-2 amperes—fully regulated output. Foolproof overload protection: unit shuts down automatically when overload occurs. Set/Reset combination Current Limit pushbutton. Standby switch disconnects load for safe adjustment without disturbing voltage or current settings. On/Off switch combined with voltage output control assures zero output voltage when power supply is turned on. Load reg.: 0.05%; line 0.02%. Ripple, 5 millivolts peak-to-peak. Temperature coefficient .002% of output volts per degree Centigrade. Dimensions: 14⅛ in. by 3⅞ in. by 10 in. deep. Complete with leads and instruction manual. Shpg. wt.: 11 lbs.

62F111. NET..... 159.95

MODEL E200D RF GENERATOR

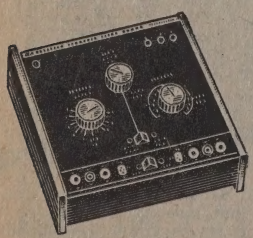


- **TV Trap and Bandpass Coil Alignment**
- **AM/FM Receiver Alignment**
- **Audio Signal Tracing**
- **Accuracy of 0.1% Is Available with Built-in Crystal Calibrator**

Calibrated meter monitors RF level and % modulation. Wide-range coverage from 100 KHz to 216 MHz in 5 bands. Completely shielded RF output with continuously variable monitored attenuation calibrated to less than 1 microvolt (on fundamentals to 54 MHz). Built-in crystal calibration for assured frequency accuracy. Easy-setting, 2-color 5" vernier dial with anti-backlash 12:1 gear ratio. Accuracy ±1.5%. Output: 100,000 microvolts maximum. Four outputs: Unmodulated RF; modulated RF (400Hz); externally modulated RF; 400 Hz audio signal. FM and TV channels identified on dial. 3-wire grounded AC line cord. Attenuator system: 6 individually shielded step attenuators with a total capability of −96 dB. Outputs as low as 106 dB below 100,000 microvolts can be obtained with fine output level control and calibrated meter, which provides additional −10 dB to +2 dB output level indication (0 dB = 100,000 microvolts into 50 ohms). Shipping Weight: 10 lbs.

63F066. NET..... 215.00

SEMICONDUCTOR MODEL 501-A CURVE TRACER

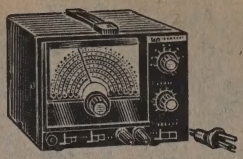


- **Electronic Current Limiting**
- **Compatible with All Oscilloscopes**
- **Built-in Calibration**
- **16 Current and Voltage Steps**

The most accurate way to analyze semiconductor devices. Tests transistors, unijunctions, Triacs, SCR's, tunnel diodes, Zener diodes, signal diodes, ordinary rectifier diodes, J-FET's, MOS-FET's (both depletion and enhancement types). Compatible with all oscilloscopes. Generates true current and voltage steps. Pinpoints BAD devices in circuit. Insures full display of waveforms up to 100V at 100 mA—no IR drops to affect the curve. Sweep gen. range 0-100V. Step generator: 11 current ranges, 1-2-5-10-20-50μA and .1-.2-.5-1-2 mA per step, ±3%. 5 voltage ranges: .05-.1-.2-.5-1 V per step, ±5%. Calibration source: ±.05 to 5V P to P; ±3% accuracy. Attenuator range: 1-2-5-10 mA per division vertically, ±3%. Two TO-5 type transistor sockets with each pin paralleled by a banana jack for external cables (3 pins per socket). Output terminals are banana jacks for vertical, horizontal and ground outputs to oscilloscope. Dimensions: 4" x 10" x 9½". Shipping weight 3 lbs.

62F112. NET..... 150.00

NEW MODEL 2050 SOLID STATE RF SIGNAL GENERATOR

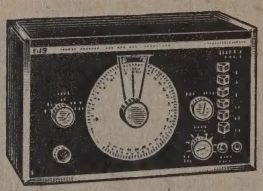


- **Accuracy 1.5% of Dial Setting**
- **Multi-Colored 4½" Vernier Dial**
- **RF Amplifier Gain Tests**
- **Am Receiver Alignment**

100 kHz to 30 MHz on 6 fundamental bands, with 1.5% accuracy. 3 outputs: RF, modulated RF (400 Hz) and externally modulated RF. Positive anti-backlash dial drive. Zener-regulated power supply. 100% solid state. Attenuator: Combination HIGH/LOW switch, plus continuously variable RF OUTPUT control provides approximately 20 dB change. Internal modulation 400 Hz; 40%, ±5%. External modulation 50 Hz to 10 kHz; modulating voltage, 1.5 V (RMS) for 40% or better modulation. Operating temperatures 0°C to 50°C. Power Requirements: 117/234 VAC, 50-60 Hz; 2.8W, 3-wire grounded AC line cord. Dimensions: 7½" wide x 6⅛" high x 9¾" deep overall. Shipping weight 5 lbs.

62F113. NET..... 99.95

MODEL E310B SINE/SQUARE WAVE GENERATOR

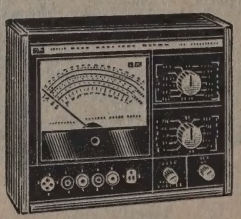


- **Regulated Power Supply**
- **Fast Square Wave Rise Time**
- **3-Wire Grounded AC Cord**
- **Large 5" Vernier Dial**

Features step attenuation of both sine and square outputs. Constant-voltage output over each band and band-to-band. Sine wave frequency range: 20 Hz to 2.0 MHz in 5 decade ranges: 20-200 Hz; 200 Hz to 2 KHz; 2-20 KHz; 20-200 KHz; 200 KHz to 2 MHz. Output 0-8 V (RMS) into high-impedance loads; 0-7 V (RMS) into 600 ohms; ±2 dB. Distortion: .25% typical; .5% maximum (100 Hz to 2 MHz); 1% maximum below 100 Hz. Square wave frequency range 20 Hz to 200 KHz in 4 ranges: 20-200 Hz; 200 Hz to 2 KHz; 2K Hz to 20 KHz; 20 KHz to 200 KHz. Rise time less than 100 ns at 20 KHz. Symmetry balanced within 5% or less. Freq. calibration accuracy ±3% 20 Hz to 2 MHz. Attenuators (both sine and square wave outputs): Step, total of 56 dB (6 switches). Accuracy ±5% when terminated in 600-ohm load. Continuously variable control adjusts output from maximum down to less than 0.25 millivolt. Size: 12¾" x 7¼" x 8" deep. Shipping weight 9½ lbs.

63F065. NET..... 140.00

MODEL 162 TRANSISTOR/FET TESTER



- **Leakage Tests**
- **Battery Check on Front Panel**
- **4½" Meter Scales**

Features the fastest solid state device tester for transistors and FET in-circuit and out-of-circuit. Read Beta, Gm and leakage directly on large 4½" meter scales. Tests of collector current from 1 mA to 1 ampere. Checks gates of dual-gate FET's separately. Tests: Bipolar and field effect transistors (FET's). Also tests diodes, unijunctions, SCR's and Triac's. Size: 9" x 7¼" x 4" deep. Shipping weight 6¼ lbs. (w/batteries).

62F597. NET..... 115.00

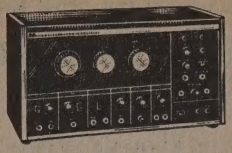
MODEL FP-5 "DYNA-FLEX" PROBE

Practical way to test transistors, diodes, IC's and other compact components mounted on printed circuit boards. Makes positive, non-slip contact with three termination points at one time with one hand. Spring loaded needle point tip. Automatically adjusts to any spacing from 1-32" to ⅝".

62F567. NET..... 10.00

Test Equipment B & K and YSI

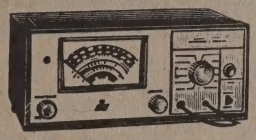
TV ANALYST



Model 1077B. Designed to simplify and speed servicing of black and white and color VHF and UHF, tube type and transistorized TV receivers. Supplies a complete test pattern or other patterns by means of a flying spot scanner system using a positive transparency. Generates signals for point-to-point signal injection anywhere in a TV receiver. RF outputs at all UHF channels-VHF channels-plus IF 20-48 Mhz. Outputs at 4.5 Mhz with 1000 hz audio for TV sound analyzing. Outputs for sync, video, chroma, and audio. Provides low impedance output for analyzing transistorized as well as tube type receivers. Low impedance calibrated bias supply. Horizontal and vertical signals. Weight approximately 30 pounds. Size 9¾" x 18" x 12"

62F555. NET **419.95**

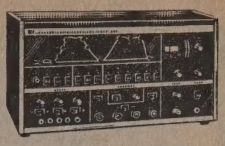
CAPACITOR ANALYST



Model 801. Measures capacitance and leakage resistance both in-circuit and out-of-circuit. Designed to operate on 105-125 volts 60 cycle AC but will operate from 90 to 140VAC after a 2 min. warm-up. Can detect "shorts" in normal circuits where the capacitor tested is shunted by more than 25 ohms. Detects "Opens" in circuits where the capacitor tested is more than 25 pfd or shunting resistance is more than 50 ohms. Unique circuit determines how capacitor stores energy and returns it to the circuit. Spots marginal electrolytics that need replacement and predicts the life expectancy of electrolytic capacitor of 3 volts or more. Meter movement is protected against overloads. Easily tests low-voltage transistor circuit capacitor as well as those in vacuum-tube circuits. Electrolytic tests up to 2000 mfd, using a balanced bridge. One knob makes it easy to select the desired function and range. Simplified internal design, easily portable. Size: 5½"x12¾"x6¾". Weight, 8¾ lbs.

62F588. Model 801. NET **129.95**

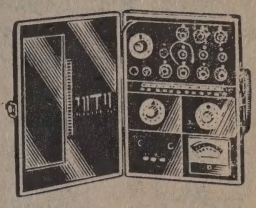
SWEEP/MARKER ALIGNMENT GENERATOR



Model 415. 15,750 hz filter enables user to view I-F and chroma response curves without disabling the horizontal output stage of a receiver under test. This can be done with a minimum of horizontal frequency "grass" superimposed on the oscilloscope patterns. Unity gain through instrument into oscilloscope to eliminate intermediate steps for calibration purposes. Built-in low frequency compensation. Sweep freq. rate 60/sec. 105-125 AC, 60 Hz. Wt: 23 lbs. Size: 9½x17⅝"x10⅝".

62F566. NET **419.95**

DYNA-JET SOLID STATE TUBE TESTER



Model 607. Features multiple-pin lockout pushbutton switches (10): Open any and all pins in tube under test—all tubes now can be tested for shorts; positively detect all shorts regardless of pin connections. Eliminates all false shorts. Reset button clears all lockouts. Tube testing speed doubled by (1) exclusive shaped-coded symbols that match controls to chart, and (2) minimum number of settings—maximum of 4, and in some instances, only 3 are required. Checks tubes accurately—under simulated load conditions. Grid leakage and gas tests. Simplified heater voltage setting. Superior load and plate voltage capability. Tests newest tube types—plus all old types used in TV and radio. Nuvistors, Novars, Magnovals, new 10 pin tubes and 12 pin compactrons, also tests auto radio hybrids, imported hi-fi tubes and many industrials and specials. Black attache-type case, 13½x9¼x4" deep. Operates from 105-125 volts, 60 Hz. AC. Weight, 6 lbs.

62F2852. NET **129.95**

YSI

THERMIVOLT THERMILINEAR® THERMOMETER

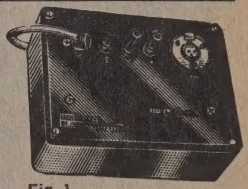


Fig. 1
Bench Model

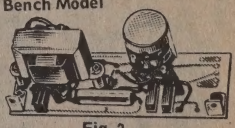


Fig. 2
Basic Circuitry Model

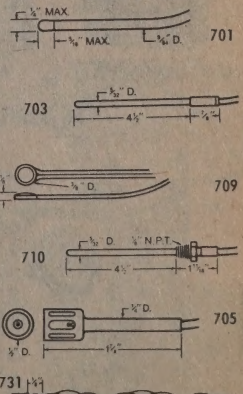
Circuitry necessary to convert Thermilinear Component No. 44018 or 700 Series Probe resistance into a DC analog voltage. Direct numeric correspondence with temperature. Bench or basic circuitry models.2¼ x 6¾ x 5¼" (Fig. 1); 1 15/16 x 5⅜ x 2" (Fig. 2); Weight: 1¾ lbs. (Fig. 1), 1 lb. (Fig. 2); Power: 115/120V, 50/60 HA, 5 watts max.

Stock No.	Bench Model	Net	Stock No.	Basic Model	Net	Acc.±	Range	Load Req.	Sen.	Output
29F230	741-1		29F238	751-1		0.4°C	0 to 100°C	J001C	1MV/°C	0 to 100 MV
29F231	741-10		29F239	751-10		0.4°C	0 to 100°C	J001C	10MV/°C	0 to 1 V
29F232	742-1		29F240	752-1		0.25°C	—5 to +45°C	J001C	1MV/°C	—5 to +45 MV
29F233	742-10	100.00	29F241	752-10	75.00	0.25°C	—5 to +45°C	J001C	10MV/°C	—50 to +450 MV
29F234	743-1		29F242	753-1		0.35°C	—30 to 50°C	J001C	1MV/°C	—30 to +50 MV
29F235	743-10		29F243	753-10		0.35°C	—30 to +50°C	J001C	10MV/°C	—300 to +500 MV
29F236	744-1		29F244	754-1		0.35°C	30 to 100°F	J001C	1MV/°C	30 to 100 MV
29F237	744-10		29F245	754-10		0.35°C	30 to 100°F	J001C	10MV/°C	0.300 to 1 V
29F191	741-5V		29F195	751-5V		0.4°C	0 to 100°C	1K	50MV/°C	0 to 5V
29F192	742-5V	150.00	29F196	752-5V	75.00	0.25°C	—5 to 45°C	1K	100MV/°C	0 to 5V
29F193	743-5V		29F197	753-5V		0.35°C	—30 to 150°C	1K	62MV/°C	0 to 5V
29F194	744-5V		29F198	754-5V		0.35°C	30 to 100°F	1K	71MV/°F	0 to 5V

YSI SERIES "700" INTERCHANGEABLE PROBES

Electrically equivalent to Thermivolt Thermilinear Thermometer (See YSI thermistors). If a 700 Series Prope is to be used as a substitute for the component, it is necessary to acquire a resistor composite as a separate item. Length of lead 10 ft; max. temperature 212°F(100°C).

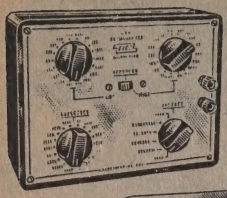
Stock No.	Type	Application	Material	Time Const.	Net
29F246	701	Esophageal or rectal temperature in humans and larger lab animals. Often buried for sub-soil readings.	Vinyl tip	9.0 Sec.	20.00
29F247	703	Rugged duty in liquid immersion. Immersible to cap.	Stainless steel	1.6 Sec.	29.00
29F248	709	Easy to tape on skin or flat surface for reading.	Stain. steel cup, epoxy backed	1.1 Sec.	29.00
29F249	710	Readings in pipes or inside closed vessels.	Stainless steel	3.6 Sec.	34.00
29F250	705	Test rooms, remote air readings monitor gas streams.	Stainless steel	0.6 Sec.	34.00
29F251	731	(Non immersible.) Suitable for surface temp.	Epoxy tip	0.6 Sec.	29.00



RESISTORS

Stock No.	Type	Temperature Range	Each	Stock No.	Type	Temperature Range	Each
29F252	44301	0 to 100°C	3.10	29F254	44303	—30 to +50°C	3.10
29F253	44302	—5 to +45°C	3.10	29F255	44304	30 to 100°F	3.10

Test Equipment

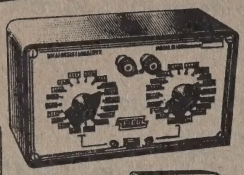


Model 1140

MODEL 1140 R-C COMBINATION BOX

Combines Model 1100-K and Model 1120-K in one box for selection of either R alone, C alone, or series or parallel combinations of R and C (1350 combinations). Includes all EIA resistance values from 15 ohms to 10 megohms and all EIA capacitance values from .0001 to 0.22 mfd. Min. accuracy ±10%. Resistors: 1 watt. Wt. 3 lbs.

62F861. Model 1140. Wired and tested. **NET** 29.95



Model 1100

MODEL 1100 EIA RESISTANCE SUBSTITUTION BOX

Permits substitution of a wide range of EIA resistance values in an operating circuit. 36 EIA 1 watt, 10% resistors, arranged in Hi and Lo decades gives resistance ranges of 15 Ω -10 megs in decade multiples of 15,22,33,47,68 and 100 ohms. 5-way jack-top binding posts for connection of test lead. Size 3¾x6½x3½". Wt., 2 lbs.

62F807. Model 1100W. Factory wired. **NET** 19.95

Model 1180

MODEL 1180 DECADE CONDENSER BOX

Three decade capacitor assemblies. Each decade has eleven positions, 0 to 10 inclusive, so that the decades overlap. The added capacity per step is 0.01 mfd for the largest decade, .001 for the next decade, and .0001 mfd (100 mmf) for the smallest decade. Voltage rating: 350 volts DC continuous, 500 volts DC intermittent, 1000 volts DC test. Insulation resistant. Production test limit is 50,000 meg at 1000 volts DC. Mounted in a metal cabinet. Weight 3 lbs. Supplied less leads.

62F989 Model 1180K. Kit. **NET** **24.95**

Model 1180W. As above but factory wired

62F990. **NET** 34.95

Model 1171

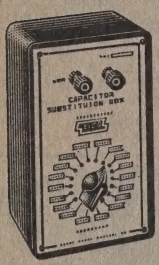
MODEL 1171 RESISTANCE DECADE BOX

Permits changing resistance in a working circuit at the flip of a switch. May be used alone or in conjunction with the model 950-K RC bridge. Supplies resistance values from 0 to 99,999 ohms. Uses ½% resistors. Separate comparator position and binding posts permit instant substitution. Steel case, 3½x12x3". With diagrams, instructions and all parts; less solder and leads. Wt., 3 lbs.

62F795. Model 1171K. Kit. **NET** **29.95**

Model 1171. As above but Factory wired.

62F802. **NET** 39.95



Model 1120

MODEL 1120 CAPACITOR SUBSTITUTION BOX

Substitution of a wide range of RETMA capacitance values from .0001 to 0.22 mfd. in an operating circuit to determine value needed for optimum performance and to find value of badly damaged or illegible capacitors. Minimum accuracy 10%. Convenient 5-way jack top binding posts. 3¾"x6½"x3½". Wt. 2 lbs.

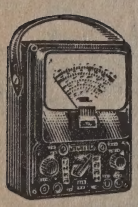
62F841. Model 1120W. Factory-wired **NET** 16.95

Model 536

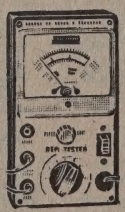
MODEL 536—1000 OHMS/VOLT MULTIMETER

1000 ohms/volt multimeter kit with extra-extended ranges from 0 to 1 volt up to 0-5000 volts, 31 different full scale ranges. AC-DC volts: 0 to 1, 5, 10, 50, 100, 500, 5000. DC current: 0-1 ma, 10 ma, 0.1 amp, 1 amp. Ohms: 0-5,000, 100,000, 1 meg. 6 db ohm ranges. Dual rectifier has separate low and high voltage calibration in AC ranges. 6¼x3¾x2¾". With instructions and battery. Shpg. wt. 3 lbs.

62F777. Model 536. Factory-wired and tested. **NET** 26.95



Model 565



Model 540

MODEL 565—20,000 OHMS/VOLT MULTIMETER

Has 31 full scale ranges. AC-DC and output volts: 0-2.5, 10, 50, 250, 1000, 5000 (DC at 20,000 Ω per volt, AC at 1,000 ohms per volt) DC current: 0-10 microamps, 10 ma, 100 ma, 500 ma, 10 amp. Ohms: 0-2000, 200,000, 20 meg. 5 db ranges: —12 to +55. Large 4½" meter with 50 microamp D'Arsonval movement. 6¼x5¼x3". With batteries, less leads. Wt., 3 lbs.

62F773 Model 565K. Kit **NET** **25.95**

62F774. Factory wired and tested **NET** 39.95

HVP-2

UTILITY TESTER MODEL 540

Can be used as a multi-range AC/DC voltmeter, an ammeter, an ohmmeter, a wattmeter, and a leakage detector. All voltage ranges (0-7.5-15-150-300 volts) and current range (0-15 amps) are AC/DC. 0-1000 direct reading ohms. Neon lamp ac leakage test circuit permits continuity check of resistors between 1000 ohms and 2 megohms and capacitors above .0005 mfd. Direct reading of power line voltage up to 300 volts AC/DC. Panel outlet permits metering current up to 15 amps drawn by any appliance. 3¾x6½x3½". 3 lbs.

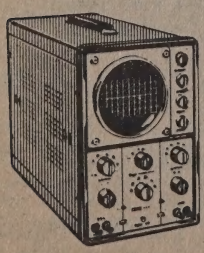
Model 540K Kit NET **19.95**

62F847. Model 540. Factory-wired and tested. **NET** 29.95

MODEL HVP-2 HIGH VOLTAGE PROBE

HV probe extends range of VOM's to 30,000 volts. With 1090 meg. multiplier resistor.

62F850 **NET** 9.95



Model 465

MODEL 465 PROFESSIONAL OSCILLOSCOPE/VECTORSCOPE

DC-to-8MHz (usable to 10MHz). Vertical and horizontal AC/DC-coupled amps. 5" CRT V/H amplifier sensitivity: .05 volt P-P/CM. (DC-to-8MHz, +1 —5db). 1400 V. Sweep range selection from 10 hz to 100 Khz. Pre-set TV-V and TV-H sweep positions (30cps and 7875cps.) Vectorscope has calibrated graticule and interconnecting cables. Vertical amplifier: Freq. from dc to 8MHz (+1 —5db). Horizontal amplifier: Frequency from DC to 1MHz. +1 —3db. Sweep ranges: 10 to 100, 100 to 1K, 1K to 10K, 10K to 100K cps; TV-VERT position (30cps) and TV-HOR position (7875cps.) Intensity Modulation Input: 3Vrms. Imp. 2.2 megohms. Size: 12¾x8½x17½. Wt. 27 lbs.

62F750. Model 465K. Kit. **NET** **189.95**

62F751. Model 465. Wired. **NET** 259.95

9

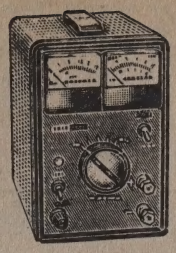
Test Equipment

EICO

MODEL 1064 BATTERY ELIMINATOR AND CHARGER

Two DC ranges: 0-8v. and 0-16v. Automatic switching of appropriate ammeter range. Separate volt meter and dual-range ammeter. 105-125v. AC, 50/60 Hz; 150 watts. Grey steel cabinet. Size. 8½x5¾x7½". Same current ripple ratings as Model 1060. Wt. 16 lbs.

62F871. Model 1064. Factory wired. **NET** **84.95**

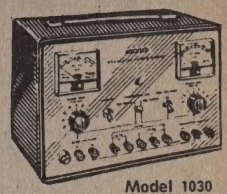


Model 1064

MODEL 1030 REGULATED POWER SUPPLY

Simultaneously delivers regulated B+ supply (0-400 VDC) and bias voltage (0-150 VDC) required for circuit design. Delivers exact voltage needed to test any circuit, while monitoring both voltage and current used. Also supplies 6.3 VAC at 3 amps and 6.3 VAC at 3 amps. Center tapped or 12.6 VAC at 3 amps. Instant turn-on front-panel switch. If power line voltage varies as much as +10 volts, voltage output will change as little as 0.5 volts. Ripple is less than 3 mv RMS. Power requirements: 120 VAC, 50/60hz. approx. 160 watts. 8½"H., 12½"W., 9"D. Wt. 21lbs.

62F917. Model 1030 Factory Wired **NET** **119.95**

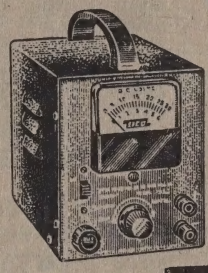


Model 1030

MODEL 1020 POWER AND BIAS SUPPLY

Power supply includes power transformer, full-wave silicon diode rectifier circuit, heavy R-C filtering, plus two power transistors in a unique cascaded filter circuit. Ripple is reduced to 1/200 of 1% at full load. Provides continuously variable output voltage to 30 volts monitored by a dual range voltmeter (0-6, 0-30 VDC). Max. load current varies from 150 ma. in the 1-12V range to 300 ma. in the 24-30V range. Grey case. Size: 5x 4x5½". Wt. 5 lbs.

62F857. Model 1020 Factory Wired. **NET** **44.95**

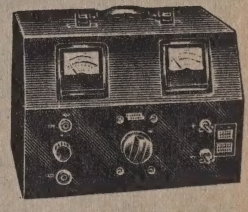


Model 1020

MODEL 1060 BATTERY ELIMINATOR AND CHARGER

Battery substitute supply for operation and servicing of battery operated transistorized, also "hybrid" and vactube equip. Separate output ammeter and voltmeter. Output 0-8V,@ 10 amps continuous; 0-16V @ 6 amps continuous. 0.3% ripple @ 2 amps. Size: 8¾"x10½"x7¾". With instructions, less than 18 lbs.

62F853. Model 1060. Factory wired and tested. **NET** **79.95**

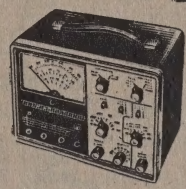


Model 1060

MODEL 685 DYNAMIC SEMICONDUCTOR AND CIRCUIT ANALYZER

Measures FET and Bipolar transistors. FET tests: AC transconductance (in and out of circuit) 0-5,000 and 0-50,000 micromhos. Bipolar transistors include an AC beta test, from 2 to 1,000 on power and small signal devices, and read from 2 to 1,000 on RF transistors. Tests can also be made on unijunction transistors, silicon controlled rectifiers, power rectifiers, signal diodes and zener diodes (0-20 volts). Built in ohmmeters (400, to 10M, 140K center scale) and voltmeter (0-500 volts, 30 volts center scale, 1 megohm resistance) allow from 0 to 500 volts to be measured with one knob setting while the 400 ohms to 10 megohm measurements can be made using another single setting. Low values of resistance and voltage are read over a bigger length of the meter scale than are higher values. 1% resistors and a 50 microampere Taut Band meter (50 uA, 2% Taut Band) to make proper leakage measurements. Measures ICBO and ICEO. Power requirements: 120 VAC, 50/60 Hz, 10 watts; Size: 12½" x 8½" x6".

62F2450 Model 685. Wired and tested **NET** **159.95**



Model 685

443 SEMICONDUCTOR CURVE TRACER

Test diodes, rectifiers, signal and power transistors. Specifications: diode and rectifier forward current test; 2 range (0-100ma), maximum 1 Amp forward current, 3 ranges reverse current 1 ua/Div, 10ua/Div, 100ua/Div, Peak Inverse Voltage (PIV). 5 ranges 10 volt/Div; 50 volts/Div, 100 volts/Div; 200 volts/Div; PIV test voltages are variable from 0-1400 volts. Transistor tests; family of 3 cures, BETA-10 volts at 12 ma collector current for signal transition. For power transistors 10 volts at 1 Amp. collector current maximum. Solid state construction. Shpg. wt. 10 lbs.

62F753. Model 443. Wired and tested. **NET** **149.95**

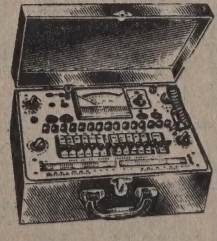
Model 443

MODEL 667 DYNAMIC TUBE AND TRANSISTOR TESTER

A mutual conductance tester with a peak emission test to give a single reading of tube quality. Spots bad transistors by gain and leak tests. Tests 5 & 7-pin. Nuvistors; 7 & 8-pin subminiature, 7, 9, 10-pin miniature, octal, loctal, vacuum and VR tubes; compactrons, novars, and pilot lights, 4½" meter indicates leakage between elements or Beta current amplifications of NPN, PNP transistors. Multi-circuit lever switch sets up plate, screen, and voltage controls. 13 pushbuttons alternate element set up of tube. Steel case. 12" x 15" x 4½". Wt. 22 lbs.

62F889. Model 667K. kit. **NET** **109.95**

62F890. Model 667. Factory wired. **NET** 159.95



Model 667

MODEL 378 AUDIO GENERATOR

Application where a stable accurate audio sine wave must be used. Output controlled by 8 position decade and fine attenuators. Frequencies from 1 hz to 110 Khz in 1 hz steps. Frequencies accuracy: ±5%. Distortion less than 0.1% (20hz-20kc). Output voltage ranges: 0-3, 10v into hi-z (10k min.); 0-003, .01, .03, .1, .3, 1V into ext. 600Oload—or with int. load into ext. hi-z. Output meter accuracy ±5%of full scale. Power requirements: 120V, 50/60 hz. 40 Watts. Size: (HWD); 8½" x 12½" x 9". Shpg. Wt. 16 lbs.

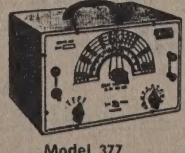
62F901. Model 378. Factory wired & tested. **NET** **109.95**

Model 378

MODEL 377 AUDIO GENERATOR

Sine wave 20-200,000 Hz in 4 ranges. Square wave coverage from 60-50,000 Hz (5% round-off at 50 kc). Response ±1.5db from 60 Hz to 150 hz. Continuously variable power output: 100 mw into rated load (10 volts across 1,000 ohm load). Rated load impedance. 1000 ohm resistance. Distortion only 1%. Hum less than 0.4% of output. All bridge resistors 1% accurate. Uses: 1-6X5, 1-6SJ7, 2-6K6, 1-6SN7, 105-125 v., 50-60 Hz. Calibration accuracy: ±3%. Size: 11⅛x7⅝x7⅛". Shpg. Wt. 13 lbs.

62F770. Model 377. Factory wired. **NET** **69.95**



Model 377

MODEL 369 TV/FM SWEEP MARKER GENERATOR

Feeds sweep signal only to i.f. strip being aligned. At the output end of the circuit a demodulator cable picks off the signal, demodulates it, and feeds the demodulated signal to a mixer stage inside the generator where the markers are added. Five Ranges: 75-220 Mhz; 36-95 Mhz; 16-42 Mhz; 6-16 Mhz; and 3-7.5 Mhz. Output impedance is 50 ohms. 6BQ7-A sweep oscillator and rf output cathode follower, a 12AT7 variable and crystal marker oscillator, a 12AX7 blanking diode and first agc amplifier, a 6DR7 second agc amplifier and agc series regulator. For 110-120v A.C. wt. 18 lbs.

62F894. Model 369K. Kit. **NET** **129.95**

62F895. Model 369. Factory wired. **NET** 179.95

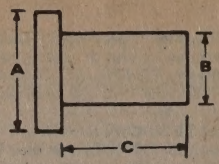
Model 369

19

Simpson

Wide-Vue Panel Meters

All meters have self shielded type movement (calibration not affected by magnetic fields or magnetic mounting). DC ammeters up to 50 amps are self contained. All meters are accurate ±2% of F.S. Plastic covers for maximum protection of meter face. Average shipping weight 1 lb.



SIZE CHART

Model	A	B	C
1212	1.76″	1.50″	.87″
1227	2.47″	2.17″	1.06″
1327	3.25″	2.73″	1.08″
1329	4.68″	2.75″	1.08″

Range	Approx. Resistance (ohms)	Model 1212 1½″ Stock No.	Each 1-9	Each 10-24	Model 1227 2½″ Stock No.	Each 1-9	Each 10-24	Model 1327 3½″ Stock No.	Each 1.9	Each 10-24	Model 1329 4½″ Stock No.	Each 1.9	Each 10-24
DC VOLTMETERS Self-Shielding Meter Movements													
0-5		55F436	19.80	17.82	55F1143	21.15	19.04	55F1146	21.90	19.71	55F1166	24.00	21.60
0-8		.....	.....	.....	.....	.....	.....	55F1147	21.90	19.71	55F1167	24.00	21.60
0-10		55F437	19.80	17.82	55F1500	21.15	19.04	55F1550	21.90	19.71	55F1600	24.00	21.60
0-15		55F438	19.80	17.82	55F1501	21.15	19.04	55F1551	21.90	19.71	55F1601	24.00	21.60
0-25	1000	55F439	19.80	17.82	55F1502	21.15	19.04	55F1552	21.90	19.71	55F1602	24.00	21.60
0-30	ohms	55F440	19.80	17.82	55F1503	21.15	19.04	55F1553	21.90	19.71	55F1603	24.00	21.60
0-50	per volt	55F441	19.80	17.82	55F1504	21.15	19.04	55F1554	21.90	19.71	55F1604	24.00	21.60
0-100		55F442	19.80	17.82	55F1505	21.15	19.04	55F1555	21.90	19.71	55F1605	24.00	21.60
0-150		55F443	19.80	17.82	55F1506	21.15	19.04	55F1556	21.90	19.71	55F1606	24.00	21.60
0-200		.....	.....	.....	57F2450	21.15	19.04	55F1148	21.90	19.71	55F1168	24.00	21.60
0-250		.....	.....	.....	57F2451	21.15	19.04	55F1149	21.90	19.71	55F1169	24.00	21.60
0-500	2000	.....	24.60	22.14	55F1508	21.90	19.71	55F1558	22.95	20.65	55F1608	24.75	22.27
0-750	ohms	.....	.....	.....	55F1144	26.70	24.03	55F1164	22.95	20.65	55F1170	24.75	22.27
0-1000	per volt	.....	.....	.....	55F1145	27.45	24.70	55F1165	28.35	25.51	55F1171	30.30	27.27
DC AMMETERS Self-Shielding Meter Movement (*) require external shunt, see page 000													
0-1	.050	55F447	19.80	17.82	55F1172	20.25	18.22	55F1559	21.15	19.04	55F1609	22.95	20.66
0-1.5	.033	.....	.....	.....	55F1173	20.25	18.22	55F1181	21.15	19.04	55F1191	22.95	20.66
0-2	.025	55F448	19.80	17.82	55F1174	20.25	18.22	55F1560	21.15	19.04	55F1610	22.95	20.66
0-3	.0166	55F449	19.80	17.82	55F1175	20.25	18.22	55F1561	21.15	19.04	55F1611	22.95	20.66
0-5	.010	55F466	19.80	17.82	55F1512	20.25	18.22	55F1562	21.15	19.04	55F1612	22.95	20.66
0-10	.005	55F467	19.80	17.82	55F1513	20.25	18.22	55F1563	21.15	19.04	55F1613	22.95	20.66
0-15	.0033	.....	.....	.....	55F1176	20.25	18.22	55F1564	21.15	19.04	55F1614	22.95	20.66
0-25	.0020	.....	.....	.....	55F1177	20.25	18.22	55F1565	21.15	19.04	55F1615	22.95	20.66
0-30	.0017	.....	.....	.....	55F4582	20.25	18.22	55F1182	21.15	19.04	55F1198	22.95	20.66
0-50	.001	.....	.....	.....	55F1178	20.25	18.22	55F1566	21.15	19.04	55F1616	22.95	20.66
0-100	10.0	.....	.....	.....	55F1179	20.25	18.22	55F1183*	21.15	19.04	55F1193*	22.95	20.66
0-150	10.0	.....	.....	.....	55F1180	20.25	18.22	55F1184*	21.15	19.04	55F1194*	22.95	20.66
0-200	10.0	.....	.....	.....	.....	.....	.....	55F1185*	21.15	19.04	55F1195*	22.95	20.66
0-300	10.0	.....	.....	.....	.....	.....	.....	55F1186*	21.15	19.04	55F1196*	22.95	20.66
0-500	10.0	.....	.....	.....	.....	.....	.....	55F1187*	21.15	19.04	55F1197*	22.95	20.66
DC MILLIAMMETERS Self-Shielding Meter Movement													
0-1	43.	55F481	18.90	17.01	55F1517	19.95	17.95	55F1567	20.55	18.50	55F1617	21.90	19.70
0-3	2.0	.....	.....	.....	55F1198	19.95	17.95	55F2501	20.55	18.50	55F2506	21.90	19.70
0-5	2.0 (20†)	55F482	18.90	17.01	55F1518	19.95	17.95	55F1568	20.55	18.50	55F1618	21.90	19.70
0-10	10.0 (2.2†)	55F483	18.90	17.01	55F1519	19.95	17.95	55F1569	20.55	18.50	55F1619	21.90	19.70
0-15	6.6 (2.2†)	55F484	18.90	17.01	55F1199	19.95	17.95	55F2502	20.55	18.50	55F2507	21.90	19.70
0-20	5.0	.....	.....	.....	.....	.....	.....	55F2503	20.55	18.50	55F2508	21.90	19.70
0-25	4.0 (6.0†)	55F485	19.80	17.82	55F1520	20.25	18.22	55F1570	21.15	19.03	55F1620	22.95	20.65
0-50	2.0 (3.0†)	55F486	19.80	17.82	55F1521	20.25	18.22	55F1571	21.15	19.03	55F1621	22.95	20.65
0-100	1.0 (1.5†)	55F487	19.80	17.82	55F1522	20.25	18.22	55F1572	21.15	19.03	55F1622	22.95	20.65
0-150	.66 (1.0†)	55F488	19.80	17.82	55F1523	20.25	18.22	55F1573	21.15	19.03	55F1623	22.95	20.65
0-200	.50 (.75†)	55F489	19.80	17.82	55F1524	20.25	18.22	55F1574	21.15	19.03	55F1624	22.95	20.65
0-250	.40 (.60†)	55F490	19.80	17.82	55F2500	20.25	18.22	55F1575	21.15	19.03	55F1625	22.95	20.65
0-300	.33 (.50†)	55F491	19.80	17.82	55F1526	20.25	18.22	55F1576	21.15	19.03	55F1626	22.95	20.65
0-500	.20 (.30†)	55F492	19.80	17.82	55F1527	20.25	18.22	55F1577	21.15	19.03	55F1627	22.95	20.65
0-750	.13	.....	.....	.....	.....	.....	.....	55F2504	21.15	19.03	55F2509	22.95	20.65
0-1000	.05	.....	.....	.....	.....	.....	.....	55F2505	21.15	19.03	55F2510	22.95	20.65
DC MICROAMMETERS Self-Shielding Meter Movement													
0-50	1800 (5500†)	55F473	24.75	22.27	55F1529	25.65	23.08	55F1579	26.10	23.49	55F1629	28.20	25.38
0-100	1800	55F474	22.05	21.95	55F1530	22.95	20.65	55F1580	24.00	21.60	55F1630	26.70	24.03
0-200	1100	55F475	20.10	18.09	55F1531	20.85	18.76	55F1581	21.90	19.71	55F1631	24.00	21.60
0-500	90 (190†)	55F476	19.80	17.82	55F1532	20.55	18.49	55F1582	21.60	19.44	55F1632	23.40	21.06
25-0-25	1800 (5500†)	55F477	24.90	22.41	.....	.....	.....	55F2512	26.40	23.76	55F2516	28.35	25.51
50-0-50	1800	55F478	22.35	20.11	55F1533	23.40	21.06	55F1583	24.00	21.60	55F1633	26.85	24.16
100-0-100	1100	55F479	20.25	18.22	55F4850	21.15	19.04	55F2513	22.05	19.84	55F2517	24.30	21.87
500-0-500	43	55F480	19.20	17.28	55F4851	20.10	18.09	55F2514	20.85	18.76	55F2518	22.05	21.95

TAUT BAND DC MICROAMMETERS

Range	Approx. Ω	Model 1212T			Model 1227T			Model 1327T			Model 1329T		
0-5	5750	.....	.....	.....	.....	.....	.....	55F4329‡	48.60	43.74	55F4331‡	51.60	46.44
0-10	4900	.....	.....	.....	55F2223	40.95	36.85	55F2228	42.75	38.47	55F2233	46.20	41.58
0-15	1960 (5000†)	55F4348	37.20	33.48	55F2224	37.20	33.48	55F2229	38.25	34.42	55F2234	41.70	37.53
0-25	1960	55F4349	23.10	20.79	55F2225	35.40	31.86	55F2230	37.05	33.35	55F2235	40.20	36.18
0-50	960	55F4350	27.15	24.43	55F2226	27.75	24.97	55F2231	28.35	25.51	55F2236	30.45	27.40
0-100	500	55F4351	24.30	21.87	55F2227	25.20	22.68	55F2232	26.10	23.49	55F2237	28.80	25.92
0-200	234	55F4352	22.50	20.25	55F4328	23.70	21.33	55F4330	24.60	22.14	55F4332	27.15	24.43

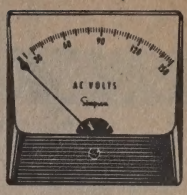
(†) Resistances of Model 1212 shown in ( ). (‡) High flux annular taut band meter movement

Wide-Vue Panel Meters

Simpson

SPECIFICATIONS OF WIDE VUE METERS

Size	Type and Model No. DC	AC Rectifier	AC Iron Vane	RF	Watt	Accuracy	Scale Length	Pointer
1½"	1212, 1212T	1214	.....	.....	.....	DC; RF; AC Iron Vane Wattmeters ±2%	1.50" (38.1mm)	Lance, Black
2½"	1227, 1227T	1247	1257	.....	.....		2.30" (58.4mm)	
3½"	1327, 1327T	1347	1357	1337	.....		3.14" (79.7mm)	Spade, Black
4½"	1329, 1329T	1349	1359	1339	1379	AC Rectifier Meters ±3%	3.93" (100mm)	



RF AMMETERS Self-Shielding Meter Movement

Range	Approx. Resistance (ohms)	Model 1214 Stock No.	Model 1214 Each 1-9	Model 1214 Each 10-24	Model 1247 Stock No.	Model 1247 Each 1-9	Model 1247 Each 10-24	Model 1337 Stock No.	Model 1337 Each 1-9	Model 1337 Each 10-24	Model 1339 Stock No.	Model 1339 Each 1-9	Model 1339 Each 10-24
0-1	.343	.....	.....	.....	.....	.....	.....	55F2242	24.30	21.87	55F2245	27.75	24.98
0-1.5	.200	.....	.....	.....	.....	.....	.....	55F2243	24.30	21.87	55F2246	27.75	24.98

AC VOLTMETERS RECTIFIER TYPE Self-Shielding Meter Movement

		Model 1214			Model 1247			Model 1347			Model 1349		
0-5		55F468	27.15	24.44	55F712	25.20	22.68	55F2602	28.80	25.92	55F2607	31.95	28.76
0-10	2000	.....	.....	.....	.....	.....	.....	55F2603	28.80	25.92	55F2608	31.95	28.76
0-15	ohms	.....	.....	.....	.....	.....	.....	55F2604	28.80	25.92	.....	31.95	28.76
0-50	per	.....	.....	.....	.....	.....	.....	55F2605	28.80	25.92	.....	31.95	28.76
0-150	volt	62F1440	27.15	24.44	62F1441	25.20	22.68	55F1543	28.80	25.92	55F1593	31.95	28.76

VU (Volume Level) METERS†

Reference Level: 1 mW into 600Ω line. Self-Shielding Meter Movement

A-Scale	55F472	30.30	27.27	55F716	33.45	30.11	55F1546	34.20	30.78	55F2520	37.20	33.48
B-Scale	.....	.....	.....	.....	.....	.....	55F1547	34.20	30.78	55F2521	37.20	33.48

(†) Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communications and sound engineers. They are available with either type A or type B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses percent use of transmitter output and is the standard for broadcast service. Impedance is 3900Ω@ "0" VU deflection.

DC GALVANOMETERS Self-Shielding Meter Movement

Range	Sensitivity Micro Amperes	Resistance (ohms)	Model 1212 Stock No.	Model 1212 Each 1-9	Model 1212 Each 10-24	Model 1227 Stock No.	Model 1227 Each 1-9	Model 1227 Each 10-24	Model 1327 Stock No.	Model 1327 Each 1-9	Model 1327 Each 10-24	Model 1329 Stock No.	Model 1329 Each 1-9	Model 1329 Each 10-24
50-0-50	500-0-500	43	62F1442	19.20	17.28	55F1548	19.95	17.96	55F1598	19.95	17.96	62F1444	22.05	19.85
50-0-50	75-0-75	1800	62F1443	20.25	18.23	55F1549	21.60	19.44	55F1599	23.40	21.06	62F1445	25.65	23.09

AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Impedance (ohms)@60Hz	Model 1257 Stock No.	Model 1257 Each 1-9	Model 1257 Each 10-24	Model 1357 Stock No.	Model 1357 Each 1-9	Model 1357 Each 10-24	Model 1359 Stock No.	Model 1359 Each 1-9	Model 1359 Each 10-24
0-5	33	.....	.....	.....	55F2524	20.10	18.09	55F2531	22.50	20.25
0-10	133	55F1534	19.20	17.28	55F1584	20.10	18.09	55F1634	22.50	20.25
0-15	300	55F4800	19.20	17.28	55F2525	20.10	18.09	55F2532	22.50	20.25
0-25	833	55F2522	19.20	17.28	55F2526	20.10	19.08	55F2533	22.50	20.25
0-50	3,333	55F2523	19.20	17.28	55F2527	20.10	18.09	55F2534	22.50	20.25
0-100	16,666	.....	.....	.....	55F2528	20.85	18.77	55F2535	22.50	20.25
0-150	25,000	55F1535	20.10	18.09	55F1585	21.60	19.44	55F1635	22.95	20.66
0-300	50,000	55F1536	20.10	18.09	55F1586	21.60	19.44	55F1636	22.95	20.66
0-500	83,333	.....	.....	.....	55F2530	27.30	24.57	55F2537	29.25	26.33

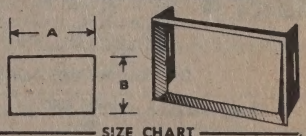
AC AMMETERS Iron Vane Type Movement

0-1	.213	55F2580	18.15	16.34	55F1537			55F1587		
0-1.5	.105	55F2581	18.15	16.34	55F2588			55F2595		
0-2	.065	.....	.....	.....	55F2589	19.20	17.28	55F2596	20.40	18.36
0-3	.028	.....	.....	.....	55F2590			55F2597		
0-5	.008	55F2582	18.15	16.34	55F1538			55F1588		
0-10	.004	55F2583	18.15	16.34	55F1539	19.20	17.28	55F1589	20.40	18.36
0-15	.0025	55F2584	18.15	16.34	55F1540	19.20	17.28	55F1590	20.40	18.36
0-25	.002	55F2585	18.15	16.34	55F1541	19.95	17.96	55F1591	21.15	19.04
0-50	.001	55F2586	18.15	16.34	55F1542	19.95	17.96	55F1592	21.15	19.04
0-75	.0002	.....	.....	.....	55F1008	21.60	19.44	55F1009	22.95	20.66
0-100	.008	.....	.....	.....	55F2591			55F2598		
0-150	.008	.....	.....	.....	55F2592	19.20	17.28	55F2599	20.40	18.36
0-200	.008	.....	.....	.....	55F2593			55F2600		
0-300	.008	55F2587	18.15	16.34	55F2594			55F2601		

AC MILLIAMMETERS Iron Vane Type Movement

0-50	80	.....	.....	.....	55F2539	19.20	17.28	55F2543	20.40	18.36
0-100	17.2	.....	.....	.....	55F2540	19.20	17.28	55F2544	20.40	18.36
0-250	3.15	.....	.....	.....	55F2541	19.20	17.28	.....	.....	.....
0-500	.9	55F2538	18.15	16.34	.....	.....	.....	.....	.....	.....

WIDE VUE MOUNTING BEZEL AND ILLUMINATION KIT



SIZE CHART

Part No.	A	B
1253	3.390	2.078
1123	4.812	2.750

Made for wide-view meters. Also interchangeable with flush and recess types. Mounts behind panel on ⅛"-3/16" thick material. Groove and flange construction. Die cast metal bezel. Blk. enamel satin finish. With mntg. hardware, Template, installation instructions.

Type 01253- use with Models 1327, 1337, 1347, 1357.
Type 01123- use with Models 1329, 1339, 1349, 1359, 1379.
Type 01165. Illumination kit for above.

Prices

Stk. No.	Type	1-9	10-24	25-49	50-Up
55F4353	01253	2.40	2.16	2.04	1.92
55F4354	01123	2.40	2.16	2.04	1.92
62F1446	01165	2.25	2.03	1.91	1.80

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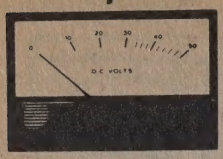
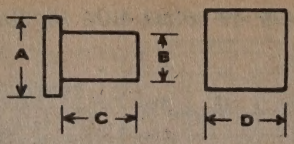
Simpson Designer and Bold Vue Panel Meters



DESIGNER SERIES

2% FS accuracy. Black phenolic with glass windows. Hardware.
523: scale length 79mm.
524: scale length 89mm.



SIZE CHART

Model	A	B	C	D
523	2.67	2.16	1.31	3.95
524	2.90	2.16	1.31	4.50

DC VOLTMETERS Self-Shielding

Range	Approx. Resistance (ohms)	Model 523 3½" Stock No.	Each 1-9	Each 10-24	Model 524 4½" Stock No.	Each 1-9	Each 10-24
0-5	1000 ohms per volt	62F3315	21.90	19.71	62F3319	24.00	21.60
0-10		62F3316	21.90	19.71	62F3320	24.00	21.60
0-15		55F735	21.90	19.71	55F739	24.00	21.60
0-30		55F736	21.90	19.71	55F740	24.00	21.60
0-50		55F737	21.90	19.71	55F741	24.00	21.60
0-100		62F3317	21.90	19.71	62F3321	24.00	21.60
0-150		62F3318	21.90	19.71	62F3322	24.00	21.60

DC AMMETERS Self-Shielding

0-1	.050	62F3323	21.15	19.04	62F3326	22.95	20.66
0-10	.005	55F733			55F734		
0-25	.0020	62F3324			62F3327		
0-50	.001	62F3325			62F3328		

DC MILLIAMMETERS Self-Shielding

0-1	43.0	55F729	20.55	18.50	55F731	21.90	19.71
0-10	10.0	62F3329	20.55	18.50	62F3333	21.90	19.71
0-50	2.0	62F3330	21.15	19.04	62F3334	22.95	20.66
0-100	1.0	55F730	21.15	19.04	55F732		
0-300	0.33	62F3331	21.15	19.04	62F3335	22.95	20.66
0-500	0.2	62F3332	21.15	19.04	62F3336		

VU METERS Self-Shielding

Scale	Model 543 3½" Stock No.	Each 1-9	Each 10-24	Model 544 4½" Stock No.	Each 1-9	Each 10-24
"A" Scale	55F748	34.20	30.78	55F764	37.20	33.48
"A" Scale, Illuminated	62F3337	37.65	33.89	62F3338	40.65	36.59

DC MICROAMMETERS Self-Shielding

Range	Approx. Resistance (ohms)	Model 523 3½" Stock No.	Each 1-9	Each 10-24	Model 524 4½" Stock No.	Each 1-9	Each 10-24
0-25	2100	55F717	32.40	29.16	55F723	35.70	32.13
0-50	1800	55F718	26.10	23.49	55F724	28.20	25.38
0-100	1800	55F719	24.00	21.60	55F725	26.70	24.03
0-200	1100	62F3339	21.90	19.71	55F726	24.00	21.60
0-500	90	62F3340	21.60	19.44	62F3342	23.40	21.06
25-0-25	1800	62F3341	26.40	23.76	62F3343	28.35	25.52
50-0-50	1800	55F721	24.00	21.60	55F727	26.85	24.17
100-0-100	1100	55F722	22.05	19.85	55F728	24.30	21.87

AC VOLTMETERS Iron Vane Type Movement

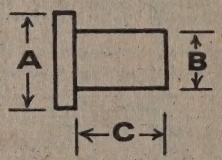
Range	Approx. Resistance (ohms)	Model 553 3½" Stock No.	Each 1-9	Each 10-24	Model 554 4½" Stock No.	Each 1-9	Each 10-24
0-150	25,000	55F746	21.60	19.44	55F756	22.95	20.66
0-250	41,166	62F3344			62F3345		
0-300	50,000	55F747			55F763		

AC AMMETERS Iron Vane Type Movement

0-1	.231	62F3346	19.20	17.28	62F3353	22.35	20.12
0-5	.008	62F3347			62F3354		
0-10	.004	55F744			62F3355		
0-15	.0025	62F3348			62F3356		
0-25	.002	62F3349	19.20	17.28	62F3357	22.95	20.66
0-50	.001	62F3350			55F755	22.95	20.66
0-100	.008	62F3351			62F3358	22.35	20.12
0-150	.008	62F3352			62F3359	22.35	20.12

BOLD VUE SERIES

An answer to customer requests for a three hole mount with bold appearance. Easy to read numerals and self-shielded. Accuracy ±2%. Terminals 10-32 studs. All models are supplied with necessary mounting and terminal hardware. Molded black phenolic case with high temperature plastic cover—black trim. Shpg. Wt. 1222—10½ Oz. 1223—12½ Oz. 1252—10 Oz. 1253—12½ Oz.



SIZE CHART

Model	A	B	C
1222	2.69	2.17	1.19
1223	3.50	2.75	1.19
1252	2.69	2.17	1.19
1253	3.50	2.75	1.19

DC VOLTMETERS Self-Shielding

Range	Approx. Resistance (ohms)	Model 1222 2½" Stock No.	Each 1-9	Each 10-24	Model 1223 3½" Stock No.	Each 1-9	Each 10-24
0-5	1000 ohms per volt	62F3360	21.15	19.04	62F3365	21.90	19.71
0-10		55F5208			55F5211		
0-15		62F3361			55F5212		
0-30		55F5209			55F5213		
0-50		55F5210	21.15	19.04	55F5214	21.90	19.71
0-100		62F3362			55F5215		
0-150		62F3363			55F5216		
0-300		62F3364			62F3366		

DC AMMETERS Self-Shielding

0-1	.050	62F3367	20.25	18.23	55F5200	19.20	17.28
0-5	.010	55F5203			55F5201	19.20	17.28
0-10	.005	55F5204			55F5202	19.20	17.28
0-25	.0020	62F3368			62F3370	21.15	19.04
0-50	.001	62F3369			62F3371	21.15	19.04

DC MILLIAMMETERS Self-Shielding

0-1	43	55F5217	19.95	17.96	55F5218	20.55	18.50
0-10	10.0	62F3372	19.95	17.96	62F3377		
0-50	2.	62F3373	20.25	18.23	55F5219		
0-100	1.	62F3374	20.25	18.23	55F5220	21.15	19.04
0-300	0.33	62F3375			62F3378		
0-500	0.2	62F3376			55F5221		

DC MICROAMMETERS Self-Shielding

Range	Approx. Resistance (ohms)	Model 1222 2½" Stock No.	Each 1-9	Each 10-24	Model 1223 3½" Stock No.	Each 1-9	Each 10-24
0-50	1800	55F2222	25.65	23.09	55F5225	26.10	23.49
0-100	1800	52F5223	22.95	20.66	55F5226	24.00	21.60
0-200	1100	62F3379	20.85	18.77	55F5227	21.90	19.71
0-500	90	62F3380	20.55	18.50	62F3383	21.60	19.44
25-0-25	1800	.....	.....	.....	55F5228	26.40	23.76
50-0-50	1800	55F5224	23.40	21.06	55F5229	24.00	21.60
100-0-100	1100	62F3381	21.15	19.04	55F5230	22.05	19.85
500-0-500	43	62F3382	20.10	18.09	62F3384	20.85	18.77

AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Resistance (ohms)	Model 1252 2½" Stock No.	Each 1-9	Each 10-24	Model 1253 3½" Stock No.	Each 1-9	Each 10-24
0-150	25,000	55F5231	20.10	18.09	55F5232	21.60	19.44
0-250	41,166	62F3385	20.10	18.09	62F3387	21.60	19.44
0-300	50,000	62F3386	20.10	18.09	55F5233	21.60	19.44

AC AMMETERS Iron Vane Type Movement

0-1	.213	62F3388	18.15	16.34	62F3393	19.20	17.28
0-5	.008	55F5205	16.50	14.85	55F5206	17.40	15.66
0-10	.004	62F3389	16.50	14.85	62F3394	17.40	15.66
0-15	.0025	62F3390	16.50	14.85	62F3395	17.40	15.66
0-25	.002	62F3391	17.25	15.53	62F3396	18.00	16.20
0-50	.001	62F3392	18.90	17.01	55F5207	18.00	16.20

Century Series Meters

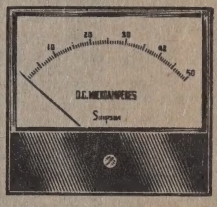
Simpson

DC VOLTMETERS—Self-Shielding Meter Movement

Range	Res. ohms	Model 2121 1½" Stock No.	Each 1-9	Each 10-24	Model 2122 2½" Stock No.	Each 1-9	Each 10-24	Model 2123 3½" Stock No.	Each 1-9	Each 10-24	Model 2124 4½" Stock No.	Each 1-9	Each 10-24
0-5	1000 ohms per volt	55F5410	18.90	17.01	55F5357	21.15	19.04	55F5366	21.90	19.71	62F3406	24.00	21.60
0-10		55F5411	18.90	17.01	55F5358	21.15	19.04	55F5367	21.90	19.71	55F5376	24.00	21.60
0-15		55F5412	18.90	17.01	55F5359	21.15	19.04	55F5368	21.90	19.71	55F5377	24.00	21.60
0-25		62F3400	19.80	17.82	55F5360	21.15	19.04	55F5369	21.90	19.71	62F3407	24.00	21.60
0-30		55F5413	19.80	17.82	55F536	21.15	19.04	55F5370	21.90	19.71	55F5378	24.00	21.60
0-50		62F3401	19.80	17.82	55F5362	21.15	19.04	55F5371	21.90	19.71	55F5379	24.00	21.60
0-100		62F3402	19.80	17.82	55F5363	21.15	19.04	55F5372	21.90	19.71	55F5380	24.00	21.60
0-150		62F3403	19.80	17.82	55F5364	21.15	19.04	55F5373	21.90	19.71	55F5381	24.00	21.60
0-300		62F3404	19.80	17.82	55F5365	21.15	19.04	55F5374	21.90	19.71	62F3408	24.00	21.60
0-500	2000 ohms per volt	62F3405	24.60	22.14	62F3410	21.90	19.71	55F5375	22.95	20.66	62F3409	24.75	22.28
0-750		.....	.....	.....	62F3411	26.70	24.03	62F3413	22.95	20.66	62F3415	24.75	22.28
0-1000		.....	.....	.....	62F3412	27.45	24.71	62F3414	28.35	25.52	62F3416	30.30	27.27

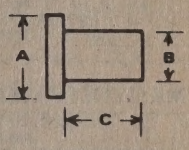
DC AMMETERS—Self-Shielding Meter Movement

0-1	.050	55F5402	19.80	17.82	62F3421	20.25	18.23	55F5258	21.15	19.04	55F5267	22.95	20.66
0-3	.0166	62F3417	19.80	17.82	55F5252	20.25	18.23	55F5259	21.15	19.04	62F3425	22.95	20.66
0-5	.010	55F5403	19.80	17.82	55F5253	20.25	18.23	55F5260	21.15	19.04	52F5268	22.95	20.66
0-10	.005	55F5404	19.80	17.82	55F5254	20.25	18.23	55F5261	21.15	19.04	52F5269	22.95	20.66
0-15	.0033	62F3418	19.80	17.82	55F5255	20.25	18.23	55F5262	21.15	19.04	52F5270	22.95	20.66
0-25	.0020	62F3419	19.80	17.82	55F5256	20.25	18.23	55F5263	21.15	19.04	62F3426	22.95	20.66
0-30	.0017	.....	19.80	17.82	62F3422	20.25	18.23	62F3424	21.15	19.04	52F5271	22.95	20.66
0-50	.001	62F3420	19.80	17.82	55F5257	20.25	18.23	55F5264	21.15	19.04	52F5272	22.95	20.66
0-100	10.0	.....	19.80	17.82	62F3423	20.25	18.23	55F5265	21.15	19.04	52F5273	22.95	20.66



DC MILLIAMMETERS—Self-Shielding Meter Movement

0-1	43.0	55F5414	18.90	17.01	55F5332	19.95	17.96	55F5340	20.55	18.50	55F5350	21.90	19.71
0-3	2.0	.....	.....	.....	62F3433	19.95	17.96	55F5341	20.55	18.50	62F3436	21.90	19.71
0-5	2.0(20†)	62F3427	18.90	17.01	55F5333	19.95	17.96	55F5342	20.55	18.50	55F5351	21.90	19.71
0-25	4.0(6.0†)	62F3428	19.80	17.82	55F5335	20.25	18.23	55F5344	21.15	19.04	62F3437	22.95	20.66
0-50	2.0(3.0†)	62F3429	19.80	17.82	55F5336	20.25	18.23	55F5345	21.15	19.04	55F5353	22.95	20.66
0-100	1.0(1.5†)	55F5416	19.80	17.82	55F5337	20.25	18.23	55F5346	21.15	19.04	55F5354	22.95	20.66
0-200	.50(.75†)	62F3430	19.80	17.82	55F5338	20.25	18.23	55F5347	21.15	19.04	62F3438	22.95	20.66
0-300	.33(.50†)	62F3431	19.80	17.82	62F3434	20.25	18.23	55F5348	21.15	19.04	62F3439	22.95	20.66
0-500	.20(.30†)	62F3432	19.80	17.82	55F5339	20.25	18.23	55F4359	21.15	19.04	55F5355	22.95	20.66
0-1000	.05	.....	.....	.....	62F3435	20.25	18.23	.....	.....	.....	62F3440	22.95	20.66



SIZE CHART

Model	A	B	C
2121	1½"	1.51	2.04
2122	2½"	2.16	2.04
2123	3½"	2.69	2.04
2124	4½"	2.69	2.04
2152	2½"	2.16	2.04
2153	3½"	2.69	2.04
2154	4½"	2.69	2.04

DC MICROAMMETERS—Self-Shielding Meter Movement

0-50	1800(5500†)	62F3441	24.75	22.28	55F5300	25.65	23.09	55F5309	26.10	23.49	55F5322	28.20	25.38
0-100	1800	55F5405	22.05	19.85	55F5301	22.95	20.66	55F5311	24.00	21.60	55F5324	26.70	24.03
0-200	1100	62F3442	20.10	18.09	55F5302	20.85	18.77	55F5313	21.90	19.71	55F5326	24.00	21.60
0-500	90(190†)	55F5406	19.80	17.82	55F5303	20.55	18.50	55F5314	21.90	19.71	55F5327	23.40	21.06
25-0-25	1800(5500†)	55F5407	24.90	22.41	.....	.....	.....	55F5315	26.40	23.76	55F5328	28.35	25.52
50-0-50	1800	55F5408	22.35	20.09	55F5304	23.40	21.06	55F5316	24.00	21.60	55F5329	26.85	24.17
100-0-100	1100	55F5409	20.25	18.23	55F5305	21.15	19.04	55F5317	22.05	19.85	55F5330	24.30	21.87
500-0-500	43	62F3443	19.20	17.28	62F3444	20.10	18.09	55F5318	20.85	18.77	55F5331	22.05	19.85

(†) Resistance of Model 2121

TAUT BAND DC MICROAMMETERS—Self-Shielding

Range	Approx. Res. (ohms)	Model 2123T 3½" Stock No.	Each 1-9	Each 10-24	Model 2124T 4½" Stock No.	Each 1-9	Each 10-24
0-10	4900	55F5306	42.75	38.48	55F5319	46.20	41.58
0-15	1960	55F5307	38.25	34.43	55F5320	41.70	37.53

DC MILLIVOLTMETERS Self-Shielding

0-50	10	62F3445	21.15	19.04	55F5398	22.95	20.66

AC VOLTMETERS—Iron Vane Type Movement

Range	Approx. Imp. (ohms) @60 Hz.	Model 2153 3½" Stock No.	Each 1-9	Each 10-24	Model 2154 4½" Stock No.	Each 1-9	Each 10-24
0-10	133	55F5385	20.10	18.09	62F3446	22.50	20.25
0-15	300	55F5386	20.10	18.09	62F3447	22.50	20.25
0-150	25,000	55F5387	21.60	19.44	55F5392	22.95	20.66
0-250	41,166	55F5388	21.60	19.44	55F5393	22.95	20.66
0-300	50,000	55F5389	21.60	19.44	55F5394	22.95	20.66

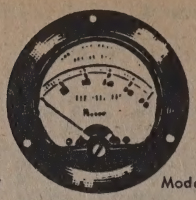
AC AMMETERS—Iron Vane Type Movement

Range	Imp. Ohms @ 60 Hz.	Model 2152 2½" Stock No.	Each 1-9	Each 10-24	Model 2153 3½" Stock No.	Each 1-9	Each 10-24	Model 2154 4½" Stock No.	Each 1-9	Each 10-24
0-1	.213	55F5274	18.15	16.34	55F5281	19.20	17.28	62F3453	20.40	18.36
0-2	.065	.....	.....	.....	55F5282	19.20	17.28	62F3454	20.40	18.36
0-3	.028	62F3448	18.15	16.34	55F5283	19.20	17.28	62F3455	20.40	18.36
0-5	.008	55F5275	18.15	16.34	55F5284	19.20	17.28	55F5291	20.40	18.36
0-10	.004	55F5276	18.15	16.34	55F5285	19.20	17.28	55F5292	20.40	18.36
0-15	.0025	55F5277	18.15	16.34	55F5286	19.20	17.28	55F5293	20.40	18.36
0-25	.002	55F5278	18.90	17.01	55F5287	19.95	17.96	55F5294	21.15	19.04
0-50	.001	55F5280	18.90	17.01	55F5288	19.95	17.96	55F5295	21.15	19.04
0-100	.008	62F3449	18.00	16.20	55F5290	19.20	17.28	62F3456	20.40	18.36
0-150	.008	.....	.....	.....	62F3450	19.20	17.28	55F5296	20.40	18.36
0-200	.008	.....	.....	.....	62F3451	19.20	17.28	55F5297	20.40	18.36
0-300	.008	.....	.....	.....	62F3452	19.20	17.28	55F5298	20.40	18.36

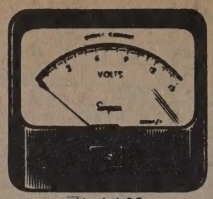
QUANTITY PRICING AVAILABLE ON ALL SIMPSON METERS CONTACT NEAREST NEWARK FACILITY

Simpson Round and Rectangular Panel Meters

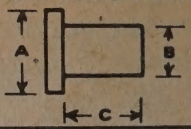
Model 27



Model 25



Model 29



SIZE CHART			
Model	A	B	C
25, 55	3.50″	2.75″	1.31″
27, 47, 57	3.12″	2.75″	1.36″
29, 59	4.20″	2.75″	1.00″
77	3.12″	2.75″	2.11″
79	4.20″	2.75″	1.68″
142	3.94″	3.25″	1.00″

All DC meters have the Simpson self shielded movement and are self contained for ranges up to and including 50 amperes. Higher range DC ammeters (50MV) listed are calibrated for 5 ft. leads and require external shunts. Accuracy ±2% of full scale; Scale length Model 25 & 27—2.5″ (63.7mm), Model 29—3.9″ (99.0mm). Average Shipping weight 1 lb.

DC VOLTMETERS Self-Shielding Meter Movement

Range	Res. ohms	3½″ Case Model 25	3½″ Case Model 27	3½″ Case Each 1-9	3½″ Case Each 10-24	4½″ Case Model 29	4½″ Case Each 1-9	4½″ Case Each 10-24
0-5	1000 ohms per volt	62F3250	55F039	21.90	19.71	55F167	24.00	21.60
0-10		62F3251	55F041			55F168		
0-15		62F3252	55F042			55F251		
0-25		55F1014	55F038			55F169		
0-30		55F1112	55F080	21.90	19.71	55F145	24.00	21.60
0-50		55F1015	55F043			55F183		
0-100		62F3253	62F3260			55F252		
0-150		55F1017	55F045			55F170		
0-200		62F3254	62F3261	21.90	19.71	62F3263	24.00	21.60
0-250		55F1018	55F046			55F253		
0-300		55F1019	55F047			55F184		
0-500		62F3255	55F050	22.95	20.66	55F185	24.75	22.28
0-750		62F3256	62F3262	22.95	20.66	62F3264	24.75	22.28
0-1000†	2000 ohms per volt	62F3257	55F051	28.35	25.52	55F186	30.30	27.27
0-1500†		55F1022	55F052	28.35	25.52	55F187	30.60	27.54
0-2000†		62F3258	55F053	29.40	26.46	55F254	31.20	28.08
0-2500†		.....	55F037	29.85	26.87	55F200	31.80	28.62
0-3000†		55F1025	55F054	30.15	27.14	55F255	32.10	28.89
0-5000†		62F3259	55F055	30.90	27.81	55F201	33.90	30.51

(†) External multipliers model 183 furnished with meter.

DC MILLIVOLTMETERS Self-Shielding Meter Movement

0-50	10	55F1002	55F1000	21.15	19.04	55F1004	22.95	20.66
0-100	20	.....	55F1001	21.15	19.04	55F1005	22.95	20.66

DC AMMETERS Self-Shielding Meter Movement

0-1	.050	62F3265	55F060	21.15	19.04	55F209	22.95	20.66
0-1.5	.033	55F1115	55F083			62F3275		
0-2	.025	55F1056	55F061			55F259		
0-3	.0166	55F1057	55F062			55F260		
0-5	.010	55F1058	55F063			55F210		
0-10	.005	55F1059	55F064	21.15	19.04	55F211	22.95	20.66
0-15	.0033	62F3266	62F3271			55F239		
0-25	.0020	55F1060	55F065			55F261		
0-30	.0017	62F3267	55F4828			62F3276		
0-50	.001	55F1061	55F068			55F212		
0-75*	10.0	55F1117	55F085	21.15	19.04	55F240	22.95	20.66
0-100*	10.0	55F1118	55F086			62F3277		
0-200*	10.0	62F3268	62F3272			62F3278		
0-300*	10.0	62F3269	62F3273			62F3279		
0-500*	10.0	62F3270	62F3274			62F3280		
30-0-30	.0017	55F1062	55F066	22.35	20.12	55F262	23.55	21.20
50-0-50	.001	55F1063	55F067	22.35	20.12	55F263	23.55	21.20

(*) Require external shunt.

DC MILLIAMMETERS Self-Shielding Meter Movement

0-1	43	55F1040	55F000	20.55	18.50	55F171	21.90	19.71
0-5	2.0	55F1041	62F3282	20.55	18.50	55F257	21.90	19.71
0-10	10.0	55F1042	55F002	20.55	18.50	55F204	21.90	19.71
0-25	4.0	55F1043	55F003	21.15	19.04	55F188	22.95	20.66
0-50	2.0	55F1044	55F004	21.15	19.04	55F258	22.95	20.66
0-100	1.0	55F1045	55F005			55F172		
0-150	.66	55F1046	55F006			62F3283		
0-200	.5	55F1047	55F007			55F174		
0-250	.4	55F1048	55F008	21.15	19.04	62F3284	22.95	20.66
0-300	.33	55F1049	55F009			55F207		
0-500	.2	55F1050	55F010			55F189		
0-1000	.05	62F3281	55F011			55F208		

DC MICROAMMETERS Self-Shielding Meter Movement

0-50	1800	55F1031	55F071	26.00	23.40	55F176	28.20	25.38
0-100	1800	55F1032	55F072	24.00	21.60	55F177	26.70	24.03
0-200	1100	55F1033	55F073	21.90	19.71	55F178	24.00	21.60
0-500	90	55F1034	55F074	21.60	19.44	55F179	23.40	21.06
25-0-25	1800	55F1035	55F075	26.40	23.76	62F3285	28.35	25.52
50-0-50	1800	55F1036	55F076	24.00	21.60	55F164	26.85	24.17
100-0-100	1100	55F1037	55F077	22.05	19.85	55F165	24.30	21.87

AC VOLTMETER Iron Vane Type Movement

Range	Approx. Imp. Ohms @ 60 Hz	3½″ Case Model 55	3½″ Case Model 57	3½″ Case Each 1-9	3½″ Case Each 10-24	4½″ Case Model 59	4½″ Case Each 1-9	4½″ Case Each 10-24
0-5	33	55F1066	62F3288	20.10	18.09	62F3293	22.50	20.25
0-10	133	55F1067	55F111			62F3294		
0-15	300	55F1068	55F112			55F180		
0-25	833	55F1641	62F3289			62F3295		
0-50	33,333	55F1069	62F3290			55F216		
0-150	25,000	55F1071	55F115	21.60	19.44	55F181	22.95	20.66
0-250	41,166	62F3286	55F273	21.60	19.44	62F3296	22.95	20.66
0-300	50,000	55F1072	62F3291	21.60	19.44	55F191	22.95	20.66
0-500†	83,333	55F1073	62F3292	27.30	24.57	55F192	29.25	26.33
0-1000†	166,666	62F3287	55F275	31.80	28.62	62F3297	32.85	29.57

(†) External multipliers model 183 furnished with meter.

AC AMMETERS Iron Vane Type Meter Movement

0-1	.213	55F1085	55F130	19.20	17.28	55F182	20.40	18.36
0-2	.065	62F3298	55F131			62F3304		
0-3	.028	62F3299	55F132			55F194		
0-5	.008	55F1088	55F133			55F195		
0-10	.004	55F1089	55F134	19.20	17.28	55F196	20.40	18.36
0-15	.0025	55F1119	55F156	19.20	17.28	55F282	20.40	18.36
0-25	.002	55F1090	55F135	19.95	17.95	55F197	21.15	19.04
0-50	.001	55F1091	55F136	19.95	17.95	55F219	21.15	19.04
0-75	.0002	55F1120	55F157	21.60	19.44	55F283	22.95	20.66
0-100‡	.008	55F1121	55F158	19.20	17.28	55F284	20.40	18.36
0-200‡	.008	62F3300	62F3302	19.20	17.28	62F3305	20.40	18.36
0-300‡	.008	62F3301	62F3303	19.20	17.28	62F3306	20.40	18.36

(‡) Require external transformer.

AC MILLIAMMETERS Iron Vane Type Movement

0-50	80	62F3307	55F100	19.20	17.28	62F3310	20.40	18.36
0-100	17.2	62F3308	55F101			55F213		
0-250	3.15	55F1078	55F102			55F214		
0-500	.9	62F3309	55F103			55F199		

WATTMETERS Dynamometer Type Single Phase

Accuracy ±2%

Range	Maximum Volts	Maximum Amps	Model 77 Stock No.	Model 77 Each 1-9	Model 77 Each 10-24	Model 79 Stock No.	Model 79 Each 1-9	Model 79 Each 10-24
0-75	150	1.0	55F226	42.75	38.48	55F232	53.10	47.79
0-150	150	2.0	55F227			55F233		
0-300	150	4.0	55F228			55F234		
0-750	150	10.0	55F229	42.75	38.48	55F235	53.10	47.79
0-600	300	4.0	55F1137	46.35	41.72	55F1139	56.70	51.03
0-1500	300	10.0	55F230	46.35	41.72	55F236	56.70	51.03
0-3000	300	20.0	55F1138	46.35	41.72	55F1140	56.70	51.03

VU (Volume Level) METERS† Self-Shielding

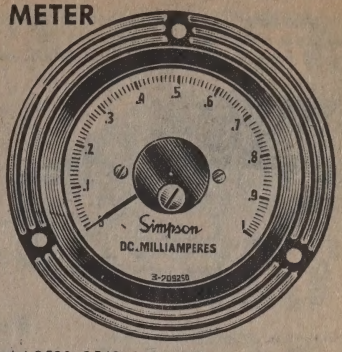
Reference Level: 1 mW into 600Ω line

Scale	Model 47 Stock No.	Model 47 Each 1-9	Model 47 Each 10-24	Model 142 Stock No.	Model 142 Each 1-9	Model 142 Each 10-24
"A" SCALE, Not Illuminated	55F160	34.20	30.78	55F161	37.20	33.48
"A" SCALE, Illuminated*	.....	.....	.....	55F162	40.65	36.59

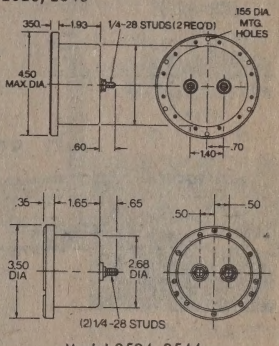
(†) Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. Type A scale stresses the level in VU for monitoring wire lines. Impedance is 3900Ω at "0" VU deflection.
(*) 2 bulbs, 6V 150 ma.

250 DEGREE LONG SCALE PANEL METER

Made for applications requiring high-accuracy readings. Provide over double the scale length of standard 90° or 100° movements. Self-shielded, permanent magnet, moving coil instruments with non-magnetic pivots and spring-backed jewels. Cases sealed per MIL M-10404. External front access zero adjust. Accuracy ±2% full scale. Red knife edge pointer.



Model 2523, 2543



Model 2524, 2544

DC MICROAMMETERS 250° Meter

Range	Approx. Resistance (ohms)	Model 2523 3½" Stock No.	Each 1-9	Each 10-24	Model 2524 4½" Stock No.	Each 1-9	Each 10-24
0-50	8000	58F1215	51.35	46.22	58F1218	54.35	48.92
0-100	4200	58F1216	49.50	44.55	58F1219	52.50	47.25
0-500	340	58F1217	44.85	40.37	58F1220	47.85	43.07

DC MILLIAMMETERS 250° Meter

0-1	135	58F1221	42.00	37.80	58F1224	45.00	40.50
0-10	10	58F1222	42.00	37.80	58F1225	45.00	40.50
0-500	0.2	58F1223	44.00	39.60	58F1226	47.00	42.30

DC AMMETERS

0-10	.005	58F1227	44.00	39.60	58F1228	47.00	42.30

DC MILLIVOLTMETERS 250° Meter

0-50	10	58F1244	44.10	39.69	58F1245	47.10	42.39

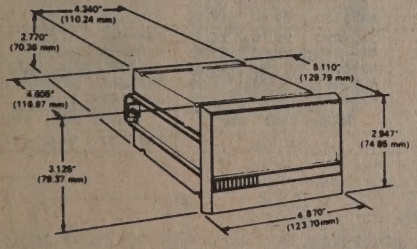
AC VOLTMETERS (AC Rectifier type) 250° Meter

Range	Approx. Resistance (ohms)	Model 2543 3½" Stock No.	Each 1-9	Each 10-24	Model 2544 4½" Stock No.	Each 1-9	Each 10-24
0-10	2000 Ω/v.	58F1229	55.25	49.73	58F1232	58.25	52.43
0-150	2000 Ω/v.	58F1230	55.25	49.73	58F1233	58.25	52.43
0-300	2000 Ω/v.	58F1231	55.25	49.73	58F1234	58.25	52.43

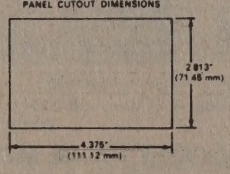
AC AMMETERS

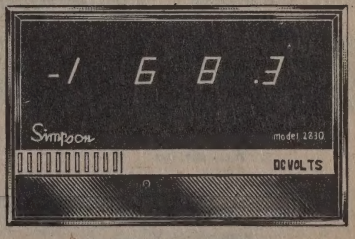
0-10 VAC rectifier type voltmeters listed above may be used with Current Transformer Model 186 to provide 17 common AC ammeter ranges from 0-50 mA to 0-50 amps.

MODEL 2830 DIGITAL PANEL METER



NOTE The instrument is supplied with rear input connector PART NO 5-114381 (Viking 2VK15D/1-2-34)





- 0.1% Accuracy
- 3½ Digits
- AC Line Operated
- Self-Contained Power Supply

LED Readouts with non-blinking, bi-polar display provide easy readability without strain. Automatic polarity and out-of-range indicators help prevent reading errors. All models feature high input impedance, fast response time, solid state construction and 0.1% accuracy. Zero span and balance adjustable from front panel. Programmed cyclical burn-in. Response time (to 1000 counts) less than 600 milliseconds. Readout assembly can be remotely mounted. A/D conversion board is available separately and with BCD output. Parallel BCD output: DTL/TTL compatible (1-2-4-8 positive logic). Logic level: Logic "0" = 0V to +0.5V. Logic "1" = +2V to +5.25V. Power: Input—Standard, 117VAC ±10%, 50 Hz. to 400 Hz., 6 watts. Power supply board is separate.

DC VOLTAGE

Range	Maximum Indication	Input Impedance	Maximum Input V	Stock No.	Each
200 mV	±199.9 mV	—100 Megohm	300 V	58F1235	150.00
2 V	±1.999 V	—1000 Megohm	300 V	58F1236	150.00
20 V	±19.99 V	10 Megohm	300 V	58F1237	150.00
200 V	±199.9 V	10 Megohm	300 V	58F1238	150.00

DC CURRENT

Range	Maximum Indication	Voltage Drop*	Maximum Input I	Stock No.	Each
20 μA	±19.99 μA	100 mV	5 mA	58F1239	150.00
200 μA	±199.9 μA	100 mV	14 mA	58F1240	150.00
2 mA	±1.999 mA	100 mV	50 mA	58F1241	150.00
20 mA	±19.99 mA	100 mV	140 mA	58F1242	150.00
200 mA	±199.9 mA	100 mV	1 A	58F1243	150.00

(*) Based on a numerical indication of 1000.

Bias current: 2 nA max. @ Reference conditions.

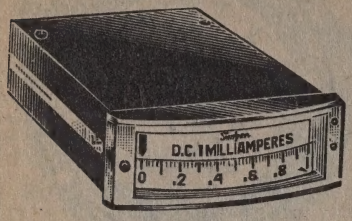
Input isolation: 250 V RMS between power line ground and circuit ground.

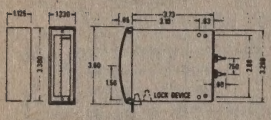
Simpson

Edgewise Panel Meters

3½" EDGEWISE PANEL METERS

Self-shielding 1 5/16" core magnet movement. Accuracy at ±2% of full scale. Scale length is equal to 2.6". All meter scales are designed for easy readability. Zero adjust available from the front (screw on right side). Horizontal mounting. Highest self contained range is 10 amps DC, 5 amps AC and 500 volts AC and DC.





DC MODEL 3623

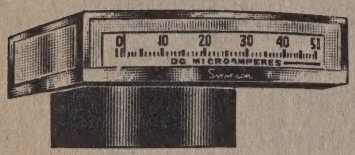
Range	Approx. Resistance	Stock No.	Each 1-9	Each 10-24
0-25μA DC*	2730	58F1250	39.90	35.91
0-50μA DC*	1010	58F1251	37.50	33.75
0-100μA DC*	215	58F1252	35.40	31.86
0-200μA DC	215	58F1253	33.30	29.97
0-500μA DC	80	58F1254	32.40	29.16
25-0-25μA DC	1010	58F1255	38.00	34.20
0-1mA DC	40	58F1256	31.50	28.35
4-20mA DC	1	58F1257	34.80	31.32
0-50mV DC	10	58F1258	32.50	29.25
0-10 VDC	1000 Ω/V	58F1261	33.50	30.15
0-15 VDC	1000 Ω/V	58F1262	33.50	30.15
0-25 VDC	1000 Ω/V	58F1259	33.50	30.15
0-50 VDC	1000 Ω/V	58F1260	33.50	30.15

AC MODEL 3643

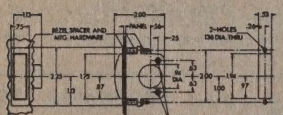
0-5 A, Rect.	**	58F1263	44.50	40.05
100-130 VAC, Seg.	500 Ω/V	58F1264	81.60	73.44

(*) Taut Band movement (**) Internal transformer burden: 1.5VA

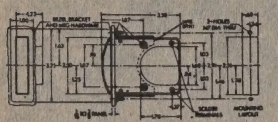
1½" and 2½" EDGEWISE BARREL TYPE PANEL METERS



Compact and lightweight. Supplied with all hardware incl. bezel and two nuts. Accuracy is ±2% of full scale. Self-shielding. Scale length: —1.375" (35mm) Models 1521, 1541. Models 1522, 1542—1.875" (47.6mm). Scale pointer lance, red. Molded acrylic casings. Dustproof. Solder terminals (ammeters-stud terminals).



1½" Models 1521, 1541

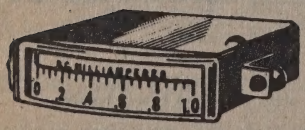


2½" Models 1522, 1542

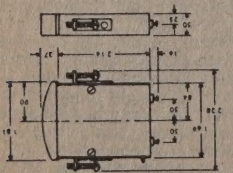
Range	Function	Approx. Res.	Model 1521 1½" Stock No.	1-9	10-24	Model 1522 2½" Stock No.	1-9	10-24
0-10	DC Voltmeter	1000 Ω/V	58F1268	19.20	17.28	55F2628	21.15	19.04
0-15	DC Voltmeter	1000 Ω/V	58F1269	19.20	17.28	55F2629	21.15	19.04
0-50	DC Voltmeter	1000 Ω/V	58F1270	19.20	17.28	55F1122	21.15	19.04
0-150	DC Voltmeter	1000 Ω/V	58F1271	19.20	17.28	55F1123	21.15	19.04
0-500	DC Voltmeter	2000 Ω/V	58F1272	19.50	17.55	55F1124	21.45	19.31
0-1	DC Milliammeter	20	58F1273	18.90	17.01	55F1126	20.85	18.77
0-10	DC Milliammeter	13.5	58F1274	18.90	17.01	55F1127	20.85	18.77
0-50	DC Milliammeter	2.7	58F1275	19.80	17.82	58F1265	21.75	19.58
0-100	DC Milliammeter	1.35	58F1276	19.80	17.82	58F1266	21.75	19.58
0-500	DC Milliammeter	.27	58F1277	19.80	17.82	58F1267	21.75	19.58
0-5	DC Ammeter	.010	.....	.....	.....	55F1125	22.35	20.12
0-25	DC Ammeter	.002	.....	.....	.....	55F2632	22.35	20.12
0-50	DC Millivoltmeter	10	58F1278	20.25	18.23	58F1279	22.35	20.12
0-25	DC Microammeter	3150*	58F1280	29.10	26.19	55F2641	31.20	28.08
0-50	DC Mircoammeter	1800	58F1281	25.50	22.95	55F1130	27.30	24.57
0-100	DC Microammeter	1100	58F1282	22.50	20.25	55F1131	24.60	22.14
0-200	DC Microammeter	290	58F1283	20.25	18.23	55F2642	22.35	20.12
0-500	DC Microammeter	90	58F1284	19.80	17.82	55F2643	21.60	19.44
"A" scale			Model 1541 1½"			Model 1542 2½"		
	VU Meter: Ref. Level**		.....	.....	.....	55F1132	34.65	31.19

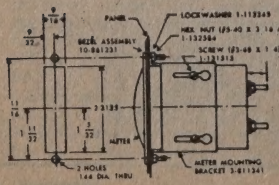
(*) Resistance of Model 1521 0-25 Mics is 5500 ohms. (**) 1 mW into 600 Ω

1½" and 2½" STACKABLE PANEL METERS



Compact design eliminates protruding barrel. Accuracy 2% FS. Self-shielded core magnet movement. Steel casing with rust-proof finish. Dielectric: 1500 V RMS. **Model 1921**—1.370" (35.8mm) scale length. Solder terminals. Panel Cut Out: .525"x1.718". Removable brackets with clamping screws. **Model 1622**—1.85" (47mm) scale length. 6-32 stud terminals. Panel Cut Out: .562"x2.312". Bezel, bracket lockwashers and nuts.





Range	Function	Approx. Res.	Model 1921 1½" Stock No.	1-9	10-24	Model 1622 2½" Stock No.	1-9	10-24
0-10	DC Voltmeter	5000 Ω/V	55F4300	22.50	20.25	55F4314	23.85	21.47
0-15	DC Voltmeter	5000 Ω/V	55F4301	22.50	20.25	55F4315	23.85	21.47
0-25	DC Voltmeter	5000 Ω/V	55F4302	22.50	20.25	55F4316	23.85	21.47
0-50	DC Voltmeter	5000 Ω/V	55F4303	22.50	20.25	55F4317	23.85	21.47
0-150	DC Voltmeter	5000 Ω/V	55F4304	22.50	20.25	55F4318	23.85	21.47
0-500	DC Voltmeter	5000 Ω/V	.....	.....	.....	58F1285	24.00	21.60
0-1	DC Milliammeter	18	55F4306	22.05	19.85	55F4320	23.70	21.33
0-5	DC Milliammeter	2	55F4307	22.05	19.85	55F4321	23.70	21.33
0-10	DC Milliammeter	5	55F4308	22.05	19.85	55F4322	23.70	21.33
0-25	DC Milliammeter	2	55F4309	23.25	20.93	55F4323	24.60	22.14
0-50	DC Milliammeter	1	55F4310	23.25	20.93	55F4324	24.60	22.14
0-100	DC Milliammeter	.5	55F4311	23.25	20.93	55F4325	24.60	22.14
0-500	DC Milliammeter	.1	55F4312	23.25	20.93	55F4326	24.60	22.14
0-50	DC Millivoltmeter	20	55F4313	23.55	21.20	55F4327	24.90	22.41
0-25	DC Microammeters	7760	55F4336	28.95	26.06	55F4341	30.15	27.14
0-50	DC Microammeters	2020	55F4337	28.65	25.79	55F4342	29.85	26.87
0-100	DC Microammeters	1060	55F4338	25.65	23.09	55F4343	27.15	24.44
0-200	DC Microammeters	310	55F4339	23.55	21.20	55F4344	24.90	22.41
0-500	DC Microammeters	63	55F4340	22.95	20.66	55F4345	24.15	21.74

Lab and Frequency Meters, Counters

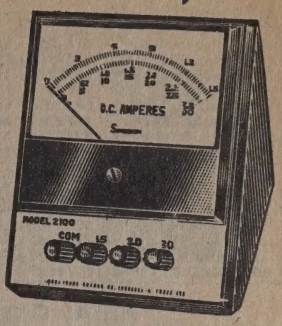
Simpson

MODEL 2100 4½" MULTI-RANGE PORTABLE METERS

Range	Function	Stock No.	Type No.	Each 1-9	Each 10-24
0-1.5-3-30 A	DC Ammeter	57F2452	17950	34.80	31.32
0-1-10-100 MA	DC Milliammeter	57F2453	17951	34.80	31.32
0-25-50-500 MA	DC Milliammeter	57F2454	17952	34.80	31.32
0-10-50-250 μA	DC Microammeter	57F2455	17953	66.90	60.21
0-1.5-3-30 V	DC Voltmeter	57F2456	17954	34.80	31.32
0-10-25-100 V	DC Voltmeter	57F2457	17955	35.70	32.13
0-3-15-150 V	AC Voltmeter*	57F2458	17956	49.80	44.62
0-30-150-300 V	AC Voltmeter*	57F2459	17957	49.80	44.62
0-150-300-600 V	AC Voltmeter**	57F2460	17958	49.80	44.62
0-1K-100K	DC Ohmmeter†	57F2461	17960	39.00	35.10
Instrument case kit, w/o meter, for Model 2100		57F2462	17949	7.50	6.75

(*) Rectifier. (**) Moving Vane. (†) Incl. 1.5 V Bat., test leads.

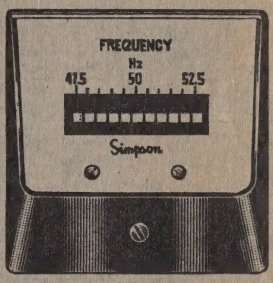
Perfect for lab or school. Modern styling. Easy to read. Self-shielded. Acc. ±2% DC, ±3% AC rect. Non-fogging lens. Durable, plastic case. Built-in fuse holder. Shock protected. 4 color-coded binding posts, 1 common, 3 for range selection. Accepts pin tips, spade lugs, banana plugs or wire. 5.15"x 5.55"x5.70", 45° slope. **Instrument case kit:** includes case, panel assembly, legend overlay, 2 binding posts, nylon plug and hardware.



FREQUENCY METERS—RESONANT TYPE

Use tuned steel reeds for indicating AC frequency. Vibrating (resonant) reed is both measuring and indicating element. Accuracy virtually unaffected by wide changes in signal magnitude, phase, or waveform and is basically dependent on only one component, the reed, whose calibration is inherently stable. Sturdy construction.

Specifications—Frequency: 50, 60, or 400 Hz., nominal. Number of reeds: 11 (General Purpose), 21 (High Resolution). Accuracy ±0.3% of midscale. Temperature Coefficient: −0.017% per° C maximum. Operating Voltage: 100 to 150 VAC. Power Consumption: 2 watts maximum. Power Required: 2 VA.



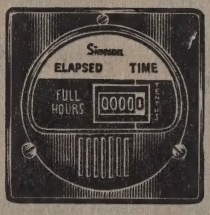
Hz Rating	Case Mod.	Case Size	Case Style	No. Reeds	Hz Between Reeds	Type No.	Stock No.	Each 1-9	Each 10-24
55-60-65	2153	3½"	Century	11	1	03496	57F2463	41.95	37.75
57.5-60-62.5	2153	3½"	Century	11	.5	03491	57F2464	43.95	39.55
55-60-65	2153	3½"	Century	21	.5	03494	57F2465	49.95	44.95
55-60-65	1367	3½"	WideVue	11	1	03508	57F2466	41.95	37.75
57.5-60-62.5	1367	3½"	WideVue	11	.5	03509	57F2467	43.95	39.55
55-60-65	1367	3½"	WideVue	21	.5	03511	57F2468	49.95	44.95
55-60-65	65	3½"	Round	11	1	03522	57F2469	41.95	37.75
57.5-60-62.5	65	3½"	Round	11	.5	03523	57F2470	43.95	39.55
55-60-65	65	3½"	Round	21	.5	03525	57F2471	49.95	44.95

- **HIGH ACCURACY**
- **EXTRA RUGGED**
- **POPULAR CASE STYLES**

2½" and 3½" AC ELAPSED TIME METERS

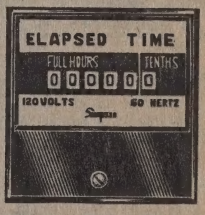
55 ET

57 ET

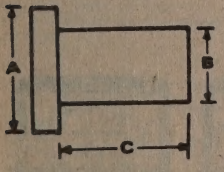


108 ET

1357 ET



2153 ET



SIZE CHART

Model	A	B	C
108 ET	2.69	2.20	2.30
55 ET	3.50	2.75	2.55
57 ET	3.12	2.75	2.60
1357 ET	3.25	2.75	2.37
2153 ET	3.00	2.69	1.34

Widely used by research laboratories, manufacturing plants, and broadcast stations. 120 or 240 V AC operation. Synchronous accuracy. **Model 55 ET:** Standard round styling. **Model 57 ET:** Standard rectangular styling. **Model 108 ET:** Interchangeable round and square front mounting bezels. **Model 1357 ET:** Wide-Vue styling. **Model 2153 ET:** Century Series styling.

120* Volt Models

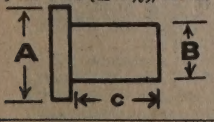
Maximum Indication (Hours)	Power Req.	Acc.	Model Size	Model (Type) No.	Stock No.	Each 1-9	Each 10-24
9, 999.9	2.5 W	synch.	2½"	108 ET	57F2472	35.60	32.04
99,999.9	5 W	synch.	3½"	55 ET	55F4359	26.70	24.03
99,999.9	5 W	synch.	3½"	1357 ET	55F4360	26.70	24.03
99,999.9	5 W	synch.	3½"	57 ET	55F4361	26.70	24.03
99,999.9	5 W	synch.	3½"	2153 ET	57F2473	26.70	24.03

(*) 120 V AC (±10%), 60 HZ.

240* Volt Models

Maximum Indication (Hours)	Power Req.	Acc.	Model Size	Model (Type) No.	Stock No.	Each 1-9	Each 10-24
9,999.9	2.5 W	synch.	2½"	108 ET	57F2474	36.25	32.63
99,999.9	5 W	synch.	3½"	55 ET	55F4363	27.00	24.30
99,999.9	5 W	synch.	3½"	57 ET	55F4364	27.00	24.30
99,999.9	5 W	synch.	3½"	1357 ET	55F4365	27.00	24.30
99,999.9	5 W	synch.	3½"	2153 ET	57F2475	27.00	24.30

(*) 240 V AC (±10%), 60 Hz.



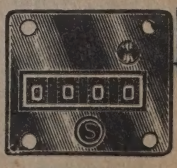
SIZE CHART

Model	A	B	C
103+104	1.84"	1.03"	1.88"

ELECTRO-MECHANICAL COUNTERS MODELS 103-104

Stock No.	Type	Voltage	1-9	10-24
55F4853	103	117VAC	16.80	15.12
55F4854	104	6VDC	16.80	15.12
55F4855	104	12VDC	16.80	15.12

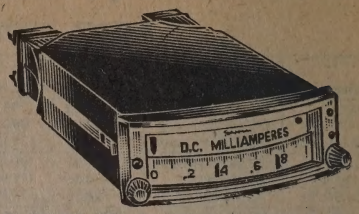
Four-Digit Counters, rated at 10 counts per second. Are reset to 0000 with a single push button control. The black matte finish bezel is made from tough thermosetting materials which withstand high impacts. Min. pulse duration is 500 millisec. "on" and 50 millisec. "off". Power Consump; 4.2 watts (nominal).



Simpson Meter Relays and Controllers

3½" EDGEWISE CONTACTLESS CONTROLLERS

Model No. 3623 XA	Stock No.	1-9	10-24
0-50 Microamps DC SSP†	57F2556	122.00	110.00
0-50 Microamps DC DSP†	57F2557	153.00	137.70
0-100 Microamps DC SSP†	57F2558	116.00	104.40
0-100 Microamps DC DSP†	57F2559	147.00	132.30
0-1 Milliamps DC SSP	57F2560	110.00	99.00
0-1 Milliamps DC DSP	57F2561	141.00	126.90
0-50 Millivolts DC SSP	57F2562	113.00	101.70
0-50 Millivolts DC DSP	57F2563	144.00	129.60
Model No. 3643 XA			
0-5 Amperes AC SSP	57F2564	119.00	107.10
0-5 Amperes AC DSP	57F2565	150.00	135.00
0-10 Volts AC SSP	57F2566	116.00	104.40
0-10 Volts AC DSP	57F2567	147.00	132.80
0-150 Volts AC SSP	57F2568	116.00	104.40
0-150 Volts AC DSP	57F2569	147.00	132.80

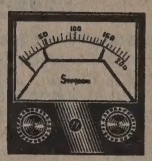


Compact design. Dial illumination. Mode indication lamps. Plug-in load relays. Front of panel mounting. Removable knobs. Integral mounting lock. Horizontal mounting. Single or double set-points. AC or DC. Polycarbonate frame and window with steel case top and bottom. See page 597 for controller acc.

Self-shielding. Acc: ±2% FS. Max. Sen: 10 DC NA Min. Thermocouple: 300° F. Sgl. knob adj. 0-100% FS. Dbl. control pt: Low limit adj. 0-98% FS. High limit adj. 2-100% FS. Control point dif. (deadband) <0.5% FS. DPDT std. output relay. 5 amps, 115 VAC resistive each pole. Mech. relay life: 1,000,000 oper. rated load. Power req: 115 VAC sgl. phase 50-500 Hz. 6 VA max. (DSP). 4 VA max (SSP). (†) Taut Band. SSP-single set point. DSP-double set point.

METAL CASED "RUGGED SEAL" CONTROLLERS AND METER RELAYS

Range	Approx. Res. (ohms)	3½" Single Control Pt. (High Limit) Stock	3½" Single Control Pt. (High Limit) 1-9	3½" Double Control Pt. Stock	3½" Double Control Pt. 1-9	4½" Single Control Pt. (High Limit) Stock	4½" Single Control Pt. (High Limit) 1-9	4½" Double Control Pt. Stock	4½" Double Control Pt. 1-9
DC MICROAMPERES TAUT BAND		**Model 3323TXA**				**Model 3324TXA**			
0-10	5500	57F2532	134.70	57F2536	164.85	57F2538	138.00	57F2541	168.15
0-25	3000	57F2533	124.80	57F2537	154.95	57F2539	128.10	57F2542	158.25
0-50	2000	57F2534	116.55	55F753	146.70	55F2467	119.85	57F2543	150.00
0-100	570	57F2535	113.10	55F754	143.25	57F2540	116.40	57F2520	146.55
DC MICROAMPERES						**Model 3324XA**			
0-200	570					57F2521	116.40	57F2523	146.55
0-500	220					57F2522	116.40	57F2524	146.55
DC MILLIAMPERES		**Model 3323XA**				**Model 3324XA**			
0-1	43	57F2525	111.90	57F2526	142.20	57F2527	115.20	57F2528	145.50
DC MILLIVOLTS		**Model 3323XA**				**Model 3324XA**			
0-50	50	57F2529	112.20	57F2530	142.50	57F2531	115.50	57F2508	145.80
50-0-50	570							57F2509	150.00



3½"

4½"

Contactless type. Photoconductor sensing. High gain transistor switch circuit. Fail safe circuitry. DPDT output relays, 10 amp contacts. Sealed metal case. Glass window. Self-shielding annular movement. 115 VAC, 50-500 HZ. Acc. ±2% FS. See page 000 for controller acc.

New AC Load Meters/Temperature Controllers

AC AMPERES	4½" Model 3344XA	Single Control Point		Double Control Point	
0-5	.5 VA Max.	57F2510	127.05	57F2511	157.35
AC VOLTS	**4½" Model 3344XA**	**SSP**		**DSP**	
0-10	1000 Ω/V	57F2512	124.35	57F2514	154.50
0-150	1000 Ω/V	57F2513	124.35	57F2515	154.50
AC LOADMETER	**4½" Model 3344XA**	**SSP**		**DSP**	
0-150%*	2000 Ω/V	57F2516	126.35	57F2503	156.50
0-15.0%	.5 VA Max.	57F2517	129.05	57F2504	159.35
0-1 Amp	10 VAC	57F2518	129.60	57F2505	158.75
0-3 Amp	10 VAC	57F2519	129.60	57F2506	158.75
0-10 Amp	10 VAC	57F2490	129.60	57F2507	158.75
0-25 Amp	10 VAC	57F2491	129.60	57F2476	158.75
0-40 Amp	10 VAC	57F2492	129.60	57F2477	158.75
0-50 Amp	5 Amp AC	57F2493	131.30	57F2478	161.60
0-100 Amp	5 Amp AC	57F2494	131.30	57F2479	161.60
0-150 Amp	5 Amp AC	57F2495	131.30	57F2480	161.60
0-200 Amp	5 Amp AC	57F2496	131.30	57F2481	161.60

(*) Use with Model 186 Current Transformer.

AC LOADMETER	4½" Model 3344XA			SSP		DSP	
0-250 Amp	5 Amp AC			57F2482	131.30	57F2486	161.60
0-300 Amp	5 Amp AC			57F2483	131.30	57F2487	161.60
0-400 Amp	5 Amp AC			57F2484	131.30	57F2488	161.60
0-500 Amp	5 Amp AC			57F2485	131.30	57F2489	161.60
TEMPERATURE	**4½" Model 3324XA**			**SSP**		**DSP**	
—150 to +250°F	Taut	10Ω Res.	I/C**	57F2497	126.00	57F2500	164.00
0 to +300°F	Band	10Ω Res.	I/C**	55F5242	126.00	55F5243	164.00
0 to +500°F		10Ω Res.	I/C**	55F5244	123.00	55F5245	161.00
0 to +750°F		10Ω Res.	I/C**	55F5246	123.00	55F5247	161.00
0 to +1000°F		10Ω Res.	I/C**	55F5248	123.00	55F5249	161.00
0 to +1500°F		10Ω Res.	C/A	55F5250	123.00	55F5251	161.00
0 to +2000°F		10Ω Res.		57F2498	123.00	57F2501	161.00
0 to +2500°F		10Ω Res.		57F2499	123.00	57F2502	161.00

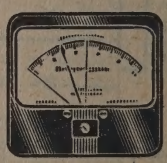
(**) Thermocouples not supplied.

PHENOLIC CASE CONTROLLERS AND METER RELAYS

Range	Approx. Res. (ohms)	4½" CONTACTLESS CONTROLLERS Single Control Pt. (High Limit) Stock	Each	Double Control Pt. Stock	Each	4½" CONTACT RELAYS Double Control Pt. Stock	Each
DC MICROAMPERES TAUT BAND		**Model 29TXA**		**Model 29TXA**			
0-10	5500	57F2570	120.60	57F2574	150.75		
0-25	3000	57F2571	110.70	57F2575	140.85		
0-50	2000	57F2572	105.75	57F2576	135.90		
0-100	570	57F2573	102.30	57F2577	132.60		
DC MICROAMPERES		**Model 29XA**		**Model 29XA**		**Model 29XA**	
0-50	5200					55F2653	61.95
0-100	1800					55F2654	59.25
0-200	570 (1000†)	57F2578	99.00	57F2544	129.15	55F2655	55.50
0-500	220 (280†)	57F2579	99.00	57F2545	129.15	55F2656	54.75
DC MILLIAMPERES		**Model 29XA**		**Model 29XA**		**Model 29XA**	
0-1	50 (140†)	57F2546	97.80	57F2547	128.10	55F2657	53.40
DC MILLIVOLTS		**Model 29XA**		**Model 29XA**		**Model 29XA**	
0-50	10	57F49	98.10	57F2550	128.40	55F2658	53.55
AC AMPERES		**Model 49XA**		**Model 49XA**			
0-5	0.5 VA Max.	57F2551	109.65	57F2552	139.95		
AC VOLTS		**Model 49XA**		**Model 49XA**		**Model 49XA**	
0-10	1000 Ω/V	57F2553	106.95	57F2554	137.10	57F2555	59.25

(†) Resistance in brackets are for contact type only.

Contactless Controllers



Switching Relay

Contact type for general purpose applications. Contactless type for better acc., smaller "dead band," and absolute freedom from interference with the indicating meter. High gain amp solid state. Self-shielding annular movement. Glass window. See page 597 for controller acc.

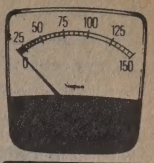
Specifications: Calibration accuracy: ±2% of full scale. Control Point: Single Adjustment: 0-100% of arc. Double: Low limit: 0-95% of arc. High limit: 5-100% of arc. Adjustable to within 4° of each other. Contact type output relay: 10 mA, 15 VDC. Contactless type output relay: 10 Amps, 115 VAC.

Load Indicators, Pyrometers, Accessories

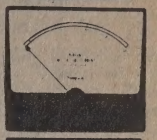
Simpson

LOAD INDICATORS

Load meters provide visual monitoring of load conditions of AC or DC motors. Help prevent overloading and burnout, maintain optimum operating load conditions, or indicate need for tool sharpening or replacement. Colored scale indicates per cent load from 0-150%. Green: 0-100% Yellow: 100-125%; red: 125-150%. Acc: ±2% FS. DC meters require ext. shunt and potentiometer. Potentiometer supplied. AC meters require ext. donut transformers. Can be used with any AC motor.



A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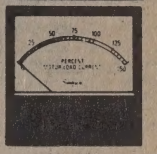

C

AC LOAD INDICATORS

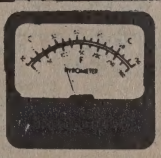
Rating	Scale	2½" Model				3½" Model				4½" Model			
		Stk. No.	Fig.	1-9	10-24	Stk. No.	Fig.	1-9	10-24	Stk. No.	Fig.	1-9	10-24
5 Amps	0-150%	62F3200	A	22.50	20.25	62F3201	A	23.40	21.06	...	...	...	...
5 Amps	Green, yellow,	.....	...	...	...	62F3202	B	23.40	21.06	62F3204	B	26.85	24.16
5 Amps.	red band	.....	...	...	...	62F3203	C	23.40	21.06	62F3205	C	26.85	24.16

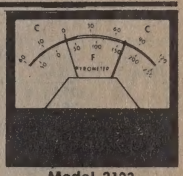
DC LOAD INDICATORS

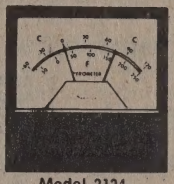
Rating	Scale	2½" Model				3½" Model				4½" Model			
		Stk. No.	Fig.	1-9	10-24	Stk. No.	Fig.	1-9	10-24	Stk. No.	Fig.	1-9	10-24
30MV	0-150%	62F3206	A	22.50	20.25	62F3207	A	23.40	21.06	...	...	...	...
adjustable	Green, yellow,	...	...	...	...	62F3208	B	23.40	21.06	62F3210	B	25.95	23.35
to 50 MV	red band	...	...	...	...	62F3209	C	23.40	21.06	62F3211	C	26.85	24.15

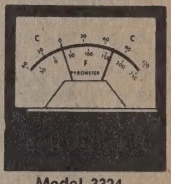
PYROMETERS

Available in a variety of styles and ranges, all models are manufactured with ambient (bimetal) cold-junction and circuit copper compensation. Accuracy: 2%. Each pyrometer furnished with external, adjustable series resistor to permit use of lower resistance thermocouples in the field. Thermocouples not included. Thermocouples required are either Iron/Constantan (I/C) or Chromel/Alumel (C/A). Model 29-standard phenolic. Model 2123-3½" Century series style. Model 2124-4½" Century series style. Modest 3324-Rugged seal, metal cased for extreme conditions.


Model 29


Model 2123


Model 2124

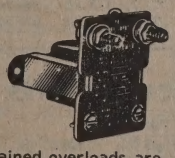

Model 3324

Temperature Range		Approx. Sen.	Model 29		Model 2123		Model 2124		Model 3324	
°F	°C	(mA)	Stk. No.	Each	Stk. No.	Each	Stk.No.	Each	Stk.No.	Each
-150/+250*†	-100/+120*†	.40	55F700	38.25	62F3216	36.90	62F3224	38.25	55F704	52.05
0/+300*†	-20/+150*†	.40	55F701	38.25	62F3217	36.90	62F3225	38.25	55F705	52.05
0/+500*†	-20/+260*†	.35	55F702	38.25	62F3218	36.90	62F3226	38.25	55F706	52.05
0/+750*†	-20/+400†	.30	55F703	38.25	62F3219	36.90	62F3227	38.25	55F707	52.05
0/+1000†	-20/+540†	.28	62F3212	38.25	62F3220	36.90	62F3228	38.25	62F3232	52.05
0/+1500††	-20/+820††	.42	62F3213	35.55	62F3221	36.90	62F3229	35.55	62F3233	49.35
0/+2000††	-20/+1200††	.43	62F3214	35.55	62F3222	34.20	62F3230	35.55	62F3234	49.35
0/+2500††	-20/+1380††	.40	62F3215	35.55	62F3223	34.20	62F3231	35.55	62F3235	49.35

(*) Taut Band. (†) I/C Thermocouple. (††) C/A Thermocouple.

THERMOCOUPLES, SHUNTS AND TRANSFORMERS

MODEL 186 CURRENT TRANSFORMERS



For use with 0-10 VAC Meters & Controllers. Convert meter relays to AC current control units. Frequency range: 30 Hz to 5 kHz. Accuracy: ±2%. Not for use in circuits where sustained overloads are possible.

Stk. No.	Range	V.A.	NET
55F4366	0-50mA	0.40	16.05
55F4367	0-100mA	0.50	14.85
55F4368	0-200mA	0.37	14.85
55F4369	0-300mA	0.48	14.85
55F4370	0-500mA	0.53	14.85
55F4371	0-750mA	0.37	14.85
55F4372	0-1 Amp	0.42	13.35
55F4373	0-2 Amp.	0.54	13.35
55F4374	0-3 Amp.	0.66	13.35
55F4375	0-5 Amp	0.75	13.35
55F4376	0-10 Amp	1.45	13.35
55F4377	0-15 Amp	1.05	13.35
55F4378	0-20 Amp	1.04	13.35
55F4379	0-25 Amp	1.50	13.35
55F4380	0-30 Amp	1.10	13.35
55F4381	0-40 Amp	1.09	13.35
55F4382	0-50 Amp	1.90	13.35

SHUNTS FOR DC AMMETERS

For use with switchboard and panel meters where external shunts are required. Includes 5" leads. Shpg. wt. 1 lb.

EXTERNAL PORTABLE

Stk. No.	Type	Amps.	1-9	10-24	25-49	50-Up
55F294	6700	1				
55F295	6703	5				
55F264	6704	10	11.70	10.53	9.95	9.36
55F265	6705	15				
55F296	6707	25				

EXTERNAL PORTABLE (Cont'd)

Stk. No.	Type	Amps.	1-9	10-24	25-49	50-Up
55F297	6708	30				
55F266	6709	50				
55F267	6711	75	11.70	10.53	9.95	9.36
55F2569	6713	100				
55F2570	6715	200				

SWITCH BOARD SHUNTS

55F268	6500	100	11.70	10.53	9.95	9.36
55F2571	6503	150	12.60	11.34	10.71	10.08
55F2572	6504	200	12.60	11.34	10.71	10.08
55F2573	6506	300	12.60	11.34	10.71	10.08
55F298	6508	500	18.15	16.43	15.43	14.52
62F3236	6510	750	27.45	24.70	23.33	21.95
62F3237	6512	1000	35.40	31.86	30.09	28.32

CURRENT TRANSFORMERS FOR AC AMMETERS

Inserted one turn primary type for use with switchboard and panel ammeters where external transformers are required.

Stk. No.	Type	Pri.	Sec.	1-9	10-24	25-49	50-Up
55F269	1293	50 amps	5	28.35	25.52	24.10	22.68
55F2575	1306	75 amps	5	20.85	18.23	17.21	16.20
55F270	1297	100 amps	5	17.25	15.53	14.66	13.60
55F2576	1298	150 amps	5	15.30	13.77	13.01	12.24
55F2577	1299	200 amps	5	15.30	13.77	13.01	12.24
55F2578	1300	300 amps	5	17.25	15.53	14.46	13.60
55F2579	1301	500 amps	5	20.85	18.23	17.21	16.20
62F3238	2459	750 amps	5	24.60	22.14	20.91	19.68
62F3239	2304	1000 amps	5	26.55	23.89	22.56	21.23

THERMOCOUPLES

Types 21221 and 21224. Iron constantan thermocouple wire in stainless steel overbraid. Glass cloth overbraid. Shpg. wt. ¼ lb.

Types 21222 and 21233. Glass cloth overbraid. For general purpose use or permanent mounting in protected sheaths or conduit

Types 21231,21232. C/A Types.

Stock No.	Type	Resistance	1-9	10-24	25-49	50-Up
55F708	21221	5 ohms	16.50	14.85	14.03	13.20
55F709	21222	10 ohms	5.85	5.27	4.97	4.68
55F710	21223	10 ohms	4.90	4.41	4.17	3.92
55F711	21224	10 ohms	30.15	27.14	25.63	24.12
62F3240	21231	10 ohms	18.30	16.47	15.51	14.65
62F3241	21232	10 ohms	4.05	3.65	3.29	2.96

19

api Sensitive "Changeable Scale" Panel Meters

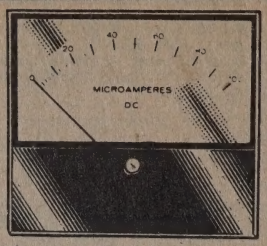
- Changeable scale
- 3 optional mountings
- Scratch-proof glass windows
- Taut band; 1% tracking

SERIES 7000 DC PANEL METERS

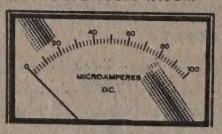
Offer functional flexibility. Phenolic cases, glass windows. Insertable scales. Self-shielding—mount on magnetic or non-magnetic panels. Taut band movement; 1% tracking; accuracy, ±2%.

METER DIMENSIONS

Model	Flange	Body dia.	Depth
7035	3.01x3.51"	2.79"	1.94"
7045	4.05x4.61"	2.79"	1.94"

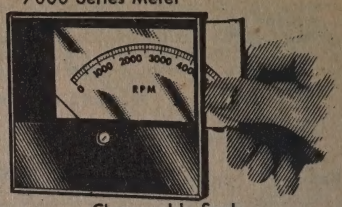


Standard Front Mount

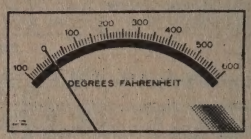


Optional Bezel Mount

7000 Series Meter



Changeable Scale



Optional Lens Mount

AMPERES DC

Range	Stock No.	Model 7035 3½" 1-9	Model 7035 3½" 10-24	Stock No.	Model 7045 4½" 1-9	Model 7045 4½" 10-24
0-1	62F2615			62F2621		
0-3	62F2616			62F2622		
0-5	62F2617	22.00	19.80	62F2623	23.50	21.15
0-10	62F2618			62F2624		
0-15	62F2619			62F2625		
0-25	62F2620			62F2626		

MILLIAMPERES DC

0-1	62F2627			62F2633		
0-5	62F2628			62F2634		
0-10	62F2629			62F2595		
0-50	62F2630	20.00	18.00	62F2596	21.50	19.35
0-100	62F2631			62F2597		
0-500	62F2632			62F2598		

MICROAMPERES DC

0-10	66F550	41.00	36.90	66F554	43.00	38.70
0-20	62F2599	34.00	30.60	62F2605	35.50	31.95
25-0-25	66F551	28.00	25.20	66F555	29.50	26.55
0-50	62F2600	27.50	24.75	62F2606	29.00	26.10
50-0-50	62F2602	24.50	22.05	62F2608	26.50	23.85
0-100	62F2601	24.00	21.60	62F2607	26.00	23.40
100-0-100	62F2604	22.50	20.25	62F2610	24.00	21.60
0-200	62F2603	22.00	19.80	62F2609	23.50	21.15
0-500	66F552	20.00	18.00	66F556	21.50	19.35
500-0-500	66F553	20.50	18.45	66F557	22.00	19.80

VOLTS DC

0-15	62F2611			62F2577		
0-30	62F2612			62F2578		
0-50	62F2613	22.00	19.80	62F2579	23.50	21.15
0-150	62F2614			62F2580		
0-300	62F2575			62F2581		
0-500	62F2576			62F2582		

MILLIVOLTS DC

0-10	62F2583	32.50	29.25	62F2585	34.50	31.05
0-50	62F2584	22.00	19.80	62F2586	23.50	21.15

VOLTS AC ±2% ACC. TRACKING

0-10	62F2587			62F2592		
0-15	62F2588	26.50	23.85	62F2593	28.00	25.20
0-150	62F2589			62F2594		
0-300	62F2590			62F2557		

VU METER

Scale A	62F2571	35.50	31.95	62F2573	35.50	31.95
Scale B	62F2572			62F2574		

ACCESSORIES FOR 7000 SERIES

BLANK SLIDE-OUT DIVISION DIALS

Standard concentric arc. No numbers or legends. With dial holder. For zero left. Also for zero center for 0-50 microamp DC ranges and larger. For more sensitive ranges contact Newark.

Divisions	Model 7035 3½" Stock No.	Model 7035 3½" NET	Model 7045 4½" Stock No.	Model 7045 4½" NET
40	62F2495		62F2635	
50	62F2496		62F2636	
60	62F2497	1.50	62F2537	1.50
75	62F2498		62F2638	
100	62F2499		62F2639	

BLANK DIALS—NO MARKINGS

62F2643. For model 7035 ..... .60
62F2648. For model 7045 ..... .60

BEZEL AND LENS KITS

	Stk. No.	Type 7035	NET	Stk. No.	Type 7045	NET
Bezel Kits	55F5672	1125-226	1.75	55F5674	1125-223	2.00
Lens Kits	55F5673	1125-225	1.25	55F5675	1125-222	1.25

COLOR PLATES

Color	For 7035 Stk. No.	For 7035 Type No.	NET	For 7045 Stk. No.	For 7045 Type No.	NET
Tan	66F558	1646-311 (T)		66F563	1646-294 (T)	
Olive	66F559	1646-312 (O)		66F564	1646-296 (O)	
Dark Grey	66F560	1646-313 (DG)	.60	66F565	1646-297 (DG)	.60
Light Grey	66F561	1646-314 (LG)		66F566	1646-298 (LG)	
Flat Black	66F562	1646-315 (FB)		66F567	1646-299 (FB)	

50 MILLIVOLT SHUNTS COMMERCIAL TYPE

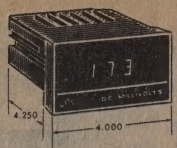
Stock No.	Amps DC	1-9	10-24	25-49
55F4650	1			
55F4651	5			
55F4652	10			
55F4653	25	15.00	13.50	12.75
55F4654	50			
55F4655	75			
55F4656	100			
55F4657	150			
55F4658	200	16.00	14.40	13.60

Depend on NEWARK For Everything in Industrial Electronics

Digital Panel Meters

api

MODEL 4350
DIGITAL PANEL METER-2½ DIGIT



MOS-LSI circuitry in this low-cost instrument, combined with a unique feedback method, provides high-accuracy, single slope, analog-to-digital conversion technique commonly found only on expensive instruments. Need for a high stability clock circuit is eliminated, permitting more economical design. A low-drift op-amp input stage allows precision measurement with high input impedance. Noise rejection greater than 120dB is obtained without sacrificing response time by use of an active filter stage. An extended temperature range permits operation from 0°C to 55°C. Rugged, low voltage, low current electrofluorescent tubes provide a ½" high planar seven-segment display of clarity and brightness. Widely specified for dependability in calculating equipment, these lamps are rated for 100,000 hour life, even at high ambient temperatures. Where readings exceed 199, display flashes at the reading rate to provide a very eye-catching over-range indication. Its space-saving design (only 2.1" high by 4" wide) is ideal where limited panel height poses problems.

SPECIFICATIONS

Accuracy: 0.5% or reading ±0.5% F.S. (May be calibrated to ±1 digit maximum error.) Rejection: Normal mode: With 0.5 sec full-scale response time at 60 Hz, 200mV—45dB, 2V and above—32dB. Input Isolation from Line: 500 volts peak. Operating Temperature: 0°C to 55°C. Storage Temperature: −40°C to +75°C. Reading Rate (Conversion Rate): 5 readings/sec. typical; 5 to 30 readings/sec. Power: Voltage: Standard 105 VAC to 125 VAC 50/60 Hz. Power: 5 watts typical at 115 VAC 60 Hz. Inputs (All inputs DTL/TTL compatible): Read Hold: Connect to less than +0.4 volts to hold reading. External Conversion Command: Convert Signal: 50 msec. minimum pulse width synchronized to line freq., +2.4 volts minimum. Outputs: Over-range-Logic "1", +2.4V minimum @ 80uA, Under-range-Logic "0", +0.4V maximum @ 3.2 mA. Polarity: Positive-Logic "0", +0.4V maximum — 8.0mA, Negative-Logic "1" +2.4V minimum @ 200uA. Print Command: Positive pulse of 3 usec minimum from −0.6 volts to +3.0 volts minimum @ 300 uA. (Must be externally buffered for use.) Power Supply: +5V, +12V, −12V all at 5 mA current available for external use.

DC VOLTAGE

Stock No.	DC Voltage	Each 1-9	Each 10-24
55F4856	0-199mV	140.00	111.32
55F4857	0-1.99V		
55F4858	0-19.9V		
55F4859	0-199V		

DC CURRENT

Stock No.	DC Current	Each 1-9	Each 10-24
55F4884	0-19.9uA	140.00	111.32
55F4885	0-199uA		
55F4886	0-1.99mA		
55F4887	0-19.9mA		
55F4888	0-199mA		

STYLIST VU METERS

Models 361 and 561 measure amplitude of audio signals. Two scales, Type A scale; for recording uses. Type B scale emphasizing percent modulation for broadcasting. Illuminated from behind thru a lucite window at top of case. Conforms to ASA C16.5-1954 specs.

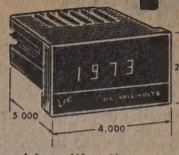
Stk. No.	Scale	Type	Size	1-9	10-14
55F4662	A	361	3 1/32" x 1⅞"	35.50	31.95
55F4663	B	361			
55F4664	A	561	4 13/16" x 2¾"	35.50	31.95
55F4665	B	561			

MODEL 227 SOLID-STATE TEMP CONTROLLERS

Low-cost proportional output controller with automatic reset to eliminate process "droop." For resistive loads to 10 amps at 120 or 240 VAC. Maintains 1° F straight line control. Temperature is set on calibrated dial. Control function independent of meter indication. Accuracy, ±1%, with 5% proportional band. Reset fixed at 5 minutes per reset. Calibrated for iron-constantan (Type J) or chromel-alumel (Type K) thermocouples; handles up to 100-ohm thermocouple without adjustment. Size: 6¾x2¾x7". Av. shpg. wt. 8 lbs. See page 600 for thermocouples.

Stock No.	Temperature Range	Thermo-couple	EACH
55F5193	0-250°F	Type J	176.00
55F5194	0-300°F	Type J	
55F5195	100-400°F	Type J	
55F5196	0-500°F	Type J	
55F5197	0-800°F	Type J	
55F5198	0-1000°F	Type J	
55F5199	300-800°F	Type J	

MODEL 4352
DIGITAL PANEL METER—3½ DIGIT



Only 2.1" high by 4" long, this space-saving instrument features standard MOS-LSI circuitry to provide the performance of larger, higher priced units. Yet its panel cutout requirements make the Model 4352 interchangeable with other popular digital panel meters. Analog to digital conversion is accomplished by using the same proven methods as in the large display Model 4304 digital panel meter. Circuit has excellent long-term stability and the highest noise rejection obtainable with input impedance up to 1000 megohms. An extended operating temperature range permits operation from 0°C to 55°C. Standard features include auto-polarity, display hold, programmable decimal point, and conversion command. Low cost options include stored BCD outputs, print command, polarity and over-range outputs. All inputs are DTL/TT1 compatible. Readings exceeding 1999 are indicated by flashing display at same speed as the reading rate, typically five per second, for eye-catching over-range indication. Rugged, low-voltage, low-current electrofluorescent tubes provide a ½" high planar seven-segment display.

SPECIFICATIONS

Accuracy: Voltage: ±0.1% of reading, ±0.05% F.S. Current: ±0.25% of reading, ±0.05% F.S. Input Isolation from Line: 500 volts peak. Rejection: Normal Mode: With 0.5 second full scale response time. 30dB at 60 Hz. Common mode: 120 dB at DC to 60 Hz with 1K ohm unbalance. Operating Temperature: 0°C to 55°C. Storage Temperature: −40°C to +75°C. Reading Rate: 5 readings per second. Power: 6 watts typical at 115 VAC 60 Hz. Voltage: standard, 105 VAC to 125 VAC 50/60 Hz. Inputs: Read Hold, Connect to less than +3 volts to hold reading. External Conversion Command: Convert signal, 0.5 msec. Outputs: Over-Range—Logic "1", +2.4 minimum @ 360 uA. Under-Range—Logic "0", +0.4 V maximum @ 12.8 mA. Polarity: Positive-Logic "0", +4.0 maximum @ 8.0 mA. Negative—"1", +2.4 minimum @ 200 uA. Print Command: Positive pulse of 5 usec. minimum from +0.8 volts maximum @ 14 mA to +3.5 volts minimum @ 300 uA load. Power Supply: +5V, +12V, −12V all at 5 mA current available externally. Externally programmable decimal points: Turn on: +5 volts @ 1.0 mA maximum. Turn off: open circuit 50 uA maximum leakage.

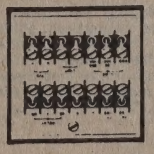
DC VOLTAGE

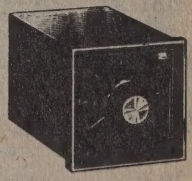
Stock No.	DC Range	Each 1-9	Each 10-24
55F4889	0-19.99mV	195.00	162.42
55F4890	0-199.9mV		
55F4891	0-1.999V		
55F4892	0-19.99V		
55F4893	0-199.9V		
55F4894	0-1000V		

DC CURRENT

Stock No.	DC Range	Each 1-9	Each 10-24
55F4895	0-1.999 A	195.00	162.44
55F4896	0-19.99 A		
55F4897	0-199.9 A		
55F4898	0-1.999mA		
55F4899	0-19.99mA		
55F5192	0-199.9mA		

MODEL 232 TEMPERATURE CONTROL





- Din-Dimensioned
- Quick Snap Installation
- Sure-Lock Set Point

Solid state control or limit for industrial and commercial ovens, laboratory environmental chambers, process plants, plastics and packaging machines. Indicator scale is 6.5" electrical cold junction. T/C break protection for use with 0 to 100 ohm, T/C with no readjustment. When used as a limit set point knob is also a reset button. Relay is SPDT 10 amp. accuracy ±2%. Input impedance (100,000 ohms). Required depth for panel is 6.280" max. 120 or 240 VAC. 50-60Hz. Weight: 3 lbs. Recommended panel cutout 3.620x 3.620.

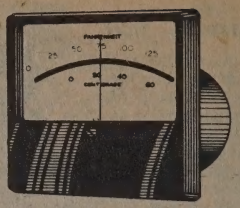
Range	T/C	On-Off No-Indicator Stk. No.	On-Off No-Indicator Each	On-Off With Indicator Stk. No.	On-Off With Indicator Each	Time Proportioning With Indicator Stk. No.	Time Proportioning With Indicator Each
0/300°F	J/C	62F2500	85.00	62F2505	105.00	62F2510	125.00
0/500°F	J/C	62F2501		62F2506		62F2511	
0/800°F	J/C	62F2502		62F2507		62F2512	
0/1000°F	J/C	62F2503		62F2508		62F2513	
0/2500°F	C/A	62F2504		62F2509		62F2514	

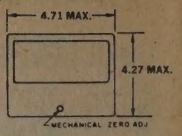
Pyrometers

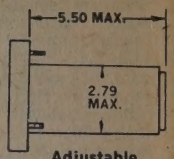
MODEL 503 PYROMETER-2% ACCURACY

Thermocouple actuated with copper error compensation. Automatic bimetal gold junction correction. External resistor adjusts for thermocouples up to 10 ohms. Mirrored F° and C° scales. Knife-edge pointers. I/C for Iron-Constantan; C/A for Chromel-Alumel; Cu/C, Copper constantan Phenolic case. Scale arc, 4". 21 lbs.

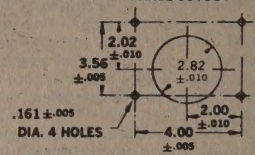
Stock No.	Temperature Range °F	°C	Thermo-Couple	Type	Each
62F3100	-200/+100	-130/+140	Cu/C	T	49.50
55F4605	-75/+225	-60/+100	I/C	J	44.00
55F4606	0/300	0/150	I/C	J	44.00
55F4607	0/500	0/260	I/C	J	44.00
55F4608	0/800	0/430	I/C	J	44.00
55F4609	0/1000	0/500	I/C	J	44.00
55F4610	0/1500	0/800	C/A	K	44.00
55F4611	0/2000	0/1100	C/A	K	40.50
55F4612	0/2500	0/1370	C/A	K	40.50







PANEL CUTOUT



Adjustable External Resistor compensates Up to 10 Ohms

MODEL 603 PYROMETER-1% ACCURACY

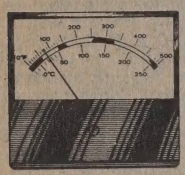
Same as Model 503 above, but offer 1% accuracy. Scales are 5".

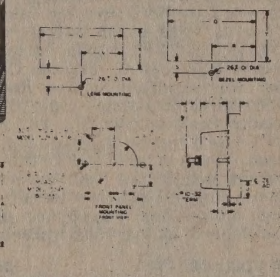
62F3101	0/300	0/150	I/C	J	55.50
62F3102	0/500	0/260	I/C	J	55.50
62F3103	0/800	0/430	I/C	J	55.50
62F3104	0/1500	0/800	C/A	K	55.50
62F3105	0/2000	0/1100	C/A	K	52.50
62F3106	0/2500	0/1370	C/A	K	52.50

TABLE OF DIMENSIONS IN INCHES

TYPE	A	B	C	D	E	F	G	H	I
503	4.71	4.00	4.27	2.02	3.56	2.79	0.76	1.95	2.62
603	5.75	5.25	4.36	2.15	3.00	2.79	0.76	1.95	2.62

SERIES 7000 PYROMETERS





Three-way choice of mounting; front mount, bezel mount, or lens mount. Phenolic case. Glass windows are scratch-proof, free of static electricity. Self shielding movements allow interchangeable mounting in steel or aluminum panels. Standard accuracy is ±2% of full scale at 77°F ambient temperature. **Model 7055** ranges are all standard ±1% accuracy. Current sensitivity is approximately 4 ohms per millivolt. All ranges calibrated for 10 ohms external resistance.

Temperature Range °F	°C	Thermo-Couple	Type	Stock No.	7035 (3½)	Stock No.	7045 (4½)	Stock No.	7055 (5½)
-75/+225	-60/+110	I/C	J	62F3107	38.50	62F3109	39.50	62F3111	51.50
0/300	0/150	I/C	J	62F2545	38.50	62F2551	39.50	62F3112	51.50
0/500	0/260	I/C	J	62F2546	38.50	62F2552	39.50	62F3113	51.50
0/800	0/430	I/C	J	62F2547	38.50	62F2553	39.50	62F3114	51.50
0/1000	0/500	I/C	J	62F2548	38.50	62F2554	39.50	62F3115	51.50
0/1500	0/800	C/A	K	62F2549	36.50	62F2555	37.50	62F3116	49.50
0/2000	0/1100	C/A	K	62F3108	36.50	62F3110	37.50	62F3117	49.50
0/2500	0/1370	C/A	K	62F2550	36.50	62F2556	37.50	62F3118	49.50

MODEL	A	B	C	D	E	F	G	H	I	J	K	L
7035	3.01 Max.	3.51 Max.	—	1.87 Max.	1.125 ±.01	1.25 ±.01	2.79 Max.	1.36 Max.	.58 Max.	.53 ±.02	.02 Max.	.56 ±.01
7045	4.05 Max.	4.61 Max.	3.50 ±.01	2.29 ±.02	—	1.25 ±.01	2.79 Max.	1.36 Max.	.58 Max.	.77 ±.02	.02 Max.	.56 ±.01
7055	4.53 Max.	5.66 Max.	4.50 ±.01	2.695 ±.02	—	1.25 ±.01	2.79 Max.	1.36 Max.	.58 Max.	.845 ±.02	.02 Max.	.56 ±.01

MODEL	M	N	O	P	Q	R	S	T	U	V	W	X
7035	.675 Max.	—	1.125 ±.010	2.810 ±.015	3.718 +.030 −.000	1.859 +.015 −.000	.44 ±.01	2.156 +.030 −.000	3.105 ±.015	1.552 ±.008	.76 ±.01	1.515 ±.015
7045	.675 Max.	3.50 ±.01	1.750 ±.005	2.810 ±.015	4.182 +.030 −.000	2.406 +.015 −.000	.63 ±.01	2.75 +.03 −.00	4.205 ±.015	2.102 ±.008	.95 ±.01	2.125 ±.015
7055	.675 Max.	3.50 ±.01	2.250 ±.005	2.810 ±.015	5.875 +.030 −.000	2.937 +.015 −.000	.64 ±.01	3.156 +.030 −.000	5.240 ±.015	2.620 ±.008	.98 ±.01	2.500 ±.015

PORTABLE PYROMETERS

Model 6020. For checking laboratory ovens, furnaces, refrigeration equipment, solder pots and oil baths. Scales indicate Fahrenheit and Centigrade. Fully compensated for ambient and copper error with bimetal and thermistor. 1% accuracy. 5.5" meter scale. Aluminum trimmed plastic case. 8.5 X 6.5". Shpg. wt.: 2 lbs.

Stk. No.	Temperature Range °F	°C	Each
55F4775	—100+1100	—70/+550	91.00
55F4776	—100+600	—70/+310	
55F4777	0/300	0/150	
55F4778	0/500	0/260	
55F4781	0/1500	0/800	

PROBES FOR MODEL 6020

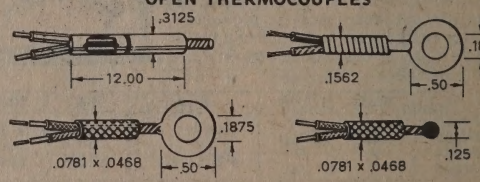
Carried inside meter case. Lead length is 3.5 feet, armored wire.

Stk. No.	Description	NET
55F4793	Straight Surface	30.00
55F4794	Surface-Angle	35.00
55F4795	Needle	30.00
55F4796	General Purpose	30.00
55F4797	Wire	6.00
55F4798	Probe Handle	7.50
55F4632	Roller Surface	30.00

TRANSFORMERS FOR AC LOAD COMPACK

Stk. No.	Prim.	Range	NET	Stk. No.	Prim.	Range	NET
55F4621	3	Amps	7.50	55F4628	50	Amps	7.50
55F4622	5	Amps		55F4642	75	Amps	17.50
55F4623	7.5	Amps		55F4643	100	Amps	17.50
55F4624	10	Amps		55F4644	150	Amps	17.50
55F4625	15	Amps		55F4645	200	Amps	17.50
55F4626	25	Amps		55F4646	250	Amps	17.50
55F4627	30	Amps		55F4647	300	Amps	17.50

OPEN THERMOCOUPLES

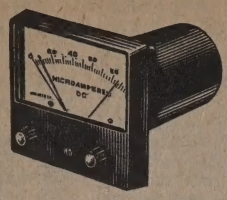


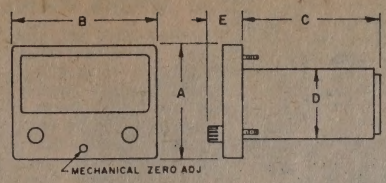
With Washer Stk. No.	With Washer Type	W/O Washer Stk. No.	W/O Washer Type	Description	Each
62F3119	2055-12	62F3120	2055-13	J-Iron-Constantan, 20 gauge, solid	6.00
62F3121	2055-1	62F3122	2055-9	J-Iron-Constantan, 20 guage, stranded*	6.00
		62F3123	2055-10	J-Iron-Constantan, 14 gauge, solid**	8.00
62F3124	2056-1	62F3125	2056-3	T-Copper-constantan, 20 gauge, solid	6.00
62F3126	2056-4	62F3127	2056-5	T-Copper-Constantan, 20 gauge, stranded*	8.00
		62F3128	2054-7	K-Chromel-Alumel 14 gauge**	8.00
		62F3129	2054-4	K-Chromel-Alumel, 8 gauge**	15.00
62F3130	2057-2	62F3131	2057-3	E-Chromel-Constantan, 20 gauge, stranded	6.00

5' length. Fiberglass insulation except (*) asbestos, (**) ceramic and asbestos.

Compack Optical Meter Relay Controllers api

- **Solid state circuitry, fail-safe wiring**
- **Taut Band movements in most ranges**
- **Fully continuous reading**
- **Complete package—no external components**





	503-K	603-K
A	4.27 Max.	4.36 Max.
B	4.71 Max.	5.75 Max.
C	5.500 Max.	5.500 Max.
D	2.79 Max.	2.79 Max.
E	1.39 Max.	1.39 Max.

ON-OFF TEMPERATURE CONTROL

Models 503-KH (Single set point) and 503-KD (Double set point). Compacks packaged complete with power supply, control circuitry and load relays coupled to an Optical Meter Relay. Screw type terminal connections are at rear of meter barrel. (ill.) All circuit components wired fail safe below set point on KH and between set points on KD. Units easily converted from automatic on-off control to push button reset latching circuit, SPDT relay contacts-load rating: 5 A. resistive at 115 VAC, Dial arc. 4". *Taut Band movement.

503-KH SINGLE SET POINT

Stock No.	Range	1-9	10-24	25-49
55F4500	*10 μa DC	149.00	141.55	134.10
55F4501	*50 μa DC	129.50	123.03	116.55
55F4502	*100 μa DC	124.50	118.28	112.05
55F4503	1 ma DC	117.00	111.15	105.30
55F4504	*10 mv DC	128.50	122.08	115.65
55F4505	50 mv DC	119.00	113.05	107.10
55F4506	AC load	121.00	114.95	108.90
55F4507	*50 μa AC	132.00	120.40	114.10
55F4508	1 ma AC	120.00	108.70	103.05

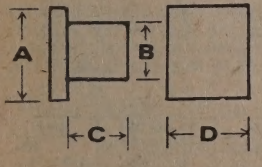
503-KD DOUBLE SET POINT

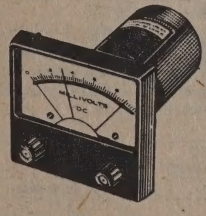
Stock No.	Range	1-9	10-24	25-49
55F4509	*10 μa DC	174.00	165.30	156.60
55F4510	*50 μa DC	154.50	146.78	139.05
55F4511	*100 μa DC	149.50	142.03	134.55
55F4512	*50/0/50 μa DC	150.00	142.50	135.00
55F4514	1 ma DC	142.00	134.90	127.80
55F4515	*10 mv DC	153.50	145.83	138.15
55F4516	50 mv DC	144.00	136.80	129.60
55F4517	AC load	147.00	133.10	126.15
55F4519	1 ma AC	146.00	132.20	125.30

Model 603-KH (single set point) and 603-KD (double set point). Same circuit description as 503-KH & KD with addition of electrical cold junction compensation, automatic thermocouple break protection & copper error correction. Medium resistance thermocouple actuated pyrometers. Taut Band. Damped against vibration. Dual Fahrenheit-Centigrade mirrored scales. Dial arc 5". Adjustable for thermocouples 0-10 ohms. For control or alarm applications. Wt. 2 lbs.

Range					603-KH High set point			603-KD Double set point			
F°	C°	TC	Type	Stock No.	1-9	10-24	25-49	Stock No.	1-9	10-24	25-49
0/300	0/150	1/C	J	55F4520	148.00	140.60	133.20	55F4526	173.00	164.35	155.70
0/500	0/260	1/C	J	55F4521	144.50	137.28	130.05	55F4527	169.50	161.03	152.55
0/750	0/400	1/C	J	55F4522	144.50	137.28	130.05	55F4528	169.50	161.03	152.55
0/1000	0/500	1/C	J	55F4523	144.50	137.28	130.05	55F4529	169.50	161.03	152.55
0/1200	0/650	1/C	J	55F4648	144.50	137.28	130.05	55F4649	169.50	161.03	152.55
0/1500	0/800	C/A	K	55F4524	141.50	134.43	127.35	55F4530	166.50	158.18	149.85
0/2500	0/1370	C/A	K	55F4525	141.50	134.43	127.35	55F4531	166.50	158.18	149.85

"ULTIMETER" SOLID STATE METER-RELAY CONTROLLERS





Model 503X. Relay control independent of meter movement, yet control point is set with familiar red pointer. Solid state, with integrated circuits used for comparison functions. Automatic reset, wired failsafe. Relay output, SPDT, 5A at 115VAC resistive. ±1% F. S. accuracy.

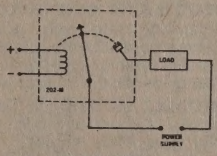
TABLE OF DIMENSIONS IN INCHES

Model	A	B	C	D
503	4.27	2.79	1.95	4.71

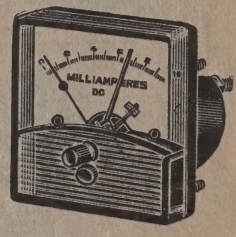
Model 503X

DC Range	IMP Ohms	Single Set Point			Double Set Point		
		Stk. No.	1-9	10-24	Stk. No.	1-9	10-24
0-1 μA	10K	62F2515	168.00	159.60	62F2523	193.00	183.35
0-10 μA	1000	62F2516	130.50	123.98	62F2524	155.50	147.73
0-50 μA	200	62F2517	125.50	119.23	62F2525	150.50	142.98
50-0-50μA	100	62F2518	136.00	167.95	62F2526	161.00	152.95
0-100 μA	100	62F2519	125.50	119.23	62F2527	150.50	142.98
0-1 mA	10	62F2520	168.00	159.60	62F2528	193.00	183.35
0-10 mA	10K	62F2521	130.50	123.98	62F2529	155.50	147.73
0-50 mA	50K	62F2522	125.50	119.23	62F2530	150.50	142.98

MAGNETIC CONTACT METER-RELAYS—MODEL 202-M



TYPICAL SCHEMATIC



- **Will switch either AC or DC.**
- **75-degree scale arc.**
- **Gold plated magnets.**

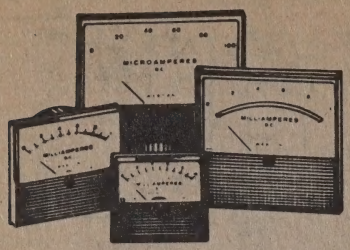
Magnetic contact meter-relays offer simplest but still positive control action in field of electromechanical monitoring device. Maximum contact capacity is 100 milliamperes noninductive, at 115 volts DC or AC. Has adjustable set points. Electromechanical reset voltages are 6, 12, 24, 48, and 120 volts DC; 115 volts AC. Repeatability is better than 1%. Accuracy is ±5% of full scale. Will switch either AC or DC. Indicating pointer carries a gold plated iron contact.

Stock No.	Range	Type	Each
62F2435	0/100 μADC	20-3602-2500	46.50
62F2436	0/1 mADC	20-0003-2500	39.50
62F2437	0/1 mAAC	20-0008-2500	44.00
62F2438	0/47 mAAC	20-4728-2500	44.00
62F2439	0/10 mVDC	20-0400-2500	46.50
62F2440	0/50 mVDC	20-1800-2500	39.50

METER-RELAY PYROMETER VERSIONS OF MODEL 202-M

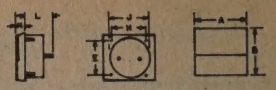
Stock No.	Range	Thermo-Couple	Type	Each
62F2441	0-300°F	J, I/C	20-6004-2500	53.50
62F2442	0-500°F	J, I/C	20-6604-2500	53.50
62F2443	0-800°F	J, I/C	20-7804-2500	53.50
62F2444	0-1000°F	J, I/C	20-8204-2500	53.50
62F2445	0-1500°F	K, C/A	20-8504-2500	53.50
62F2446	0-2000°F	K, C/A	20-8904-2500	53.50
62F2447	0-2500°F	K, C/A	20-9304-2500	53.50

WESTON® Precision Panel Meters



2000 SERIES PANEL METERS

Flattened scale arc gives excellent readability. Convenient snap-in covers permit easy scale replacement. Uses specially treated Alnico V magnet for full shielding from magnetic effects. High torque with minimum response time and power consumption. Features dust sealing plus option of moisture-resistant sealing. Zero corrector is accessible from front of panel through bezel. Pivot and jewel-types have spring back jewels.



DIMENSIONS

Depth behind panel, 1.140" (1.725" including terminal stud).

Model	Width	Height	Panel Hole D.	Mtg. Centers W.	Mtg. Centers H.
2021	2.800"	2.400"	2.200"	1.880"	1.880"
2031	3.500"	2.980"	2.820"	2.250"	2.250"
2041	4.530"	2.050"	2.820"	4.000"	3.562"
2051	5.630"	2.490"	2.820"	5.250"	3.000"

PIVOT AND JEWEL METERS

Range	Resis. Ohms	Model 2021 Stock No.	Model 2021 Each	Model 2031 Stock No.	Model 2031 Each	Model 2041 Stock No.	Model 2041 Each
DC MILLIAMMETERS							
0-1	85	54F964	19.00	54F970	19.60	54F975	20.95
0-5	9					54F976	20.95
0-10	2.2	54F965	19.00	54F971	19.60		
0-50	2.0	54F966	19.00	54F972	19.60	54F977	20.95
0-100	1.0	54F967	19.00	54F973	19.60		
0-200	0.5	54F968	19.00				
0-300	0.33	54F969	19.00			54F978	20.95
0-500	0.2			54F974	19.60	54F979	20.95
DC AMMETERS—(*) Average Voltage Drop							
0-1	50mV*	54F980	19.00	54F982	19.60	54F985	20.95
0-2	50mV*					54F986	20.95
0-5	50mV*	54F981	19.00	54F983	19.60	54F987	20.95
0-10	50mV*			54F984	19.60		
DC VOLTMETERS—(*) Ohms/Volt							
0-5	1000†	54F988	20.10				
0-10	1000†	54F989	20.10	54F993	20.70	54F997	22.05
0-25	1000†			54F994	20.70		
0-50	1000†	54F990	20.10	54F995	20.70	54F998	22.05
0-150	1000†	54F991	20.10	54F996	20.70	54F999	22.05
0-200	1000†	54F992	20.10				

TAUT-BAND METERS

DC MICROMMETERS (2% Accuracy)

Range	Resis. Ohms	Model 2021 Stock No.	Model 2021 Each	Model 2031 Stock No.	Model 2031 Each	Model 2041 Stock No.	Model 2041 Each
0-50	950	54F941	26.75	54F947	27.30	54F951	28.65
0-100	845	54F942	24.85	54F948	25.60	54F952	26.70
0-200	275	54F943	23.95	54F949	24.25	54F953	25.95
0-500	60	54F944	22.95			54F954	24.50
50-0-50	845	54F945	24.85	54F950	25.60		
100-0-100	275	54F946	23.95				

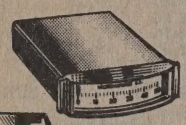
Range	Resis. Ohms	Model 2031 Stock No.	Model 2031 Each	Model 2041 Stock No.	Model 2041 Each	Model 2051 Stock No.	Model 2051 Each
DC MICROMMETERS (1% Accuracy)							
0-100	845			54F955	26.70	54F957	38.05
0-200	275			54F956	25.95	54F958	36.65
DC MILLIAMMETERS (1% Accuracy)							
0-1	16.5			54F959	21.55	54F960	32.80
DC VOLTMETERS (1% Accuracy)							
0-50	1000			54F961	31.95		

VU METERS

Type A scale in "VU" units for monitoring wire lines.

Scale Type	Model 2022 Stock No.	Model 2022 Each	Model 2032 Stock No.	Model 2032 Each
30A	54F962	33.10	54F963	26.70

POPULAR 'THIN-LINE' EDGEWISE METERS



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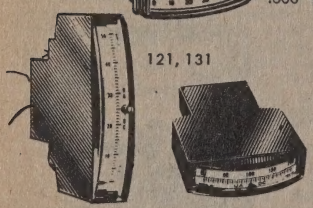


121, 131

THIN LINE MODEL 111 SELF-SHIELDED PANEL METERS. Edgewise instrument using a flat Cormag mechanism for inherent shielding; permits mounting on magnetic or non-magnetic panels without adjustment. Meets ASA C39.1 specifications. Scale: 1.25" long. Accuracy: 2% FS, DC; 3% FS, AC rectifier type. Fits 1.650" x .500" panel cutout.

MODELS 121 AND 125 EDGEWISE PANEL METERS. An inline scale is standard on this 2½" flat edgewise meter which eliminates parallax normally associated with edgewise meters. Red pointer increases readability. Front mounted zero corrector. Accuracy: 2% of FS value for DC; 3% of FS value for AC rectifier type. Scale length: 1.9" antiparallax inline scale. Panel cutout, 2¹⁵⁄₁₆"w x 1¹⁵⁄₁₆"h. Model 125 is identical, but with wide face for best readability.

MODELS 131 AND 231 EDGEWISE PANEL METERS. A 3½" flat edgewise meter designed to meet ASA C 39.1 performance specifications. Accuracy: 2% of FS value for DC; 3% of FS value for AC rectifier type. Scale length: 2.75"; anti-parallax inline scale. Meter can be mounted either horizontally or vertically. Illumination: Self-contained on request. Panel cutout 2¹⁵⁄₁₆"w x 1¹⁵⁄₁₆"h. Model 231 is identical to above, but with wide face for improved readability.

Range	Approx. Resis.	Model 111 Horiz. Stock No.	Model 111 Vert. Stock No.	Each 1-9	Each 10-24	Mod. 121 2½" Stock No.	Each 1-9	Each 10-49	Model 125 2½" Wide Scale Stock No.	Each 1-9	Each 10-49	Mod. 131 3½" Stock No.	Each 1-9	Each 10-24	Model 231 3½" Wide Scale Stock No.	Each 1-9	Each 10-24
DC Volts																	
0-10	5000 Ω/V	62F2687	54F900	19.35	17.42	62F2721	22.00	19.80				62F2736	24.40	21.96			
0-25	5000 Ω/V	62F2688		19.35	17.42	62F2722	22.00	19.80	54F909	22.00	19.80	62F2737	24.40	21.96	54F920	24.40	21.96
0-50	5000 Ω/V	62F2689				62F2723	22.00	19.80	54F910	22.00	19.80	62F2738	24.40	21.96	54F921	24.40	21.96
0-100	5000 Ω/V								54F911	22.00	19.80	62F2739	24.40	21.96			
0-150	5000 Ω/V		54F901	19.35	17.42												
0-300	5000 Ω/V											62F2741	24.40	21.96			
DC AMPS																	
0-1	.05					62F2714	22.00	19.80	54F912	22.00	19.80	62F2729	24.40	21.96			
DC mA																	
0-1	39	62F2679	54F904	18.55	16.70	62F2715	20.95	18.86	54F913	20.95	18.86	62F2730	23.35	21.02	54F922	23.35	21.02
0-5	5.2	54F902							54F914	20.95	18.86						
0-10	2	54F903	54F905	18.55	16.70	54F906	20.95	18.86	54F915	20.95	18.86						
0-25	2	62F2680							54F916	22.00	19.80						
0-150	.33					54F907	22.00	19.80	54F917	22.00	19.80						
0-250	.20					54F908	22.00	19.80	54F918	22.00	19.80						
0-500	.10								54F919	22.00	19.80						
DC μA																	
0-50	2300	62F2683	54F924	23.85	21.47	62F2717	26.50	23.85	54F930	26.50	23.85	54F933	28.90	26.01			
0-100	900	62F2684	54F925	20.40	18.36	62F2718	22.80	20.52	54F931	22.80	20.52	54F934	25.20	22.68	54F938	25.20	22.68
0-200	600	54F923	54F926	19.10	17.19	54F929	21.50	19.35				54F935	24.15	21.74	54F939	24.15	21.74
0-500	134	62F2685				62F2719	21.25	19.13				54F936	23.85	21.47			
50-0-50	900	62F2686	54F927	20.40	18.36	62F2720	22.80	20.52	54F932	22.80	20.52	54F937	25.20	22.68	54F940	25.20	22.68

Digital Panel Meters

WESTON®

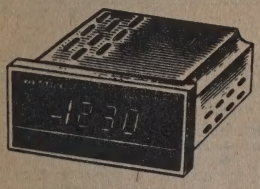
MODEL 1220/1221

Full bi-polar 3½ digit DPM utilizes a dual slope A/D conversion technique. Incorporates state-of-the-art components including LSI MOS digital circuitry on a single 24-pin chip. **Model 1220**—battery operation. **Model 1221**—designed for AC line operation of 117 Volts, 60 Hz.

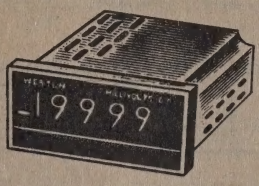
SPECIFICATIONS: Accuracy: ±0.1% of reading ±1 digit. Operating Temperature Range: 0-60°C. Power Requirements: **Model 1220,** +5.5 volts DC ±10%. **Model 1221,** 117 volts ±10%. Readout: 3½ digits, 7 segment LED. Storage Temperature: −40°C to 70°C. Weight: Approximately 4 oz.

Range	1220 Stk. No.	Each 1-4	Each 5-9	1221 Stk. No.	Each 1-4	Each 5-9
0-100 millivolts	57F2700	145.00	137.75	57F2710	155.00	147.25
0-1 volt	57F2701	145.00	137.75	57F2711	155.00	147.25
0-10 volts	57F2702	145.00	137.75	57F2712	155.00	147.25
0-100 volts	57F2703	145.00	137.75	57F2713	155.00	147.25
0-1000 volts	57F2704	145.00	137.75	57F2714	155.00	147.25
0-10 microamps	57F2705	145.00	137.75	57F2715	155.00	147.25
0-100 microamps	57F2706	145.00	137.75	57F2716	155.00	147.25
0-1 milliamp	57F2707	145.00	137.75	57F2717	155.00	147.25
0-10 milliamps	57F2708	145.00	137.75	57F2718	155.00	147.25
0-100 milliamps	57F2709	145.00	137.75	57F2719	155.00	147.25

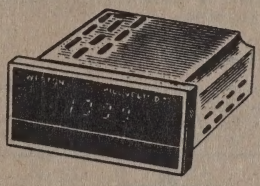
62F273. 9790-0273883 PC Bd. Conn.....4.00



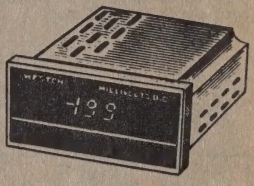
Model 1230



Model 1294



Model 1297



Model 1295

MODEL 1230

Full bi-polar 3½ digit panel meter features dual slope integration for long term stability. Large display can be read from 40'. Takes only 7 sq. in. of panel space.

SPECIFICATIONS: Accuracy: ±0.1% of reading ±1 digit. Readout: 7 segment Sperry displays. Operating Temperature Range: 0-50°C. Common Mode Rejection: 80 dB with 1000 ohm unbalance at 60 Hz. Weight: Approximately 13 oz.

Stk. No.	Type	Range	Each 1-4	Each 5-9
57F2720	1230	0-100 millivolts	135.00	128.25
57F2721	1230	0-1 volt	135.00	128.25
57F2722	1230	0-10 volts	135.00	128.25
57F2723	1230	0-100 volts	135.00	128.25
57F2724	1230	0-1000 volts	135.00	128.25
57F2725	1230	0-10 microamps	135.00	128.25
57F2726	1230	0-100 microamps	135.00	128.25
57F2727	1230	0-1 milliamp	135.00	128.25
57F2728	1230	0-10 milliamps	135.00	128.25
57F2729	1230	0-100 milliamps	135.00	128.25

62F276. 9790-0267253 PC Bd. Conn.....3.75

MODEL 1297

Full bi-polar 2½" digit panel meter features all digital logic on a single 24-pin LSI MOS chip. Can be mounted entirely from front of panel. Takes only 7 sq. in. of panel space. Non-Blinking display, and dual slope integration are also featured.

SPECIFICATIONS: Accuracy: ±0.5% of reading ±1 digit. Readout: 7 segment LED's. Operating Temperature Range: 0-60°C. Common mode rejection: 100 dB with 1000 ohm unbalance at 60 Hz. 13 oz.

Stk. No.	Type	Range	Each 1-4	Each 5-9
57F2730	1297	0-100 millivolts	125.00	118.75
57F2731	1297	0-1 volt	125.00	118.75
57F2732	1297	0-10 volts	125.00	118.75
57F2733	1297	0-100 volts	125.00	118.75
57F2734	1297	0-10 microamps	125.00	118.75
57F2735	1297	0-100 microamps	125.00	118.75
57F2736	1297	p-1 milliamp	125.00	118.75
57F2737	1297	0-10 milliamps	125.00	118.75
57F2738	1297	0-100 milliamps	125.00	118.75

62F275. 9760-0267432 PC Bd. Conn.....3.00

MODEL 1294

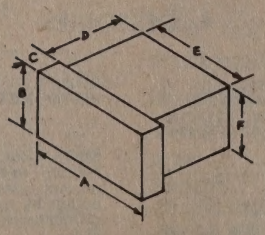
4½ digit bi-polar DPM features a display of 19999 and 10 microvolt sensitivity (on the 100 mv range). Takes only 7 square inches of panel space and can be mounted entirely from the front of the panel. Circuit boards are "Repairable"-not potted.

SPECIFICATIONS: Accuracy: ±0.05% reading ±1 digit ±10 microvolts. Sensitivity: 10 microvolts. Operating Temperature 15°C to 35°C. Overrange: 100%. Power Requirements: 117 V ±10%. Storage Temperature: −40°C to +70°C. Weight: 2 pounds.

Stk. No.	Type	Range	Each 1-4	Each 5-9
57F2739	1294	0-100 millivolts	375.00	356.25
57F2740	1294	0-1 volt	350.00	332.50
57F2741	1294	0-10 volts	350.00	332.50
57F2742	1294	0-100 volts	350.00	332.50
57F2743	1294	0-1000 volts	350.00	332.50
57F2744	1294	0-10 microamps	350.00	332.50
57F2745	1294	0-100 microamps	350.00	332.50
57F2746	1294	0-1 milliamp	350.00	332.50
57F2747	1294	0-10 milliamps	350.00	332.50
57F2748	1294	0-100 milliamps	350.00	332.50

62F274. 9790-0267253 Conn.....3.75

GENERAL DIMENSIONS



Model	A"	B"	C"	D"	E"	F"
1220	2.83	1.41	.45	2.55	2.67	1.29
1221	2.83	1.41	.45	5.00	2.67	1.29
1230	4.00	1.75	0.56	4.25	3.924	1.67
1294	4.00	1.75	0.56	4.25	3.924	1.67
1297	4.00	1.75	0.56	4.25	3.924	1.67
1295	4.00	1.75	0.56	4.25	3.924	1.67

MODEL 1295

Full bi-polar 3½ digit panel meter features all digital logic on a single 24-pin LSI MOS chip. Can be mounted entirely from front of panel. Takes only 7 sq. in. of panel space. Features dual slope integration for long term stability.

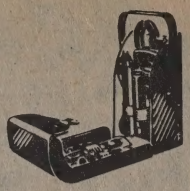
SPECIFICATIONS: Accuracy: ±0.1% of reading ±1 digit. Overrange: 100% except on 1000 V range. Readout: 7 Segment LED's. Operating Temperature Range: 0-60°C. Power: 117 volts ±10%, 50 Hz to 400 Hz <3 watts. Can be changed to 230 volts ±10% in field. Weight: Approximately 13 oz.

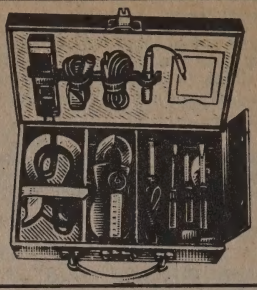
Stk. No.	Type	Range	Each 1-4	Each 5-9
57F2749	1295	0-100 millivolts	140.00	133.00
57F2750	1295	0-1 volt	140.00	133.00
57F2751	1295	0-10 volts	140.00	133.00
57F2752	1295	0-100 volts	140.00	133.00
57F2753	1295	0-1000 volts	140.00	133.00
57F2754	1295	0-10 microamps	140.00	133.00
57F2755	1295	0-100 microamps	140.00	133.00
57F2756	1295	0-1 milliamp	140.00	133.00
57F2757	1295	0-10 milliamps	140.00	133.00
57F2758	1295	0-100 milliamps	140.00	133.00

62F275. 9760-0267432 Conn.....3.00

Amprobe Test Equipment

RS-3A


TM-63
A Case


TM-43A
U Case

G Case

ROTARY SCALE "RS" CLAMP-ON VOLT-AMMETER

One volt or amp range revealed in window at one time. Rotary scale eliminates reading errors. Currents may be measured instantly and accurately. Pointer-lock freezes needle at reading with flick of a switch. Take readings in darkness or hard to see areas and then read away from conductor. Valuable tool in balancing circuits, tracing faults and grounds, and diagnosing operating troubles without shutting down equipment. Built-in 25 ohms mid scale ohmmeter on RS-3, RS-3A, RS-1000 and RS-1007. Accuracy within ±3% FS. One hand operation. With VL-11R leads and "G" case. (*) With Extendo lead pack and "A" case.

Stk. No.	Type	AC Volts	AC Amps	Net
62F659	RS-1	0-150/600	0-6/15/40/100	48.85
62F706	RS-2	0-150/300	0-6/15/40/100	48.85
62F658	RS-3	0-150/300/600	0-6/15/40/100/300	63.25
62F707	RS-300	0-150/300/600	0-6/15/40/100/300	59.25
62F708	RS-1000	0-150/300/600	0-15/40/100/300/1000	84.85
62F709	RS-1007	0-150/300/750	0-15/40/100/300/1000	84.85
62F941	RS-1A*	0-150/600	0-6/15/40/100	54.25
62F942	RS-2A*	0-150/300	0-6/15/40/100	54.25
62F943	RS-3A*	0-150/300/600	0-6/15/40/100/300	68.75
62F944	RS-300A*	0-150/300/600	0-6/15/40/100/300	64.75

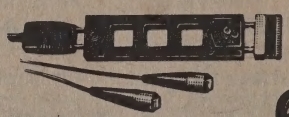
TEST METER KITS

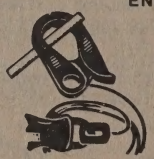
Include RS-3 clamp-on volt-ammeter except Model TM-60 which contains only accessories. (See tab listing for type of accessories included). **RS-3** Volt-ammeter, **VLK-311R** - Extendo Lead Pack, **A45-L** Energizer, **A50-1** Deca-Tran, **PSA-1** Phase Sequence Adaptor.

Stock No.	Type	Contains	Net
62F985	TM-63	RS-3, VLK-311R, A45-L, A Case	75.85
62F1802	TM-60	VLK-311R, A45-L, A Case	18.25
62F661	TM-33A	RS-3, VLK-311R, A50-1, A45-L, U Case	112.85
62F983	TM-43A	Same as TM-33A plus PSA-1	125.85

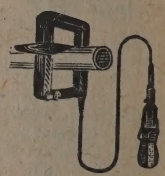
MODEL Y

TMYO





ENERGIZER



DECA-TRAN

AMPROBE JUNIOR

Only voltage testers in their price range that also measure amperage. Current measurements are made by merely snapping the trigger operated jaws around a single conductor (insulated or non-insulated). They are precision instruments that measure accurately on a calibrated scale ±3% full scale based on sinusoidal waveform (not just an indication). Junior models are the lightest and smallest clamp-on instruments available. Price inc. VL-55R test leads.

Stk. No.	Type	Ranges	Net
62F963	Y25	0-25 Amps AC 0-125/250V AC	26.85
62F967	Y550	0-50 Amps AC 0-150/600V AC	26.85
62F968	Y500	0-100 Amps AC 0-150/600V AC	26.85
62F949	YT1025	0-10/25 Amps AC 0-150/300V AC	32.25
62F948	YT25100	0-25/100 Amps AC 0-150/300V AC	32.25

JUNIOR TEST MASTER KITS

Kit consists of a Model K case that contains one of the YO Amprobe Juniors, an Amprobe A-45L Energizer, battery attachment and All-Weather test leads VL-55R. Ohmmeter range is 25Ω midscale.

Stk. No.	Type	Ammeter Range	2 Voltage Ranges	NET
62F957	TM-YO 550	0-50	0-150/600	43.50
62F958	TM-YO 500	0-100	0-150/600	

ACCESSORIES

NEW CT-50 AMPTRAN

Flexible-link, clamp-on current transformer. 6000 amp max. intermittent duty and 500 amps max. continuous duty. Takes $3^{15}/_{16}$" x $8^{7}/_{8}$" bus or $7^{1}/_{2}$" cable. Accuracy ±2% up to 5000 amps; ±3% from 5000 to 6000 amps. Insulated for use on circuits up to 5000 volts (7000 peak). With carrying case.
62F123 NET 185.00

OHMMETER BATTERY ATTACHMENT

Model OHB-3. For use with Model RS-3, RS-3A, RS-1000, RS-1007 includes fuse.
62F946. NET 3.45

EXTENDO LEAD PACKS

A "Third Hand" for easier safer faster readings. Includes jaw adapter, extension probe leads and insulated clips.
62F988. Model VLK-311R. For RS models except RS-1000. RS-1007. NET 4.85

TEST LEADS

Model VL-11R. Bayonet Safety Type. Use with all RS models.
62F945. NET 3.15

ENERGIZER

Model A-45L. Permits current readings on permanently wired low-current equipment by simplifying series connection. Increases ammeter sensitivity 5x or 10x for more precise reading directly at outlets by splitting double conductor line cords while equipment is connected to line Cap. 10 amps. With pouch.
62F977 ..... 8.25

DECA-TRAN

Model A-50-1. Deca-Tran can be used with any model to extend current ranges 10 times up to 1200 amps maximum, intermittent duty, 600 amps continuous duty. With 2" Line Cord for remote readings. Accommodates round conductors —$2^{1}/_{16}$" (5.33 cm) in diameter and bus bar ¾" (1.80 cm) x $2^{1}/_{2}$" (6.35 cm). With carrying case.
62F1801 ..... 37.50

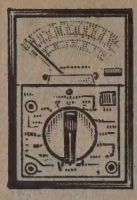
Amprobe Test Equipment

MODEL T-152

- Up To 1200°F (649°C)
- Two Ranges 50/1000mV
- Two Ranges 5/50 ohms Midscale

Brings together temperature ranges which are commonly related in appliance (self-cleaning ovens), motor, oil and gas furnace repair and industrial maintenance. It measures oven, dryer, furnace and stack temps; temperature rise in transformers and motors; low resistances in motor windings and relay coils; mV output of ovens, furnaces, dryers and refrigeration units. Measures temperature ranges of +70°F to +1200°F (+30°C to +640°C). Resistance: 0-200 with 5 ohms midscale; 0-2000 with 50 ohms midscale. Temp. accuracy ±¼ Div. at 600°F. Size: 4 13/16" x 2 11/16" x 1 7/8". Power supply: 3 "AA" batteries. Shpg. Weight: 7½ oz.

62F124 NET **59.85**



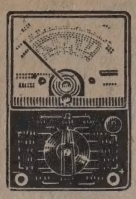
AM-1 MULTITESTER

- Fully Insulated, Molded Case
- All-weather Test Leads
- Compact and Lightweight

Helps in installing, maintaining and/or servicing electrical, climate control or refrigeration equipment. Designed combination of ranges is of special interest to air conditioning/heating/refrigeration servicemen, plant maintenance depts., electrical contractors, appliance repairmen and motor repair shops. Voltage ranges: AC 0-30/150/300 (8,000 ohms/volt); DC 0-3/15/30/300 (20,000 ohms/volt). Temp. range ±2% F.S. (Meter). Ohmmeter accuracy ±3% of arc. Current ranges: 0-30/150MA at 300 mV. Size: 3¾"W x 5½"H x 2 5/16"D. Shipping weight: 14 oz.

62F131 NET **27.50**

62F122. TC-3 Thermocouple for AM-1 NET **14.85**



AM-2 MULTITESTER

- 3 Ohmmeter Ranges
- 5 AC Voltage Ranges
- 5 DC Voltage Ranges
- Meter Movement Overload Protective Circuitry

Used for troubleshooting controls and related circuitry found on equipment beyond the checking of current, voltage and continuity. Companion to Amprobe clamp-on volt/ammeter. Compact and lightweight and test leads remain flexible to -10°F. Features include: 3 ohmmeter ranges, 5 AC voltage ranges, 5 DC voltage ranges, 3 DC current ranges, 2 DB ranges, 1 capacitance ranges and 1 inductance range. Voltage ranges: AC 0-10/50/250/500/1000 (10,000 ohms/volt); DC 0-25/10/50/250/1000 (20,000 ohms/volt). Inductance 0-5,000H; capacitance 250F-0.02uF. Size: 3½"Wx5"Hx1 13/16"D. Sh. Wt. 13 oz.

62F132 NET **19.95**

VOLTPROBE VOLTAGE TESTERS

Pocket-size voltage tester. Voltage levels are shown "thermometer style" by a series of illuminated windows. Frequency range, 25 to 800 cycles. Features removable probe tips extending coil cord for checks between points up to 50 in. apart, continuous int. contact and spring-loading on captive probe, test button for distinguishing true ground indications from indications due to distributed capacitance or high leakage. 115 VAC receptacle check chart permits inspecting outlets for correct wiring. Type VC carrying case extra.

Stock No.	Type	Ranges Volts, AC	Ranges Volts, DC	Each
62F986	VT-100	115/220/227/440/550	115/220/400 600/750	9.85
62F1805	VT-124	24/48/115/220/227/440/550	115/220/400/600/750	15.50
62F974	VC	Carrying Case		2.95

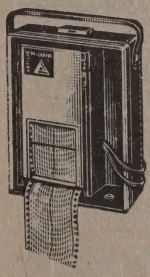
VT Tester

VC Case

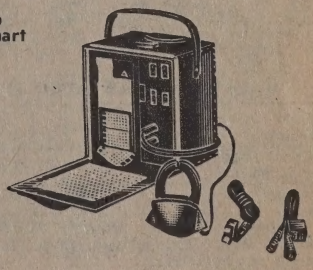
STRIP CHART RECORDERS

Compact, rugged recorders that satisfy requirements for OEM applications, service and maintenance work, process control and recording experimental data. AC or DC current, AC or DC voltage, or any variable that can be converted to an electrical signal. Practical, economical and convenient solution to limitless number of measuring problems that arise daily in every business. Instruments in their own carrying case. Designed for high dependability and accuracy and ease of operation. Small size and easy loading plus a unique design feature permits them to be used either as monitoring/recording devices or as indicating instruments making these recorders extremely versatile. Mylar shield seals meter movement and drive mechanism to effectively block out air borne dirt and dust. Built-in viewing/writing window permits you to see record as it is made and to make notations on chart without removing recorder's cover. Can be used as round-the-clock trouble-shooters without the need for an operator to be present. Power requirements: 115VAC, 60 cycles, 2.5 watts. Accuracy: AC amps and volts ±3%FS; AC expanded scale volts ±1.25% FS; Temperature ±3°F on +20°F to +100°F; ±4°F on -50°F to +20°F; ±5°F on +50°F to 250°F. Chart Speed is 12"/hr. Supplied with 1 roll each of the necessary strip charts. Other chart speeds available on special order. Weight 20 oz.

‡With A60FL Transducer §With A-70FL Transducer
* With 3 Transducers
†With 1 Transducer-Order thermistor probes separately.



Easy To Load Chart



AC VOLTMETERS

Stk. No.	Type	Range	Net
62F979	LAV3X	95-130/190-260/380-520 V., AC.	136.85

AC AMMETERS

Stk. No.	Type	Range	Net
62F678	LAA81§	0-10/50/250/500 AMPS AC.	125.85

AC VOLTAMMETERS

Stk. No.	Type	Range	NET
62F685	LAVA81§	VOLTS: 95-130; 190-260 AC AMPS: 0-10/50/250/500AC	171.85
62F686	LAVA82‡	VOLTS: 95- 130/190-260 AC AMPS: 0-5/25/100/250 AC	166.85
62F980	LAVA83§	VOLTS: 95-130; 190-260; 380-520 AC AMPS: 0-10/50/250/500 AC	188.85
62F981	LAVA84‡	VOLTS: 95-130; 190-260; 380-520 AC AMPS: 0-5/25/100/250 AC	184.85
62F2455	LAVA87§	VOLTS: 0-150/300/600 AC AMPS: 0-10/50/250/500 AC	175.85

MULTI-POINT RECORDERS

Stock No.	Type	Ranges	Net
62F125	LAA3*	MONITORS 3 AC CURRENTS 0-15/60/150/300 AMPS AC	259.85
62F127	LT8200†	MONITORS 2 TEMPERATURES AND ONE EVENT. 4-300 AMPS AC	216.85
62F126	LAU21	MEASURES AC VOLTAGE AND CURRENT 0-150/300/600VAC, 0-15/60/150/300 AMPS AC	224.85

TEMPERATURE RECORDER
FL - RBT - 1 Probe Furnished

Stock No.	Type	Range	NET
62F1817	LT8101	-45° to +40°C; +10° to +120°C	134.85

STRIP CHARTS FOR RECORDERS
Perforated and printed 2 colors. Individually boxed 30' rolls.

Stock No.	Type	Description	Net
62F128	300SVA	USE WITH LAA3, LAV21	2.10
62F689	850A	USE WITH LAA81, 82; LAVA81, 82, 83, 84, 87	1.80
62F690	835X3A	USE WITH LAV2X, 3X, LAVA 81, 82, 83, 84	1.80
62F1815	822T4	USE WITH LT8101 (+10° TO +120°C)	2.10
62F129	4060	USE WITH LT8200 (-40° TO +60°F)	2.10
62F130	4015C	USE WITH LT8200 (-40° TO +15°C)	2.10

rustrak

Chart Recorders

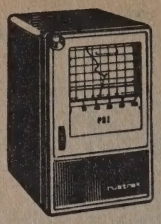
AC/DC SINGLE CHANNEL RECORDERS

MODEL 288 DC TYPE

Stock No.	Range	Ohms	NET
62F2193	0-1ma	100	105.00
62F2194	.5-0-5	100	110.00
62F2192	0-100μa	4600	115.00
62F2195	0-10mv	100	115.00

AC TYPE

Stock No.	Type	Range	NET
62F2198	288R	0-150V	120.00
62F2160	293A	70-135V 140-270V	140.00
62F2161	293B	70-135V 140-270V 280-540V	150.00
62F2164	2118	0-1,0-5 amp AC	150.00



Automatic chart recorders record information every two seconds at 1" per hour. Inkless, dry writing galvanometer movement. Sliding access window. Chart advance thumbwheel. Full 31 day chart re-roll or tear off capability. Quick review and rewind. Strong die-cast aluminum case construction. Easily changed scale and name plate. Accuracy 2% of full scale. Response time 0.8 sec. to 1.0 sec. Usable chart width 2-5/16". Drive mechanism for 115V., 60 Hz. Size 5-5/8" x 3-5/8" x 4 5/16" deep. Shipping wt. 5 lbs.

RECORDING PYROMETER

Model 2122. Self calibrating. Quickly, easily re-calibrated for thermocouple resistance from 0 to 23 ohms w/o using external resistors or millivolt standards. Accuracy is ±2% of span. Galvanometer; Taut-band suspension. Response time 5 seconds. Maximum writing speed: 1 strike per second. Cold junction compensation from +60 to +125°F. 4 switch ranges: 0-400°F; 0-800°F; 0-1200°F; 0-2400°F.; 6 ft. thermocouples included. One i/c and 1 c/k, each with 6" lead. Shipping weight 7 lbs.

62F2166. NET **210.00**

NEW THERMOCOUPLE RECORDER

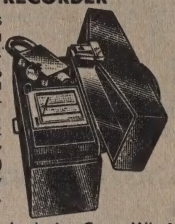
Model 2155A. 2% accuracy over temp. range. 63" length chart paper, 2 5/16" width. Without thermocouple probe. 115 VAC, 60 Hz. 5 5/8 x 3 5/8 x 4 1/8. 3 lbs.

Stk. No.	T/C Type	Temp.	Each
66F600	J or K	0-250°	155.00
62F2172	J or K	0-500°	155.00
62F2173	J or K	0-1000°	155.00

Thermocouple Probes For 2155A. 20-gauge in 6" stainless steel sheath, 3/16" dia., with 6' armored cable.

Stk. No.	Type	Range °F Max.	Range °F Rec.	Each
66F613	1551	1000	900	20.00
66F614	1552	2000	1800	25.00

VOLT AMP RECORDER



Model 230. Access window slides open for chart notation. 63" chart paper, 2 5/16 inch width. Both chart re-roll and tear-off provided. Measures: 0-150-300-600 VAC accuracy ±3% FS. 0-25-100-300 AC amps accuracy ±4% FS. 115V, 60 Hz, 3 watts. Size: 3 3/8 x 5 3/8 x 4 5/16". Includes Case. Wt. 6 lbs.

66F601 NET **175.00**

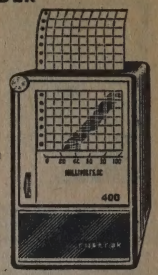
AC VOLTAGE AND CURRENT

Model 2113. Power tester and recorder for voltage, current or both alternately. Time sharing feature F137 is built in for two-point recording with 2 5/16" usable chart width for each parameter. Clip leads for voltage and clamp-on transducer for current. Housing is Model 172-1 Dual Pack. Supplied with a 1 RPM motor as standard and cannot be supplied with faster motors. Voltage range, 0-150, 0-300 and 0-600 volts AC. Current range 0-15, 0-30, 0-60 and 0-150 amperes AC. Accuracy ±3%. 7 1/4" x 5 7/8" x 7 1/2".

62F2165. NET **265.00**

MINIATURE POTENTIOMETRIC RECORDER

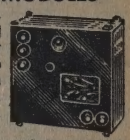
- Solid-State
- High Input Imp.
- Accepts ADD-A-FUNCTION modules



Model 400. Inkless recording. Continuous impression on pressure sensitive paper. Reroll or tearoff operation. Sliding access window. Review possible without interrupting recording. 2 5/16" useable scale width each channel. 63 foot roll standard. Speed: 1/2"/hr. to 240"/hr. depending on gear box. 8 rpm motor std. Sen. 100mV FS each channel. Acc: ±1% FS. Response Time: 2 sec. to FS. Input Res: 1 megohm min. Source Res: 5000Ω Max. Temp. Stability: ±0.025uV/°C (0°-50°C). Type Input: DC floating up to ±150V ref. to chasis grd. 60 Hz. Rejection: 100 dB min. Power Input: 120V, 60 Hz, 10W. Configuration: Zero left scale. Portable or rack mounted. Charcoal gray suede finish. Size: 3 5/8"W x 5 5/8"H x 6"D. Ship. Wt. 4 lbs.

66F602 NET **259.00**

ADD-A-FUNCTION MODULES



Solid-state, instantly interchangeable. Change full scale sensitivity and offset of basic 100mV recorder to selected range. Plugs in rear of recorder. No ext. power req. Acc: 2% FS. Recorder not incl.

Stock No.	Type	Range	Each
66F603	P4001	0-10mV DC	145.00
66F604	P4006	0-100μA	20.00
66F605	P4006	0-1mA	20.00
66F606	P4088R	0-150 VAC	35.00
66F607	P4088R	0-300 VAC	35.00
66F608	P4088R	0-600 VAC	35.00
66F609	P4118	AC Current	40.00
66F610	P4230	AC Volt/Amp	67.00

SERIES 292-4 & 8 EVENT RECORDERS

EVENT RECORDER CHART SPEED*(2-RPM MOTOR)

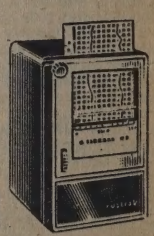
Gear Train Assembly No.	1/4	1/2	1	2	3	6	10	12	15	30	60
Chart Speed (Inches/hr.)	1/4	1/2	1	2	3	6	10	12	15	30	60
A or B (sec.)	720	360	180	90	60	30	18	15	12	6	3

POWER SUPPLY

Model 921-8. Operates from 120VAC to supply 24VDC for four and eight pen actuators.

62F2184. NET **30.00**

SERIES 292-4 & 8 EVENT RECORDER



Simultaneously records up to 8 ON-OFF events. Requires 24 volts DC at 70 ma for actuators for each channel. Response time 10 milliseconds. Chart drive for 115 v, 60 Hz. With 2 rpm motor specify gear train for desired recording speed from table at left. Shipping weight 5 lbs. *Based on 0.050" (1.27mm) minimum event time (A) or minimum time between events (B). Choose gear train closest to A or B to suit your particular recording use.

62F2181. Model 292-4 NET **119.00**

62F2182. Model 292-8 NET **165.00**

ACCESSORIES FOR ABOVE

EXTRA GEAR TRAIN UNITS

Can be interchanged in field in seconds.

Stk. No.	Description	NET
62F1320	1/4 inch per hour	5.00 EA.
62F1321	1/2 inch per hour	
62F1322	1 inch per hour	
62F1256	2 inches per hour	
62F1257	3 inches per hour	
62F1258	6 inches per hour	
62F1259	10 inches per hour	
62F1323	12 inches per hour	
62F1260	15 inches per hour	
62F1261	30 inches per hour	
62F1324	60 inches per hour	

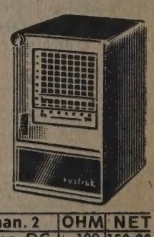
CHART PAPER (63 Foot Roll)

Stock No.	Style Description	NET
62F1262	WA-50 Divisions	2.25
62F1263	WB-75 Divisions	
62F1289	WC-65 Divisions	
62F1244	WD-20 (Dual Chan.)	
62F1329	EE Event	
62F1968	WF-15 (Dual Chan.)	
62F2185	WG-20 Divisions	
62F2186	WH-40 Divisions	
62F2187	WI-20 Divisions	
62F2188	WK-60 Divisions	
62F2189	WL-80 Divisions	

66F611 Current for P4230 ..... 2.25

66F612 Volts for P4230 ..... 2.25

DUAL CHANNEL MODEL 291



Same as single channel recorder #288 except contains 2 galvanometers in same size housing for reading from separate signal source on same chart paper. Shpg. wt. 5 1/2 lbs.

Stk. No.	Chan. 1	Chan. 2	OHM	NET
62F2178	0-1ma DC	0-1ma DC	100	150.00
62F2179	0-50μa DC	0-50μa DC	5400	175.00
62F2180	0-100μa DC	0-100μa DC	4600	165.00

SERIES 300 DUAL WIDTH RECORDERS

- Inkless, dry writing, rectilinear recording on pressure-sensitive paper.
- Quick easy chart review and rewind, Sliding access window.
- Accuracy ±2% of full scale.
- Case size: 6 3/8 x 6 1/2 x 5 3/8"
- Finished with charcoal gray suede epoxy coating.
- Weight: Approximately 6 lbs.

Series 300 Dual Width Recorders offer a wide range of sensitivities, writing and chart speeds, AC or DC drives, and a full combination of chart styles. Scales and charts can be furnished to custom requirements. All specifications in Series 200 are standard in Series 300. Contact your nearest Newark facility for additional information.

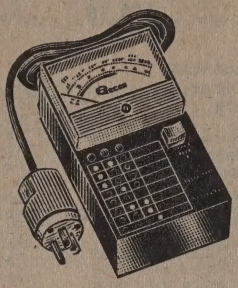
Environmental Test Equipment

IMPORTANCE OF SAFETY TESTING

Current leakage in your equipment or high ground resistance in your electrical system can cause fatal shock. To avoid these dangers and the added hazards of wiring errors find your electrical problems before an accident occurs. Check your AC system and all electrically operated equipment on a regularly scheduled basis.

Ecos testers are especially designed to handle such system checking applications. Use by your inspectors can prevent accident losses and protect your human resources. Designed to check out Electrical Systems to meet OSHA/N.E.C. Standards.

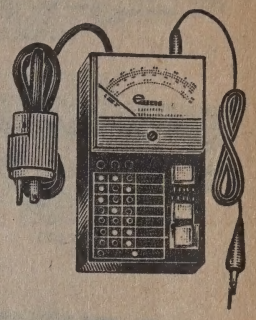
OUTLET ANALYZERS



Model 1019. Designed with National Electric Code and OSHA requirements in mind. Completely analyzes 120VAC electrical system. Three lamps with easy to identify lightcode, pinpoint 7 possible wiring conditions. Meter indicates exact voltage, 0-150 VAC and actual ground resistance (not loop) on 0-6 ohm scale. Immunity to line noise assures accurate readings under dynamic conditions. Normal capacitance in electrical system has no effect on Analyzer. Open ground or neutral can be detected even at great distance from outlet to service entrance. Safety circuit insures that within milliseconds no current pulses (35mA) are injected when high ground resistance or open ground exists.
Model 1019M. Has initial current of 30 amps to burn out "false" grounds, then 35mA. Both analyzers come complete with carrying case. For use on 117VAC, 2 or 3 wire grounded systems. Size: 6⅞" x 3¾" x 1¾". Shipping Weight: 1¼ lbs.
13F3385. Model 1019. **NET**.....159.00
13F3386. Model 1019M. **NET**....168.00
Type 7500. Inspection Records. 204 records per package.
13F3387. Type 7500. **NET/Pkg**....5.00

- **Detects Wiring Errors**
- **Measures Actual Ground Resistance**
- **Measures Exact Line Voltage**
- **Safety Circuit Shut-Off**

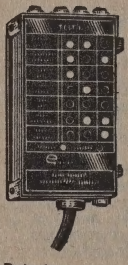
OUTLET/LEAKAGE CURRENT ANALYZERS



Model 1020L. Has all the features of Model 1019 described at left plus the following additions. Measures, in accordance with UL 544, leakage currents in all electrically operated equipment regardless of operating voltage. Analyzer automatically reads leakage current from 0-1000μA within frequency ranges from DC to 1 MHz. Calibrated to RMS but is peak responding at 60 Hz. Other frequencies related to 60 Hz per UL requirements. Compensated meter to insure safe current limit. Current .5 mA regardless of frequency. Overload protected to 100 times full scale deflection. Provides Ground potential measurement by testing voltage (AC + DC) differences between various ground planes. Input Impedance: 1.5 ohms shunted by .15μf capacitance. Leakage Current Accuracy: ±5% of full scale. Complete with carrying case, adaptor plug, and instructions. Size: 6⅞" x. 3¾" x 1¾". Shipping Weight: 1¼ lbs
Model 1020LM. 30 Amp initial current.
13F3391. Model 1020L. **NET**.....219.00
13F3392. Model 1020LM. **NET**...229.00

- **Leakage Test per UL 544**
- **Analyses: Wiring Errors Line Voltage Ground Resistance**
- **Safety Circuit**

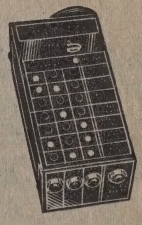
"COMPLETEST" AC OUTLET TESTERS



Model 7103A. Completely checks 120 VAC electrical system. Three lamps with easy code pinpoint 7 possible wiring conditions including neutral ground shorts. Immune to normal capacitance in system. Accurate detection of open ground and neutral even at great distance from outlet to service entrance. 4th lamp indicates if actual ground resistance (not loop, is safe (under 3 ohms). Will also detect under voltage condition. Circuitry isolated from 18 GA aluminum case. Electrical breakdown: 2000VAC. For 2 or 3 wire grounded systems. Not recommended for hospital use. Use Model 1019. Size: 4" x 2⅛" x 1⅝". Shipping Weight: 10 oz.
Model 7104. Same as above except will also detect over voltage condition.
13F3388. Model 7103A. **NET**.....68.00
13F3389. Model 7104. **NET**.....74.00

- **Detects Wiring Faults**
- **Determines Safety of Ground**
- **Determines Safety of Line Voltage**

"AC CHECK" OUTLET TESTER



Model 7100. Completely checks 120 VAC electrical system. Three lamps with easy light code accurately detect any wiring faults except neutral-ground shorts. Pulses of current (11A peak) automatically injected to measure ground resistance. 8 m sec pulse duration at approximately one/second rate. Current level aids 'burn out' of false ground connections. Designed for 117VAC 2 or 3 wire grounded systems. Applications: Electrical inspectors, plant maintenance men, mobile homes, marine, electrical contractors, etc. Not recommended for hospital use. For absolute protection hospital users should use Model 1019 or 1020L. Size: 4" x 2⅛" x 1⅝". Shipping Weight: 8 oz.
13F3393. Model 7100. **NET**.....49.00

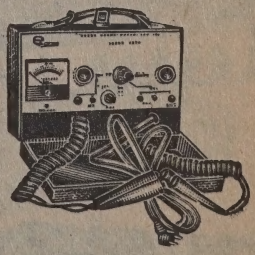
- **Accurately Detects Wiring Faults**
- **Economical Price**
- **Determines Safety of Ground**

POCKET SIZE "OHM TRACER"

- **Low Power .08VDC**
- **0-5000 Ohms Test Range**
- **Self Checking Circuitry**
- **2% Accuracy**

Model 4371. In-circuit testing of solid state circuitry. Low voltage testing .08VDC assures no damage to components or false signals. No meters to watch. Audible signal, with variable volume control emitted when less than calibrated resistance is found. 0-5000 ohms test range. Circuit self adjusts when battery power diminishes. Battery life: 200 hours. Fused probe to protect Tracer against misuse. Ease of operation makes wide variety of continuity tests possible and enables unskilled personnel to use tracer on production line. Size: 3⅞" x 2½" x 1⅛". Shipping Weight: 8.5 oz.
13F3390. Model 4371. **NET**.....56.00

"OHM-MEGA" MEGOHMMETER

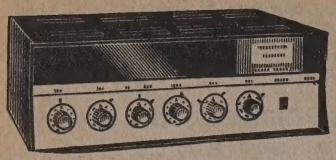


- **Assured 500 VDC at 100K and Upward**
- **Low Voltage (6.2V) Monitoring**
- **Self Checking Solid State Circuitry**
- **Battery or line operated**

Model 2167. Meets Bell Lab requirements. Completely portable. Operates on NiCad batteries. When line operated, batteries recharge. ±500VDC at 100K ohms and upward. 50K ohms to 10 Megohms testing range. Audible devices signal when less than 100K ohms or set value is placed across leads. 4 lamps verify good lead connection, 500V achievement, battery charging. Adjustable calibration from 100K-10 Megohms. Meter reads exact resistance and battery condition. Automatic capacitance discharge. 18 GA steel case. Size: 10⅜" x 7⅜" x 4⅜". Weight: 8 lbs., 5 oz.
13F3394. Model 2167. **NET**.....386.00

BOGEN

P. A. Amplifiers

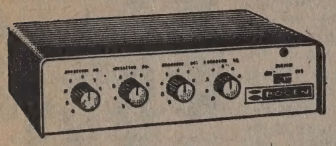


CHS-A SERIES

MODEL CHS20A—20 WATT

Challenger 20 W solid state public address amplifier. Freq Res: 70-12,000 Hz ±2 db. Controls: 1 mic, 1 vol-(fader) for Aux. 1 & 2, master volume, bass, treble, power switch, compression switch. Hum and noise: mic, 60db; aux,—70db. 11 silicon transistors. 8 diodes. 3¾x14⅝x13¾". Shipping weight, 14 lbs.

96F500. NET..... **118.50**



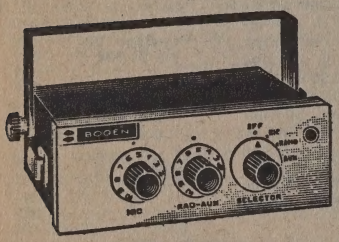
MX6AT

MODEL CHS-35A-35 WATT

- **Auxiliary Inputs**
- **Full Bridging**
- **Solid State**

High degree of flexibility with advanced operating features suitable for an extremely wide range of applications. Built-in electronic compressor. Two microphone inputs. Cannon XLR-311C connectors. Two separate auxiliary inputs with two separate controls. Two output jacks for quick speaker disconnect. Auxiliary inputs can be remotely controlled. All microphones have precedence over both auxiliary inputs. Mikes Hi-Z, convert to Lo-Z with plug-in transformers. Shpg. Wt.: 20 lbs.

96F501. NET..... **131.70**

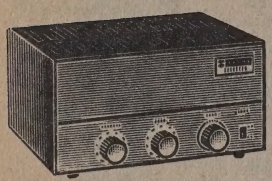


BT35A

MODEL CHS-60A-60 WATT

Conservative transistor design proven in years of field experience. Full bridging - any CHS-A amplifier can be combined with any other CHS-A to increase power and number of inputs. Remote controls: one microphone and all auxiliary inputs can be remote controlled. Built-in electronic compressor. All microphones have precedence over both auxiliary inputs. Shpg. Wt.: 23 lbs.

96F510. NET..... **154.35**



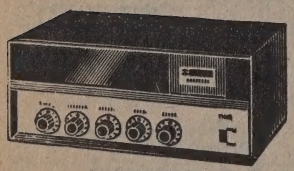
CHB 10A

MODEL CHS-100A - 100 WATT

- **Solid State**
- **100 Watts**
- **Full Bridging**

Fe tures complete accessibility of parts. Su.rable for extremely wide range of applications. Two microphone inputs and Cannon, 3-pin, XLR-311C connectors. Two separate input auxiliaries with two separate controls and connections for acoustic equalizer filers or reverb unit. Separate master volume, bass and treble controls; high input sensitivity and low noise and hum. Designed for continuous operation at full output. No transformer required. Shpg. Wt.: 26 lbs.

96F503. NET..... **187.70**



CHB 20 A

MODEL MX6A-T

Solid-state mixer preamplifier. Features inputs for 4 high or low impedance microphones with individual volume controls. Excellent for electric guitars. The output (6v. @ 2%, 4v @ 1%, and 2v @.05% dist.) is adequate to drive any packaged amplifier through its aux. input, Frequency response, 50-20 Khz ±2db. Hum/noise 68db below 5v. Size 9¼" x 6" x 2⅝". 5 lbs.

96F700.NET **55.50**

CHB 35-50-100

MIKE CONNECTORS

Broadcast Type. (Common XL Series). For the Bogen M, MX, CHS-A Amplifier

39F480. NET **1.65**

Screw Type Connector. For Challenger Line Amplifiers.

39F000. NET ..... **.75**

PLUG-IN TRANSFORMERS

Microphone and line transformers designed for plug-in use.

95F542. Model TM-50.50 ohms (mic) 13.30
95F538. Model TM-200.200 ohms (mic) 13.30
95F539. Model TM-500.500 ohms (mic) 13.80
96F543. Model TM-600. 500/600 ohms(line)13.85

MODEL BT35A—40 WATT

40-watt transistorized amplifier with less than 10% distortion. Ideal for mobile use on 12 volts direct current. Frequency response 150-15,000 Hz. at ±2db. Hum/noise -90db. Gain: mike. 110db. Aux. 90 db. Sensitivity: Mike 1mv, Aux. 0.4v. Output 4, 8, 16 ohms. Input for siren-fog-horn. Controls: Mike, aux. volume, 4-position selector. 8"W x 6"D x 3"H. Shpg. wt. 8 lbs.

96F561. NET. **92.70**

MODEL CHB10A—10 WATT

Economy 10-watt amplifier. Frequency response 40-12,000 hz. ±2db. Sensitivity: mike: 6mv.; phonograph: 0.2 volts. Tubes: 1-12AX7/ECC83, 1-7868, and silicon rectifier. Power consumption: 50 watts, 105-125 VAC 50-60 Hz. Gain: mike; 110 db; phonograph: 90db. Tone control action: treble (10kc) —24db. Output impedance: 4, 8 and 16 ohms. 25 volt line (62 ohm) 70v (500 ohm).1 speaker socket, screw terminals. Controls: mike vol., phono vol., treble, power switch. Size: 5¾" Hx11¼"wx8¼"L. Complete with enclosure. Shpg. wt. 12 lbs.

96F550. NET..... **50.80**

MODEL CHB20A—20 WATT

20-watt power amplifier with less than .5% distortion. Frequency response 40 to 15,000 hz. ±2db. Featuring high impedance microphone input and 2 aux. inputs. Hum/noise: mic —65db, aux.—80db. Gain: Mike, 125db, Aux. 100db. sens.: Mike. 3 mv. Aux. .5v. Output 4,8,16 ohms and 25 & 70 volt line. Tone control: treble +10db-16db; Bass +14db-10db. Controls: Mike, aux., Master volume bass, treble, power on.105-125 V AC, 50-60 hz. Power consumption 90 watts. 15¾" wide, 10" deep. 6¾" high. 6¾ lbs. Wt. 17 lbs.

96F557.NET **81.45**

MODEL CHB35A—35 WATT

35-watt power output @ 5% distortion amplifier. Freq. Resp.: 40-15,000 hz ±2db. Inputs: 2 microphones (high impedance), 1 magnetic phone cartridge, 2 auxiliary (high impedance, high level). Sensitivity: mike—4mv; aux. —0.2 volts; mag. phone cartridge—12mv. Power consumption: 125 watts 105-125 VAC. 50-60 Hz. Tubes: (5) 16EU7, 2-7868, 1-12AX7, 1-6C4 plus 3 silicon rectifier. Controls: mike #1 vol; mike #2 vol., fader for 2 aux. units, master volume, bass, treble, power switch, magnetic phono switch, provisions for remote control of 2 microphones or magnetic phono. Size: 6¾" H x 15¾" W x 10" D. Complete with enclosure. Shipping wt. 21 lbs.

96F554..... **99.90**

MODEL CHB50—50 WATT

Similar to CHB35A, but 50 W. output. Sensitivity: mike—5 mv.; aux—0.3 volts; mag. phono cartridge—15 mv. Gain—mike: 120db; auxiliary: 95db; magnetic phono cartridge: 110db. Power consumption: 150 watts. 105-125 VAC, 50-60 Hz. Tubes: (5) tubes and silicon rectifiers 1-6EU7, 1-12AX7. 2-6L6GC, 1-6C4. Tone control action: treble, (10kc) +10db. to —15db; bass, (50 cps) +(11db) to +10db. Size: 6¾" H x 15¾" W x 10"D. Complete with enclosure. Shipping weight 21 lbs.

96F555. NET **116.85**

MODEL CHB100—100 WATT

Frequency res: ±2 db, 40 to 15,000 Hz. Hum and Noise: Mic, —70db; Aux, —80db. Sensitivity. mic. 5 mV; Aux., .3V. Gain: mic. .124db; aux, 100 db; magnetic phono: 115db. Tone control action: Treble (10kc) +12db. to —15db. Bass (50 Hz) 14 db to —9 db. 7 tubes and silicon rectifier; 1—6 EU7, 1-12AX7, 4-7868, 1-6C4, 6¾x15¾x10". Shpg. wt: 25 lbs.

96F556. NET..... **152.25**

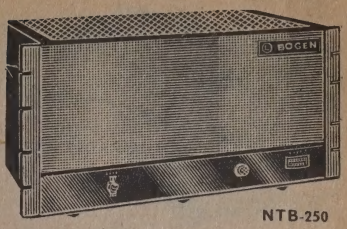
Amplifiers, Preamplifiers

BOGEN

ALL TRANSISTOR BOOSTER AMPLIFIERS

Model NTB-250. 250 watts ideal for sound systems in industrial plants, airports, stadia, etc. Silicon transistor amplifier delivers 350 watts rms at less than 5% distortion. Freq. resp. is ±2 db from 20-30,000 Hz. Sensitivity: produces 250 watts output from a 1.4V input. Output terminal connections on rear panel for 25V, 70V, or 8-ohm connections. A polarized output receptacle on rear provides 120V AC power freq. between 35-5000 Hz. Feedback paralleling receptacles, 2 RCA phono type receptacles and provision for connecting inputs with impedances of 500/600 ohms or 10,000-ohms are on rear. Socket on chassis for plugging in 500/600 ohms line transformer or 10,000-ohms bridging transformer. Output level meter on front panel. AC and DC stabilizing circuits. Automatic protection against short circuits and overloads. Operation shall not be affected by ambient temp. from —4 to 158F. Operates from a 105-125V, 50/60 Hz AC or 20-30 VDC. With 2 side brackets for mtg. in 19"panel. Gray panel black enamel steel chassis. 17⅛"x9¼"x11¾". Shpg. wt. 75 lbs.

96F540. NET **582.15**

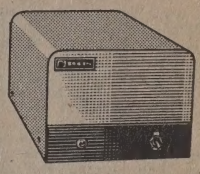


NTB-250

MODEL MT125 BOOSTER AMPLIFIER

Power output (RMS) 350W @ less than 5% total harmonic distortion. Freq. response 30-20,000 Hz, ±2dB. Hum, -80dB. 8 all silicon transistors, 5 diodes. Sensitivity high impedance: 0.8 V; low impedance with TL600 transformer, 0.25 volts. Shipping weight: 28 lbs.

96F837. NET **270.00**

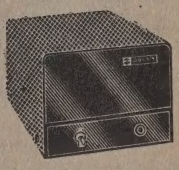


MT 125

MODEL MBT60 BOOSTER AMPLIFIER

Frequency response 12-20,000 Hz ±2dB. Completely solid state. Power output 60W @ less than 3% distortion. 7 all silicon transistors and 7 diodes. Power consumption: 115W 105-125V, 50/60 Hz. Shipping Wt.: 22 lbs.

96F822. NET **134.25**



MO100A

TUBE TYPE BOOSTER

Model MO100A. 100 watt amplifier outputs are balanced 16Ω, and balanced 25v, 70v, and 115v. Freq. Resp.: 8-50,000 cps±2 db. Power consumption: 250 watts. Shpg. wt. 29 lbs.

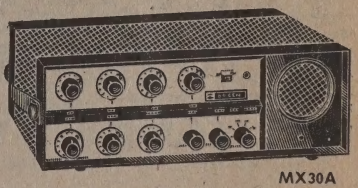
96F823. NET **170.75**

DE LUXE 30 & 60 WATT AMPLIFIERS

Feature master gain control, built-in remote gain-control circuit, five microphone channels (one converts to Mag Phono/Tape), plus auxiliary, exclusive variable level markers. Black and silver with leather carrying handle. Controls: Gain, Mike-phono Switch, Speech Filters On-Off/Treble, Bass Master gain. Response 10-40,000 Hz ±2 db. Distortion less than 2%. Hum: mic—70 db, aux—80 db. Mics. Hi-Z, convert to Lo-Z with plug-in transformer.

MX60A. 60 watt amplifier. Output Impedance: 4, 8, 16 and 83 ohms, balanced 25V line, 70V line, 8 tubes plus 5 silicon rectifiers. 16½" x 12" x 4¾". 35 lbs.
96F595. NET **272.15**

MX30A. Same as MX60A above except 30 watt amplifier. 34 lbs.
96F570. NET **228.20**



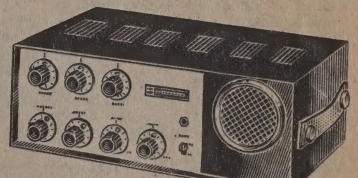
MX30A

M330A PA AMPLIFIER

30 watts at 2% distortion. 3 microphone channels (2 convert to magnetic cartridge); 2 auxiliary inputs; separate master gain, bass, treble controls; built-in remote gain control circuit; sockets for low impedance transformers; 70 v. and 25 v. output taps. Peak power: 50 watts. Power consumption: 120 watts (105-125 VAC. 50-60 cps.). Response: 20-20,000 cps. ±2 db. Output Imp.: 4, 8, 16 ohms; 25 v. balanced (16 ohms), 70 v. (163 ohms) 14⅞" x 9⅞" x 5¾". Wt. 20 lbs.
96F806. NET **153.20**

MODEL M60A AMPLIFIER

60 watt amplifier at less than 3% distortion. Ideal for PA systems. Peak power: 100 watts Response: 20-20,000 cycles; ±2 db. 7 inputs: 3 microphone, 2 auxiliary, with fader control, 2 magnetic phono/tape inputs. Mike/aux. inputs can be individually or simultaneously mixed. Controls: Bass, Treble, Power, Master gain, Auxiliary (fader control), Input controls. 5 tubes, 2 silicon diodes and one bias silicon diode. Power consumption: 160 watts-117 volts. 5¾" x 9⅞" x 14⅞". Wt. 28 lbs.
96F805. NET **195.60**



M330A M60A M120

M120 AMPLIFIER

General purpose PA amp provides 120 watts at 3% distortion, 200 watt peak. Has 7 inputs; 3 for microphones, 2 for phono or tape, and 2 auxiliary inputs for ceramic phono or other high level sources. Freq. Resp.; 20-20,000 cps ±1 db. Gain: mike, 125 db.; aux. 99 db.; magnetic, 118 db. Controls: Power Master gain. Aux., Bass, Treble, Input controls, 16½"x12"x4¾". 42 lbs.
96F800. NET **264.05**

CHALLENGER C SERIES SOLID STATE AMPLIFIERS

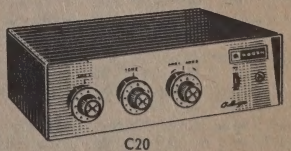
Versatile and economical amplifiers are ideal for most general applications. Permit simultaneous mixing of 3 input signals: two high-impedance microphones and a tuner, tape recorder or phono. Complete range of outputs. Mike inputs are filtered against RF interference. Memory markers aid in returning controls to previous levels. Speaker quick connect sockets, plus screw terminals. Inputs and outputs protected against overload or short circuit. Response: ±2 dB, 80-10,000 Hz.

Model C100 100-watt Amplifier. Inputs: 2 mike, 2 aux. Outputs: Bal. 4, 8 and 16 ohms; 25 and 70-V. line. Controls: 2 indiv. Mike, 1 Fader for aux. 1 and 2, Bass, Treble, Master Volume, Indep. Power Switch. Outputs for 2 speakers. Size, 3¾"h. x 14⅝" w. x 13¾" d. For 105-125 volts, 50-60 Hz. Shpg. wt. 18 lbs.
97F800. NET **153.65**

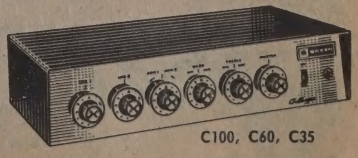
Model C60 60-watt Amplifier. All features of Model C-100, except has 60-watt output power. Size, 3¾" h. x 14⅝" w. x 13¾" d. Shpg. wt. 16 lbs.
97F801. NET **122.60**

Model C35 35-watt Amplifier. All features of Model C-100, except has 35-watt output power. Size, 3¾" h. x 14⅝" w. x 13¾" d. Shpg. wt. 14 lbs.
97F802. NET **102.90**

Model C20 20-watt Amplifier. Similar to above models, but has 1 mike input and 2 aux. inputs. Socket and screw terminals for one speaker. Controls: 1 Mike, 1 Fader for aux 1 and 2, Treble, Indep. Power Switch. Size, 3¾" h. x 11¼" w. x 11" d. Shpg. wt. 11 lbs.
97F803. NET **82.25**

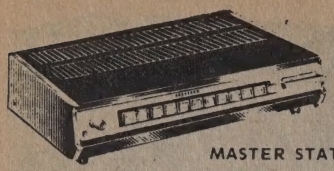


C20

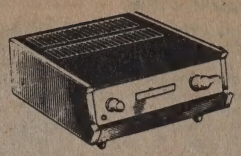


C100, C60, C35

TALK-A-PHONE All Transistor Intercoms



MASTER STATION



K-C-41

K-C-41M

K-C-42

K C-42M

"CHIEF" MASTER STATIONS

Can be used in any combination—with all Masters—one Master and Staff Stations—or a number of Masters combined with Staff Stations. 6, 12, and 20 Station Masters, together with Staff Stations can be intermixed in same system. Masters can talk with any other Master, as well as with Staffs. Staff Stations can answer all Masters and can originate calls to one or two "private" Masters, depending upon Staff's capacity. Staff Stations are not connected to electrical outlet.

Exclusive Features: (1) Dynasonic Design enables stations to perform "privately" (so no one can listen in) or "non privately" (for reply without use of controls). The same station can be "private" to one or more Masters and "non private" to others. (2) Monitoring signal visually indicates to a "non private" station that it is being monitored. (3) Busy signal visibly indicates when station you call is "busy". All units have facility to override "busy signal" for important calls. (4) Multi-magic station selector enables selection of up to 30 stations with only 12 push buttons. (5) Uni-trans dictation control. (6) External relay control enables Master to activate external relays for operating siren, gong, light, etc. (7) Reciprocal Power supply—Each Master operating on 120 volts AC only and should be plugged in. Where no electrical outlet is available up to 30% of the "Chief" Masters in the system can operate without being plugged in. (8) Noise-free voice range power. The exclusive patented circuit enables performance without noise, hum or distortion, when used with talk-a-phone cable. (9) Hi power staff stations and horns. K-HP-3 provides more than twice the volume of universal Staff. K-C-20 provides about 4 times greater volume... more with Redi Power Master. (10) Wall switch combines with Talk-a-phone Horn or Hi Power staff to add origination of call feature. (11) Incoming call chime. All "Chief" and "Chief Redi-Power" Master Stations come complete with junction box and built in power supply attached by 6' flexible cable. Master size: 14½" width, 3⅛" height, 8¾" depth. For 120 volts AC only.U. L. listed.

Model K-C-4906. Master for 6 Stations. Shpg. wt., 15 lbs.
95F425. **NET PER STATION** **118.00**

Model K-C-4912. Master for 12 Stations. Shpg. wt., 15 lbs.
95F426. **NET PER STATION** **132.00**

Model K-C-4920. Master for 20 Stations. Shpg. wt., 16 lbs.
95F427. **NET PER STATION** **158.00**

"CHIEF" REDI-POWER MASTER STATIONS

"Chief" Redi-Power Master Stations have built-in extra power. This added power (up to 30 watts), gives you the additional volume required when calling a number of stations at one time or calling noisy locations. Satisfies need for power boost without eliminating return speech. Volume is self-compensating whether, 2, 10 or 20 stations are called simultaneously. Each station receives its pre-determined volume with no division of output when more stations are called at one time. One or more Redi-Power Masters can be combined with regular Chief Masters and staff stations in same system. Other features include: (1) Incoming call chime. (2) Monitoring signal. (3) Dynasonic selector that permits intermixing of Master and Staff Stations and variation of performance. (4) Volume Control. (5) Noise-free voice range power. (6) Multi-magic station selector which enables selection of up to 30 stations with only 12 push buttons. (7) Uni-trans dictation control. (8) Operation on 120 V. AC. (9) External relay control for use in extremely high noise level areas. (10) In modern, custom-designed cabinets. Charcoal gray and brushed chrome. Size 14½x8¾x3⅛".

Model K-CRP-5912. Master for 12 Stations. Wt., 20 lbs.
95F432. **NET PER STATION.** **201.00**

CHIEF STAFF STATIONS ACCESSORIES

For use with any "Chief" or Redi-Power Master. Staff Stations may be connected "privately" or "non-privately". Connected "non-privately", Master can be answered at a distance from the Staff without operation of any controls. "Non-private" Staff may reply to all Masters in the system (whether connected directly to them or not) and can originate calls to one or two "Private" Masters, depending upon its capacity. Connected "privately" no one can "listen-in", but any Master can call. Private Staff can originate calls and reply to 1 or 2 "Private" Masters depending on its capacity. Staff Stations do not need electrical outlets.

Model K-C-41. Staff Originates calls to 1 Master. Gray leatherette and brushed chrome. Size 7½x8¾x2⅞". 5 lbs.
95F428. **NET PER STATION** **31.50**

Model K-C-41-M. Same as K-C-41 but with painted finish. 5 lbs.
95F429. **NET PER STATION** **26.00**

K-C-41R. Same as K-C-41, but for flush wall mounting. Stainless steel front panel. 4 lbs.
95F433. **NET PER STATION** **26.00**

Model K-C-42. Staff originates call to 2 Masters. Gray leatherette and brushed chrome. Wt. 5 lbs. Size 7½x8¾x2⅞". 5 ibs.
95F430. **NET PER STATION** **39.00**

Model K-C-42-M. Same as K-C-42 but with painted finish. 5 lbs.
95F431. **NET PER STATION** **33.50**

Model K-C-42R. Same as K-C-42 but for flush wall mtg.
95F445. **NET PER STATION** **33.50**

Model K-HP-3. Hi-Power Staff Station for wall mounting. Charcoal gray metal case. Size: 12x8x12". 5 watt capacity. Shpg. wt. 10 lbs.
95F415. **NET PER STATION** **24.00**

Model K-HP-3V. As above, but with built-in volume control, adjustable to full output.
95F444. **NET PER STATION** **29.20**

Model K-C-20. Nine-inch Weatherproof Re-Entrant Horn. 15 watt capacity. W mounting bracket. Charcoal grey. Shpg. wt. 6 lbs.
95F416. **NET PER STATION** **33.00**

Model K-C-20V. As above, but with built-in weather resistant volume control, adjustable to full output.
95F446. **NET PER STATION** **43.00**

Model K-S-101. Wall Switch for originating calls to one Master through K-C-20, or K-HP-3 in Chief Systems. Gray. Wt., 1 lb.
95F434. **NET** **10.80**

K-S-102. Same as K-S-101, but for call origination to 2 Masters.
95F 435. **NET** **17.50**

K-S-111. Wall Mounted Cradle Phone. For use with K-HP-3(V) or K C 20(V).
95F477. **NET** **48.50**

Model K-W-1. Wall mounting brackets for K-C-41, K-C-41M. K C-42, and K C-42M.
95F436. **NET per pair** ..... **.60**

CABLE FOR CHIEF SERIES

36F447. Type 6206. 3-pair cable for connecting K-C-20, K-C-41, K-C-42, and K-HP-3 with call origination. **NET per foot** ..... **.11**

36F437. Type 6214. 7-pair cable to interconnecting K-C4906 Masters. **NET per foot** ..... **.23**

36F439. Type 6226. 13-pair cable for interconnecting K-C-4912. K-C-4920 and K-CRP-5912 Masters. **NET per foot** ..... **.44**

36F446. Type 6902. Cable 2 cond. for connecting K-C-20, and K-HP-3 without origination of call. **NET per foot** ..... **.028**

HOW TO DETERMINE CABLE REQUIREMENTS

K-S-111

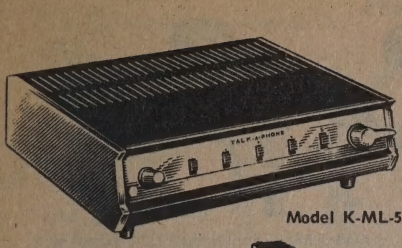
To inter-connect Master Stations, measure from first Master to second Master only, from 2nd to 3rd Master only, etc., until last unit in system is reached and total. For K-C-4920 use two lengths of 6226 Cable. To connect K-C-41, K-C-20, or K-HP-3 Staff Stations, measure from Staff Section to Master to which Staff Station originates calls. To connect K-C-42 Staff Stations measure separate length of cable from Staff Station to each Master Station to which staff originates calls.

K-C-41R

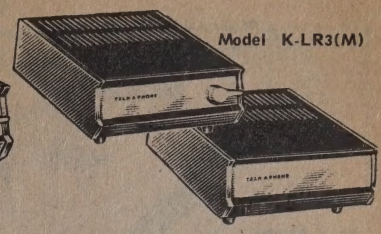
K-C-42R

Intercoms TALK-A-PHONE

DELUXE INTERCOM SYSTEMS

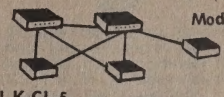

Model K-ML-5

Model K-LC-2


Model K-LR3(M)

Model K-LS-5

Model K-ML-5


Model K-CL-5

Model K-LR-2(M)

SUPER SELECTIVE ALL MASTER SYSTEMS

Intercom system consisting entirely of Masters. Permits several separate conversations to be carried on without interfering with each other. System provides privacy. Stations may be located up to 1000 feet apart. Operates on 110-120 volts, AC-DC. Complete with instructions. Transistorized. Charcoal gray and brushed chrome. Cabinet size, 10½"x8¾"x3⅛". Shpg. wt. 7 lbs.

95F406. Model K-LS-5. For 5 stations **NET** **52.50**

95F407. Model K-LS-10. For 10 stations. **NET** 65.00

HI-VOLUME MASTERS

Operate the same as the above masters with the added feature of 10 times volume output. For 120 volts, AC only. Masters K-AC 510 and K-AC-505 may not be intermixed with any other Master

95F437. Model K-AC-505. Hi-Volume, 5 station. **NET** **65.00**

95F438. Model K-AC-510. Hi-Volume, 10 stations. **NET** 77.50

36F441. 5506 (6-conductor) cable. For interconnecting K-LS-5 or K-AC-505. **NET** per foot ..... .11

36F442. 9911(11-conductor) cable. For interconnecting K-LS-10 or K-AC-510. **NET** per foot ..... .21

WIRELESS 6 AND 12-STATION SELECTIVE SYSTEM

Incorporates the exclusive "Sonic Gate" together with the "Squelch" circuit to effectively suppress line noises and hum. Simple to install. Requires no wiring, no cable. Use where any 110V AC or DC electrical outlets are available. Each Master Station equipped with a Six or 12-channel Selector. Any Master can transmit on any of its channels, and receive calls on the channel it elects to use. Each Master with tubes and instructions. Size 14½x8¾x3⅛". Wt. 10 lbs.

95F418. T-LCM-8906. 6 Channel Master **118.00**

95F441. T-LCM-8912. 12 Channel Master 132.00

Where some Wireless locations need not originate calls, but must reply when called. Staff Stations are available. Size 10½x8¾x3⅛". Shipping weight 12 lbs.

95F419. T-LCS-901. For Channel 1 only. **NET** **68.00**

Note: Staff stations for channels 2 to 6 available on special order.

2-STATION WIRELESS SYSTEM

A quality intercom system for Office, Factory, and Farm. No installation. Plug into 110V AC or DC electrical outlet. Uni-Trans gives you dictation and supervisory control. Provides continuous transmission when set for Uni-Trans. Cabinets are charcoal gray and brushed chrome. 10½x8¾x3⅛". Two Master stations. With tubes and instructions. 16 lbs.

95F413. Model T-LC-33. Two station system. **NET** **118.00**

95F414. Model T-LC-17. Additional single station. 8 lbs. **NET** 59.00

2-STATION INTERCOMMUNICATION SYSTEM

Provides voice communication between any two points. "Elsie" is a packaged item, complete with a Master Station, a Sub-Station and 50 ft. cable. For 110-120 volts, AC-DC. Master size: 10½x8¾x3⅛". Sub size: 7½x8¾x2⅞". Shpg. wt., 12 lbs. **Model K-LC-2.** 2-Station system completely transistorized.

95F412. NET **54.00**

36F440. Type 5303. Extra 3-cond. cable. **NET per ft.** ..... .04

36F449. 6303. 3-cond. shielded cable. **NET per ft.** ..... .065

COMBINATION SYSTEMS

For the more flexible type of system requiring the operation of more than one Master, along with Sub-Stations which need not originate calls. Masters may talk to each other and to each Sub in the system selectively; or, one or more Subs can be exclusive to only one Master. Masters can switch themselves "private" so that other Masters cannot listen in to them, or "non-private" at will. Masters in charcoal gray and brushed chrome cabinets. 10½"x8¾"x3⅛". Sub-Stations; 7½"x8¾"x2⅞". With instructions. Transistorized. Masters operate on 110-120 volts AC-DC. Electric curr. not needed for Sub-Stations. Shpg. wt. 7 lbs. For 120 volts, AC only. Masters K-AC-610 and K-AC-605 may not be intermixed with any other Master.

95F408. K-CL-5. Master for 5 stations. **NET** **63.00**

95F409. K-CL-10. Master for 10 stations. **NET** 76.00

95F410. K-LR-2. Sub-Station (in same deluxe finish as Masters) for use with either of above Masters. Shpg. wt. 4½ lbs. **NET** 23.00

95F411. K-LR-2M. Sub-Station (as above, but in grained, baked enamel finish) for use with either Master. Wt. 4½ lbs. **NET** 18.50

95F442. K-LR-2R. Sub-station for flush, wall mounting 18.50

95F443. K-SM. Surface mtg. accessory for K-LR-2R. 4.65

95F439. Model K-AC-605. Hi-Volume, 5 stations **NET** **76.00**

95F440. Model K-AC-610. Hi-Volume, 10 stations. **NET** 88.00

36F438. 6210. 5 pair cable for interconnecting K-CL-5 or K-AC-605. **NET per foot** ..... .20

36F439. 6226. 13 pair cable for interconnecting K-CL-10 or K-AC-610. **NET per foot** ..... .44

36F446. 6902. 2 conductor cable. **NET per foot** ..... .028

36F448 6202. (1 pr.) cable. Overall jacket. **NET per ft.** ..... .048

MASTER SELECTIVE INTERCOMMUNICATION SYSTEMS

A system consisting of one Master Station and one to ten Sub-Stations. Only the Master Station plugs into an electrical outlet. System has optional feature whereby Sub-Stations can be connected "privately," or "non-privately" and still originate calls to the Master under either application. Cabinets are charcoal gray and brushed chrome, 10½"x8¾"x3⅛". Subs measure 7½"x8¾"x2⅞". With instructions, Transistorized. For 110-120 volts, AC-DC. HIGH VOLUME OUTPUT MASTERS K-AC-5406 and K-AC-5411 operate as above with the added feature of up to 10 times volume, for large areas or noisy locations. Operate on 120 volts, AC only. Note: Only one master station can be used in each Master Selective System. Weight: Masters—7 lbs. Sub-Stations—4½ lbs.

95F400. K-ML-5 Master. For up to 5 Subs. **NET** **52.50**

95F401. K-ML-10 Master. For up to 10 Subs. **NET** 65.00

95F404. K-AC-5406. High Vol. Master. 5 Sub. capacity. 65.00

95F405. K-AC-5411. Hi Vol. Master. 10 Sub. capacity. **NET** 77.50

95F402. K-LR-3. Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. **NET** 23.00

95F403 K-LR-3M. Sub-Station (as above, but in grained, baked enamel finish) for use above Masters. **NET** 18.50

95F448. K-LR-3R. Sub-Station for flush wall mounting. **NET** **18.50**

95F685. K-SM-L. Surface mfg. accessory for K-LR-3R. **NET** 5.25

36F440. 5303. Three-cond. indoor cable. **NET per Ft.** ..... .04

36F449. 6303. Three cond. shielded cable. **NET per Ft.** ..... .065

ADDITIONAL ACCESSORIES FOR COMBINATION & MASTER SELECTIVE SYSTEMS

KC-20V

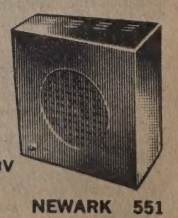
95F415. K-HP-3. Hi-Power Staff Station for wall mounting. Charcoal gray metal case. Wt., 9 lbs. **NET** 24.00

95F444. K-HP-3V. Same as above, but with built-in volume control, adjustable to full output. Wt., 9 lbs. **NET** 29.20

95F416. K-C-20. Nine inch weatherboard Re-entrant Horn. Charcoal gray color. Wt., 5 lbs. **NET** 33.00

95F446. KC-20V. Same as above, but with built-in weather resistant volume control, adjustable to full output. Wt., 5 lbs. **NET** 43.00

95F417. K-S-100. Wall switch for origination of call through K-C-20 or K-HP-3 with Master Selective Systems. **NET** 5.25


K-HP-3V

Electro-Voice

Professional Microphones

SUPER CARDIOID MICROPHONES

DL 42 DYNAMIC UNIDIRECTIONAL MICROPHONE

NEW!

Wider Range

Shock Mount

Model DL42. Highly directional utilizing characteristics of hypercardioid and distributed front opening designs. Uniform up to 500 Hz. Freq. response; 50 to 12,000 Hz. Impedance; 150 ohms. Output level; -50dB. EIA sensitivity; -144dB. Hum pickup level; -125 dBm. Magnetic circuit; Alnico V magnet in nonwelded circuit. Aluminum and steel case. Non-reflecting fawn beige Micomatte. Size; 16¾" long x 3¾". Shipped assembled in its own shock mount. With screw handle. Net wt. 13 oz.

61FX615 ..... **300.00**

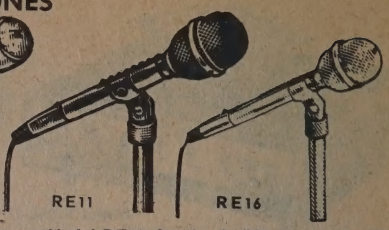
RE10 RE15

Model RE10. Response; 80 to 13,000 Hz. Impedance; LO-Z. Output; -56 dB. For applications with less rigid performance tolerances than the RE15. 2-cond. broadcast cable & Swcr. A3F con. furnished. 6⅝" long. Wt. 6 oz.

61FX601 ..... **99.60**

Model RE15. For exacting applications on boom, stand, or hand held. Maximum off-axis rejection at 150° from front. Response; 80 to 15,000 Hz. Impedance; LoZ. output; 56 dB. Cable and mounting clip included. 6⅝" long. Wt. 6 oz.

61FX596 ..... **169.80**



RE11 RE16

Model RE11. Similar to RE-10 except with integral blast and pop filter around head. Metal screen on filter. 7⅜" long. Wt. 6 oz.

61FX602 ..... **106.50**

Model RE16. Similar to RE-15 except incorporates integral blast and pop filter around head. For close up vocal use, virtually eliminates pickup of breath noises. Protective metal screen prevents damage in use. Response; 80 to 15,000 Hz. Impedance; Lo Z. Output; -56dB. Shielded broadcast cable w/con. furnished. 7⅜" long. Wt. 6 oz.

61FX598 ..... **176.70**

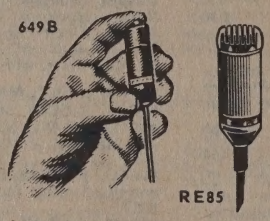
DS 35

NEW!

SINGLE-D CARDIOID DYNAMIC RECORDING MIKE

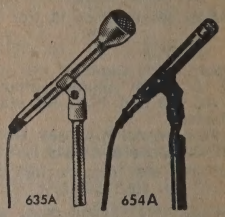
"Volumetric" hologram-developed foam diaphragm provides exceptionally wide linear response. Ported air-damped head greatly reduces pickup of shock and cable noise. Built in pop filter. Steel case of non-reflecting fawn beige Micomatte. Cable and mounting clamp included. Response; 60 to 17,000 Hz. Lo-Z. Output; -60 dB.

61FX616 ..... **81.00**



649B RE85

POPULAR LAVALIER AND BROADCAST MICROPHONES



635A 654A

Model 649B. Small lavalier only 2¼" x ¾". Weighs only 31 grams without cable. Response tailored to compensate for lavalier acoustic conditions so signal matches signal from other mikes. Resp; 70 to 10,000 Hz. Imp; 150 ohms. Output; -61dB. Shpg. wt. 1 lb.

61FX553 ..... **73.50**

Model RE 85. For live performances. Flat response in chest position; 90 to 10,000 Hz. Output; -61dB. Lo-Z. Omnidirectional. 2⅝" long. Dia; 5⁹⁄₆₄". Neck cord, tie clasp. belt clip and pouch furnished. Wt. 8 oz.

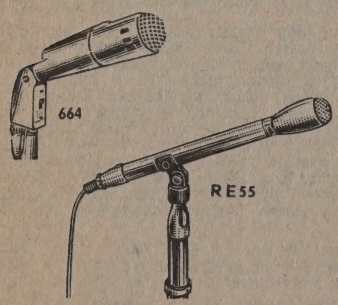
61FX613 ..... **85.50**

Model 635A. Omnidirectional microphone for hand and stand. Built-in four stage pop and breath blast filter eliminates need for wind screen. Response; 80 to 13,000Hz. Lo-Z. Output; -55dB. Cable and mounting clip furnished. Fawn beige Micomatte finish. Size; 5¹⁵⁄₁₆"x1¹³⁄₃₂". Wt. 6 oz.

61FX504 ..... **56.70**

Model 654A. Slim-trim dynamic omnidirectional mike. Stand mounted, hand or lavalier use. Matches all low impedance inputs. Frequency response; 50 to 15,000 Hz. Output; -57 dB. Cable and mounting clamp furnished. Size; 6¹⁵⁄₁₆" x 1⅛". Gray finish. Wt. 7 oz.

61FX522 ..... **72.00**



664 RE55

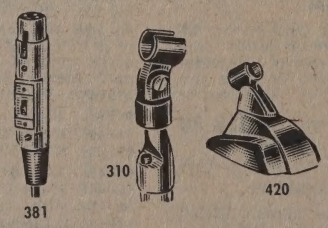
Model 664 Designed for tape recording, communications, and public address applications. Cardioid at all frequencies. Blast filter and acoustalloy diaphragm shielded from wind and magnetic particles. Response; 60 to 15,000 Hz. Output; -58dB. Cable furnished. High Z. Size; 7¼". Wt. 1 lb. 10 oz.

61FX546 ..... **57.00**

Model RE55. Designed for recording symphony orchestra, close instrument miking, interview use, and on-the-spot news coverage. No interference from temperature and humidity. Frequency response; 40 to 20,000 Hz. Lo-Z; 150 ohms. Output; -55dB. 10½" long, 2-cond. shielded, rubber jacketed broadcast cable w/Swcr. A3F furnished. Wt. 8½ oz.

61FX595 ..... **149.40**

EV MICROPHONE STANDS AND ACCESSORIES



381 310 420

Model 310. Detachable microphone clamp. Fits ⅜" mikes providing positive mounting to ⅝"-26 stand. Wt. 2 oz.

83F019. NET **4.50**

Model 335A. Acoustiform windscreen for models 630, 634, 635, 641. Wt. ½ oz.

83F009. NET **9.00**

Model 337. Windscreen for model 627

83F020. NET **5.25**

Model 355. Windscreen. Also protects against mechanical shock and pickup of dust and magnetic particles. For use with models 655C, 654A, 636, 628. Gray. Net weight. ½ oz.

83F008. NET **8.10**

Model 380. Attenuator for use in mic line. Attenuates signal 10 dB without affecting response. Mates with E-V mike connectors.

86F663 NET **16.80**

Model 381. Switch-connector and cable. SPST switch built-in. Mates with all E-V Professional hand-held mics and 670, 670V 1711, 1751. 18' cable.

86F664 NET **16.50**

Model 382. 15' mike cable with switch-connector at mic end. Low to Hi impedance transformer. Built-in phone plug at termination end.

86F665 NET **24.00**

Model 411. Acoustiform stage mike mount. Fits RE10, RE15. For use in floor wave sound pickups on stages, etc. Charcoal gray. 2" x 4" x 8⅛"

86F666 NET **9.90**

Model 420. Cast iron desk stand in TV gray. For 1" dia. mics. Models 666, 655C, 654A, 652, 652A and 676.

83F010. NET **15.00**

Model 422. Interchangable rubber shock mounts to accept ¾ or 1" stand clamps. Will accommodate heavy microphones.

86F667 NET **12.60**

Model 502C. Matching transformer Lo to Hi-Z. incline.

61FX617. NET **13.20**

Model 502CP. Matching transformer Lo to Hi-Z incline with plug.

61FX618. NET **14.40**

Model 513A. 100Hz cutoff filter.

61FX619. NET **45.00**

Communications Microphones

Electro-Voice

ENTERTAINERS MICROPHONES

MODEL 627B SINGLE-D

Emphasizes low frequencies when used close up. Built in pop and dust filter. Response: 60 to 13,000 Hz. Output: -58 dB. Size: 6 7/16" x 1 5/8" dia. With cable and clamp. Wt. 1½ lbs.

61FX516 High Z NET 41.40

61FX517 Low Z NET 41.40

MODEL 631A OMNIDIRECTIONAL

4 stage filter allows close-up use without distortion. 80-13,000 Hz. 6"x 1 3/8" dia. -55dB. Wt. 6 oz.

61FX593 Hi-Z NET 41.40

61FX594 Lo-Z NET 41.40

MODEL 644 DIRECTIONAL P.A.

High rejection of noise. Response: 40 to 12,000. Output: -53dB. Dual Lo-Z and Hi-Z. Wt. 2 lbs., 9 oz.

61FX567 NET 87.60

MODEL 671 SINGLE-D CARDIOID

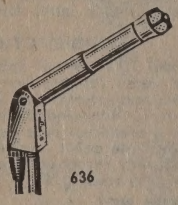
Emphasizes low frequencies when used "close up." Diaphragm provides wide, linear response at all angles. Response: 60 to 14,000 Hz. Output: -61 dB. Hi-Z and Lo-Z on one mike switchable at rear of connector insert. Wt. 8 oz.

61FX620 NET 54.75

MODEL 636 OMNIDIRECTIONAL

Slim dynamic for PA recording and general use. Response: 60 to 13,000 Hz. Output: -58 dB. Pop-proof head. Wide range pickup. On/Off switch. Satin chrome finish. Dual Lo-Z and Hi-Z. E-V QC-4M cable connector allows easy change of impedance by moving a single pin. Cable furnished. Net Weight: 2 lbs.

61FX501. NET 55.80

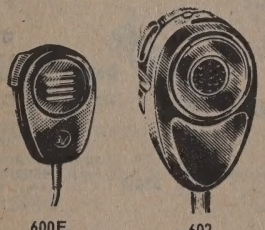


MODELS 600E/602F HAND HELD MICROPHONES

Model 600E. Dynamic mobile designed for high articulation speech transmission under normal ambient noise conditions. Available in Hi-Z or Lo-Z. Hi-Z has circuit for VOX. Lo-Z has multiple paging. Response: 100 to 7,000 Hz. Output: -55 dB. Supplied with bracket and 1 ft. coiled cord extendible to 6 ft. Weight: 10 oz.

61FX562. Hi-Z NET 32.40

61FX630. Lo-Z. NET 32.40



MODEL 602F NOISE CANCELLING DYNAMIC

Rejects sounds originating more than ¼" away. Cycolac case. Response: 200 to 5,000 Hz. Output: -55 dB. Size: 2½" x 4" H x 1¾" D. Wt. 10 oz.

61FX537 Hi-Z NET 46.50

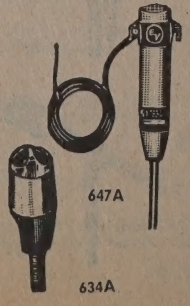
61FX538 Lo-Z NET 46.50

MODEL 647A

Lavalier delivers big microphone performance. Frequency response: 60 to 12,000 Hz. Output: -60 dB. Accoustalloy diaphragm. Rugged construction assures long life. Nonreflecting gray finish. Wt. 2 oz.

61FX535 Hi-Z. NET 61.80

61FX536 LO-Z. 150 ohms. NET 61.80



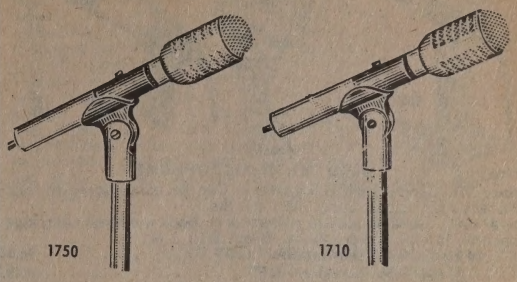
MODEL 634A DYNAMIC PAGING

Fits any stand, boom or gosseneck. Less stud and on/off switch.

61FX586 Hi-Z NET 22.80

61FX587 Lo-Z NET 22.80

ELECTRET CONDENSER MICROPHONES



MODEL 1750 CARDIOID

Pickup pattern reduces sensitivity from sides and rear. Single-D type emphasizes bass used close up. Beige aluminum case. Built-in breath filter. Internal impedance matching circuit with AA size battery (not furnished). Response: 30 to 15,000 Hz. Lo-Z Output: -43 dB. Integral cable.

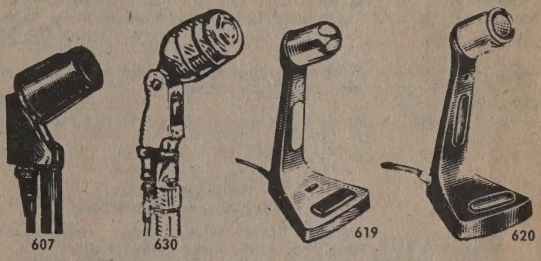
61FX625 NET 45.00

MODEL 1710 OMNIDIRECTIONAL

FET circuit for impedance conversion uses AA size battery (not included). Response: 30 to 15,000 Hz. Imp: Lo-Z. Output: -50 dB. Integral cable.

61FX628 NET 39.75

DESK AND STAND MICROPHONES



MODEL 607 NOISE CANCELLING DYNAMIC

For use in areas with exceptionally high backround noise. Response: 300 to 3,800 Hz. Output: -54 dB at ¼". Stud mount with built-in connector. With cable. Size: 4⅛" x 1¾" x 3¼". Wt. 12 oz.

61FX603. High Z NET 42.00

61FX609. Low Z NET 42.00

MODEL 630 HIGH FIDELITY DYNAMIC

Response: 60 to 11,000 Hz. Output: -55 dB. Hi-Z or Lo-Z by changing one wire in connector. Wt. 1 lb.

61FX507 NET 36.60

MODEL 619 PRESS TO TALK DYNAMIC

For base station paging and two-way. Switch in base movable to upper stand for grip-to-talk. Has locking "on" position. Response: 70 to 10,000Hz. -57dB. 2lbs. 2 oz.

61FX512 Hi-Z NET 38.10

61FX513 Lo-Z NET 38.10

MODEL 620 NOISE CANCELLING BASE STATION

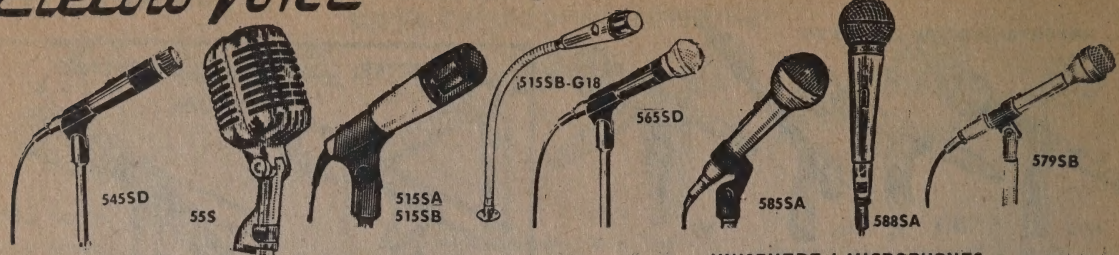
Switch shorts microphone in "off" position and provides for relay operation. Size: 9¾"H x 4½"W x 4¾"D. With integral cable. Wt. 2 lbs.

61FX606 NET 50.55

61FX610 NET 50.55

NEWARK Your Dependable Source For all Your Electronic Needs

Electro-Voice Microphones and Accessories



UNIDYNE III MICROPHONE

Model 544. Cardioid pickup pattern. Can be used closer to loudspeakers than usual. Shpg. Wt.: 0.8 lbs.
Model 545L. Cardioid pickup pattern and shock mounted cartridge. Wearable lavalier microphone. Shpg. Wt.: 7 oz.
61FX210 **Model 544 (Fixed adapter) NET** 56.85
61FX211 **Model 545L (Lavalier) NET** 50.25

UNIDYNE III MICROPHONES

Unidirectional, dynamic type. Response: 50 to 15,000 Hz. Output: low imped. -57 db; high imped. -55 db. 15-ft. 3-conductor shielded cable. Features "on-off" switch in case. 5 13/16" L x 1 1/4" D.
61FX194. **Model 545SD. (swivel adapter) NET** **64.20**
61FX168. **Model 545S. (swivel mount) NET** 64.20
61FX139. **Model 545. (less switch) NET** 60.00

UNIDYNE II MICROPHONES

Models 55S & 55SW. Unidirectional eliminate feed-back problems. Select low, med., or high imp. Mounted on life-time swivel. Response: 50-15,000 hz. Output: L —55.5 db; M —56.5 db; H —55.5 db. Wt., 3½ lbs.
61FX141. **Model 55S (Less switch) NET** **59.85**
61FX169. **Model 55SW (on-off-switch) NET** 61.20

UNIDYNE B MICROPHONES

Model 515SA. Includes "On-Off" switch and swivel adapter for stand or hand-held use. Ideal for low-budget sound systems. Frequency response: 80-13,000 Hz. Impedance: High —58 db. Housed in a chrome and black case. 1 1/4". diameter —6 7/16" long, complete with 15-foot one conductor non-detachable cable.
61FX112. **NET** **28.20**

Model 515SB. Same as above except low impedance, 59 db. and 15-foot two-conductor non-detachable cable.
61FX113. **NET** **28.20**
Model 515SB-G18. Same as 515SB except 18" gooseneck mounting; 51" cable.
61FX195. **NET** 33.30

UNISPHERE I MICROPHONES

Unidirectional dynamic microphones. Wire mesh spherical front, wind and pop filter. Solves feedback problems. Dual impedance. Response: 50 to 15,000 Hz. Output: low -57 db, high -54.5 db. 15-ft cable. Magnetic reed "on-off" switch. Wt. 2½ lbs.
61FX196 **Model 565SD. (Swivel adapter) NET** **70.80**
61FX162. **Model 565. (as above/no switch) NET** 67.80

UNISPHERE "A" MICROPHONES

Models 585SA & 585SB. Wire-mesh screen, wind/pop filter. Unidirectional pattern reduces feedback. 50-13,000 hz. Impedance and output: 585SA: High, —56.5 db. 585SB; Low, —56.5 db. 15 ft. cable. Wt. 2¼ lbs.
61FX165. **Model 585SA. Hi-Z NET** **47.25**
61FX166. **Model 585SB. Lo-Z NET** 47.25
Model 585SZV Unisphere A. Same as 585SA but with built-in volume control.
61FX167. **Model 585SAV NET** **52.05**

UNISPHERE "B" MICROPHONES

Model 588SA Unisphere B. Lockable On-Off switch. Cannon connector with 15-foot one conductor detachable cable. Swivel stand adapter. 50 to 13,000 Hz. frequency response. High impedance. Output —58 db. Satin Chrome housing. 6½x2" diameter. Shpg. wt. 1½ lbs.
61FX181. **588SA. High Impedance. NET** **40.80**
61FX182. **588SB. Low impedance. Output —59 db. with 15-foot two-conductor cable. NET** 40.80

OMNIDIRECTIONAL DYNAMIC MICROPHONES

Model 579SB Vocal Sphere. Provides very natural and intelligible voice reproduction and is an ideal choice for public-address and entertaining. Excellent for close-up applications because of the built-in wind and breath noise filters. Lockable On-Off switch and a broadcast-type Cannon connector with 20-foot two-conductor detachable cable. Includes swivel stand adapter. 50 to 15,000 Hz. frequency response. Low impedance. Output—59 db. Satin chrome and gray housing. 6⅜" x 1 1/16" diameter. Shipping weight: 2 lbs.
61F184. **NET** **47.25**

SM33

UNDIRECTIONAL RIBBON MICROPHONE

Model SM33 Wide range response. Supercardioid directional pattern to eliminate background noise. 115° swivel shock mount fits ⅝" - 27 stand thread. Freq. resp. 40-15,000 Hz. Impedance: Dual (50 and 150 ohms). Output Level: —58.5 db. Size: 1 3/8" x 2 1/16" x 7 13/16". Non-reflective grey finish. Includes 20 ft. two conductor cable with Cannon XIB-3-11C connector. Shpg. wt. 3¼ lbs.
61FX187. **NET** 156.60

SM58

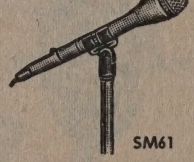
UNDIRECTIONAL DYNAMIC MICROPHONES

Model SM58. Built-in wind and "pop" filters. For stand or hand held use. Slip in swivel adaptor for stand thread ⅝"-27. Size 2" diameter x 6 7/16" long.
Shock mounted cartridge. Freq. resp: 50 to 15,000 Hz. Polar Pattern: Undirectional. Impedance: Dual (50 150). Outpot Level: —56 db. Grey finish. Includes 20 ft. two conductor, shielded cable and Cannon XLR-3-11C connector. Shpg. wt. 2¾ lbs.
61FX180. **NET** 100.20

SM51

DYNAMIC LAVALIER MICROPHONE

Model SM51. Curved, contoured edged and recessed grille for minimum clothing noise. Has adjustable clip and belt clip for table. Freq. resp: 70 to 12,000 Hz. (optimized for lavalier use). Polar Pattern: Omnidirectional. Imp.: 150 ohms. Output level: —60.5 db. Size 1 3/16" x 2 15/32". Non-reflective gray finish. Includes 30 ft. 2-conductor flexible shielded cable. Shpg. wt. 1½ lbs.
61FX190. **NET** 75.00


SM61

OMNIDIRECTIONAL DYNAMIC MICROPHONE

Model SM61. Designed to be virtually insensitive to wind, pop and handling noises. Frequency response: 50 to 14,000 Hz. Microphone rating impedance 150 ohms for connecting into microphone inputs rates at 25 to 250 ohms. Voltage sensitivity 1,000 Hz. response. Finished in matte metallic. Shpg. Wt.: 2 lbs.
61FX212 **NET** 69.00

SM7

UNDIRECTIONAL RECORDING MICROPHONE

Model SM7 Flat, wide-range frequency response for both music and speech. Air suspension shock isolation. Frequency response 40 to 16,000 Hz. Cardioid response. Microphone rating impedance 150 ohms for connecting into microphone inputs rated at 25 to 250 ohms Case: aluminum and steel. Shpg. Wt.: 4 lbs. 8 oz.
61FX213. **NET** 240.00

SM54

UNIDIRECTIONAL DYNAMIC MICROPHONE

Model SM54. Designed for both stand and hand-held use. Frequency response 70 to 16,000 Hz. Polar pattern: cardioid (undirectional) response. 150 ohms impedance. Output level 1,000 Hz. Open circuit voltage —81.0 db. 20 ft., 2-conductor shielded broadcast type equipped with three-pin female connector. Matte metallic. Shpg. Wt.: 3 lbs.
61FX214. **NET** 169.20

Microphones and Accessories

SHURE

PAGING AND DISPATCHING MICROPHONE

Dual impedance (50 to 250 ohms or high). Frequency response 100-10,000 Hz. Semidirectional pattern. Voltage sensitivity 1,000 Hz. Press-to-talk switch locking or non-locking. Non-detachable, 7-foot, four-conductor plastic-jacketed cable. Gray two-tone finish. Shpg. Wt.: 2¼ lbs.
61FX172. NET **35.10**

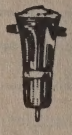
CONTROLLED MICROPHONE MAGNETIC

Recommended for all types of outdoor-indoor communications activity in mobile and fixed station use. Designed for maximum intelligibility from 200 to 4,000 Hz. Free from undesirable peaks. Articulate response range for maximum transmission of voice clarity. Retractable-to-1-foot cable extends 5 feet. Heavy duty push-to-talk switches. Open Circuit Voltage **Model 401A**, -70.0 db; **Model 401B** - 51.0 db. Load impedance **Model 401A**, 100,000 ohms or more; **Model 401B** 150 to 250 ohms. Shpg. Wt.: 1⅛ lbs.
61FX215 Model 401A NET **15.75**
61FX153 Model 401B NET **15.75**

CONTROLLED MAGNETIC HAND MICROPHONE

Model 414B is a medium impedance unit (150-250 ohms) with four-conductor retractable cable (two conductors shielded) and a double-pole, single-throw, leaf-type switch to control the microphone circuit and to control an external relay or switching circuit.
Model 414A is a Hi-Z unit with three-conductor retractable cable (one conductor shielded) and a double-pole, single throw, leaf-type switch to control the microphone circuit and to control an external relay. Shpg. Wt. 17 oz.
61FX216 Model 414B. NET **23.85**
61FX217 Model 414A. NET **23.85**

COMMANDO MICROPHONES



Model 420. Ideal multi-purpose controlled magnetic lavalier microphone. Polar pattern; omnidirectional. Dual impedance. Output level: —52 db. Frequency response: 60-10,000 Hz. Includes 20 ft. cable and lavalier assembly. Wt., ¾ lb.
61FX128 NET **21.90**

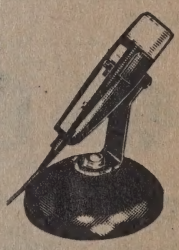
BASE STATION MICROPHONE

Model 522. Suppresses unwanted background noise. Eliminates or reduces feedback in public address paging applications. Dual impedance (25 to 200 ohms or high) with switch for convenient changeover. Press-to-talk switch; locking or nonlocking operation. Switch actuates microphone and an external relay or control circuit. Microphone circuit normally shorted in high impedance; normally open for low impedance. Frequency response: 60-10,000 Hz. Cable: Non-detachable, 7 foot (2.1 meter), four conductor, two shielded, plastic jacketed. Adjustable height (9¾" to 12¼"). Gray two-tone finish. Shpg. wt., 2¼ lbs.
61FX186. NET **44.25**

HAND HELD MICROPHONES

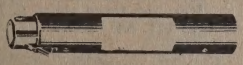
Model 404C. Hand-held. Ideal for outdoor use. Designed for high speech intelligibility. Has push-to-talk leaf switch. Response: 400-4000 Hz. Imp. and output: (404C) high, —54 db. (404B) 150-250 ohms, —52 db. Wt., 1 lb.
Model 404C. High Imp.
61FX104. NET **23.85**
Model 404B. Low Imp.
61FX103. NET **23.25**

VERSADYNE DYNAMIC MICROPHONES



Model 575S. Features light weight construction. Smooth wide range frequency response from 40 to 15,000 Hz. For tape recording, general public address, as well as many other applications. Built in filters reduce voice "pop". Slide-to-talk locking switch, and lavalier cord and stand adapter are included. Omnidirectional; high impedance (100,000 ohms recommended). Output level: —56 db. (0 db. = 1 volt per microbar); 1.58 millivolts per microbar. Attached, one conductor, shielded cable. Shipping weight: 1 lb. 1 oz.
61FX148. NET **17.25**
Model 575SB. Same as Model 575S but low impedance for long cable lengths. Output Level: —57.5 db, (0 db. = 1 milliwatt per 10 microbars) .131 mV per microbar.
61FX149. NET **15.75**

AUDIO ACCESSORIES



A15A

IN-LINE MICROPHONE ATTENUATORS

Inputs are female and outputs are male cannon XL type
Model A15A Microphone Attenuator. Provides 15 db attenuation (150 ohms) Shpg. 1 lb.
83F069. NET **15.75**

Model A15HP High pass filter. Shpg. wt. 1 lb.
83F072. NET **15.75**

Model A15LA Line input adapter. Converts low impedance mike input to high Z (or 600 ohms) line input. Shpg. wt. 1 lb.
83F076. NET **15.75**

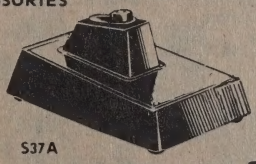
REPLACEMENT CARTRIDGES

Not shown. For general replacement in Shure and other make mikes. All are supplied with rubber mounting ring. Overall depth approximately ⅞". Wt. 4 oz.

Type R5 Controlled Magnetic Replacement Cartridge. High impedance, high output: Uneffected by heat, hum. Shipping weight, 4 oz.
61FX116. NET **8.25**

Model R5B. Same as above but low impedance.
83FO67 NET **8.25**

Type R10 Carbon. Repplacement for CB, 100, and 120 mikes. Output: 5 db below 1 v. per 100 microbar speech signal. Recom. for voice only. Wt., 6 oz.
61FX118. NET **6.30**



S37A

S38B

A95A

A95F

A95P

ACCESSORIES

Model S37A Stand. Modern design desk stand for both stand adapter and swivel connector microphones. Glare reducing charcoal finish. Shipping weight 2 lb.
83F077 . NET **5.70**
Model S38B. Stand Heavy die-cast base, includes metal screw machine stud for connecting microphone adapter to stand base. Black finish. Shpg. wt., 2 lbs.
83F066. NET **3.15**
Type A95A. Transformer. Matches 35-50 and 150-250 ohm mike to hi-Z input. Compact magnetically-shielded case, 2½" x ¾" dia. Furnished with Cannon XL-3-12 input and Amphenol MEIM output.
39F950. NET **13.20**
Model A95F Transformer. Same as Model A95A except input is XL-3-13. Shipping Weight, 9 oz.
83F070 NET **15.00**
Type A95P. Transformer. Same as A95A above, but with phone plug output.
83F055. NET **14.40**
Model A95FP Transformer. Same as Model A95P above except input is XL-3-13. Shipping weight, 10 oz.
83F068. NET **16.35**

SHURE

Audio Accessories

MIXERS, REMOTE, AMP. AUDIO CONTROLS

M-67

PROFESSIONAL MICROPHONE MIXER/REMOTE AMPLIFIER

Model M67 Has individual gain controls for four 150 ohm balanced line microphone inputs (one switchable to line in put). Master volume control. Built-in tone oscillator. Headphone monitor jack. Illuminated VU Meter. Model A67B Battery Power Supply (available on special order) provides automatic switch-over in case of AC failure. 600 ohm balanced line output (+18 dbm.), 150 ohms low impedance balanced line. Microphone level output. Freq. resp.: ±2db20-20,000 Hz. Gain: 90 db Max. Noise: -126 dbv. Distortion: Under 1%, 20-20,000 Hz. Size: 11 3/8 " w x 7½"d x 2 5/8 "h. Shipping Weight: 4 lbs. 3 ozs.

61FX191. NET 169.20

M-68

MICROPHONE MIXER

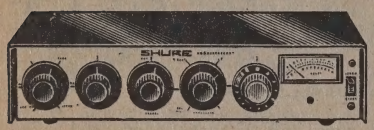
Model M68. Four microphone inputs, either 150 ohm low impedance balanced line or high impedance, 1 auxiliary input for tape recorder, phono or tuner. Outputs: high or low impedance microphone level and high impedance, high level output for power amplifier requiring .5 to 2 volts. Comes with male Cannon XLR-3-14 type input connectors. Optional accessories (available on special order) include model A68B Battery Power Supply, A68P* Phono Preamp, A68R* Rack Panel Kit, A68S Stacking Kit, A68L* Locking Panel Kit.

61FX171 NET 87.60

Model M68FC. Same as M68 but with female Cannon XL-3-14 type input connectors.

61FX774 NET 94.20

* These accessories also used with M67 Mixer shown above.



M-63

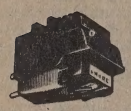
AUDIO MASTER

Model M63. Provides the means to shape frequency response to equalize sound systems for correction of room acoustics, to reduce feedback, to provide special sound effects, for recording, to reduce stand and stage noise, etc. Features are a VU meter to monitor audio level. Five types of outputs: 600 ohms balanced line. High impedance high level. High impedance microphone level. Low impedance microphone level. Headphone jack for monitoring. Continuously variable high pass and low pass 6 db per octave filters. Bass and treble tone controls. Two 30 VDC jacks and an A.C. receptacle. Frequency response 20 to 20,000 Hz. Size: 2½" x 11 x 5¾". For 105-130 Volt. 50/60 Hz. A.C. or 30 VDC. Shipping weight. 5½ lbs.

61FX192. NET 100.20

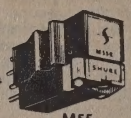
PHONOGRAPH CARTRIDGES

V15III



M75ED Type 2

M7

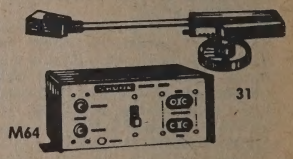


M55

3D

M93E

M91E



M64

31

Unless otherwise noted, cartridges are Elliptical with .0002" x .0007" Diamond stylus. Frequency response: 20-20,000 Hz. Separation 25db@ 1 KHz. Wt. 6 oz.

Model V15 TYPE III CARTRIDGE

Max. trackability 38cm/sec. @ 1000 Hz. Tracking range ¾ to 1¼ gms. Separation: 28 dB @ 1kHz; 20 dB @ 10 kHz.

61FX218. NET 48.33

MODEL VN35E DIAMOND STYLI

For V15III, .0007" elliptical diamond stylus. Tracking force range ¾ to 1¼ grams.

61FX220. NET 19.33

Model M75ED Type 2 Cartridge

.0007" elliptical diamond stylus. Separation: 25 db @ 1kHz. Tracking force range ¾ to 1½ grams. Mounting: Standard ½ inch (12.7 mm) mounting centers. Elliptical stylus with built-in snap-down stylus guard. Channel output balance within 2 dB each channel.

61FX219. NET 19.20

SERIES M55/M44

MODEL M55E. Tracking force ¾ to 2 grams.

50FA521. NET 29.95

MODEL M44E. .0004" x .0007" diamond stylus. Tracking force: 1¾ to 4 grams.

50FA539. NET 24.95

MODEL M44-7. Conical .0007" diamond stylus. Tracking force: 1½ to 3 grams.

50FA523. NET 19.95

MODEL M44C. Conical .0007" diamond stylus. Tracking force: 3 to 5 grams.

50FA503. NET 17.95

ECONOMY MODEL M3D

.0007" conical diamond stylus. 20-15,000 Hz. Separation @ 1 KHz. 20 db. Trk. force 3 to 6 grams. 3 oz.

50FA510. NET 15.75

SHURE REPLACEMENT STYLI

Stock No.	Stylus No.	For Dynetic Cartridge No.	Net
50FA536	VN15E	V15 Type 11	27.00
50FA541	N91E	M91E	24.50
50FA543	N93E	M93E	19.50
50FA544	N75-3	V15 Type 11, M91E, M92E, M93E, M75 Series, (78 RPM)†	10.00
50FA530	N55E	M44, M55, M80 Series	14.95
50FA540	N44E	M44E	12.50
61FX223	N44G	M44, M55	9.75
50FA529	N44-7	M44-7, M98/A‡	9.75
50FA545	N44C	M44C‡	9.70
50FA527	N44-3	M44, M55, M80, V-15 (78 RPM)†	10.00
50FA546	N31E	M31E	14.95
50FA525	N21D	M21, M7-N21D M3-N21D; M3D, M7D‡ Upgrades	11.00
50FA511	N3D	M3D; Upgrades M7D, M8D‡	7.95

Elliptical tip size except (†) .0025 (‡) .0007.

"HI-TRACK" MODEL M91E

Trk. force ¾ to 1½ grams. Trackability Spec. @ 1 gram: 28cm/sec @ 1000 Hz.

50FA500. NET 49.95

MODEL SC35C STEREO CARTRIDGE

.0006" spherical diamond stylus. Separation 20 dB @ 1 kHz; 10 dB @ 10 kHz. Tracking force 4.0 to 5.0 grams.

61FX221 NET 16.00

MODEL M7/N21D

0007" conical diamond stylus. 20-20,000 Hz. Sep. @ 1KHz. 20 db. Trk. force 1½ to 2½ grams. Wt.: 3 oz.

50FA534 NET 17.95

MODEL SS35C STEREO DIAMOND STYLUS

For SC35C. .0006" spherical diamond tip. Tracking force 4.0 to 5.0 grams.

61FX222 NET 5.50

TONE-ARMS

MODEL M232. For 12" records. Accepts Stero, Mono., cartridges. Trk force 2 to 8 gms. Includes arm rest, template, 4 ft. cable assem. Arm length, 12 11/16". Wt., 1 lb.

50FA514. NET 32.75

MODEL M236. For 16" records. Arm length, 14½". Wt. 1⅛ lbs.

50FA515. NET 35.00

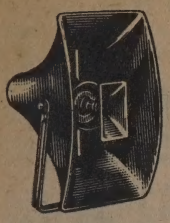
STEREO PREAMPLIFIER

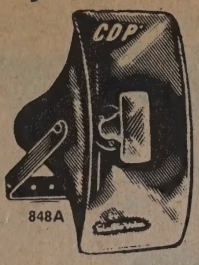
Model M64. Fully Transistorized. Inputs for tape heads and magnetic phonograph cartridges. Outputs for high level auxiliary or low (600 ohm) level. Freq. response: ± 2. db from 20 Hz to 20 KHz. Under 1% total harmonic distortion for 2 bolts output @ 1 KHz. Operating voltage: 120 v ± 10% 50/60 Hz or 30 VDC. Size: 2 1/16" x 5⅝" x 4½". Shpg. wt. 2½ lbs.

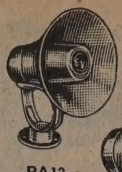
61FX173. NET 34.00

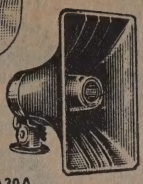
Sound Projectors and Speakers

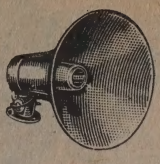
Electro-Voice®

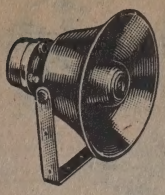

FC100


848A


PA12


PA30A


PA30R


844A

847A

COMPOUND DIFFRACTION PROJECTOR

Model FC-100. Projector Horn. Provides two diffraction horns for uniform wide-angle coverage. Uses any E-V convertible driver. Mouth size 10½"x20½", depth 20". Shpg. wt. 13 lbs.
88F180. NET **37.80**

Model 848A. Combines FC100 compound diffraction horn plus 1828C compound driver for fine wide angle sound, low distortion, and highest quality of any projector. Freq. response 150-10,000 Hz.; Imp., 8 ohms; Dispersion, 90°x120°. Power Cap. 30 watts. Size, 10½"x20½"x20". NET WT. 15½ lbs.
88F152. NET **60.75**

CONVERTIBLE DRIVERS

1828C

1828T

1829

1829T

Peak free response with max. efficiency. Easily adapted for use with all Re-entrant-type horns.

Stk. No.	Type	Dim.	Watts	Imp. Ohms	Freq. Resp. Hz	NET
88F195	1828R	4"x2¾"	30	8	190-8,000	23.40
88F184	1828C	4"x3¼"	30	8	150-10,000	23.40
88F185	1828T	5"x4"x5¼"	30	8	150-10,000	34.50
88F191	1829	5 15/16"x4 1/16"	60	16	140-11,000	41.70
88F192	1829T	5 15/16"x6 3/8"	60	16	140-11,000	51.00

PAGING SPEAKERS

Model PA12. Power handling capacity 12 watts, with voice coil impedance 8 ohms. Wide dispersion of 130°. Frequency response: 325 to 14,000 Hz. Swivel bracket easily removable from horn for convenient mounting. 7½" Dia. x 7⅛" Deep. Shpg. wt. 5 lbs.
88F196. NET **17.40**

Model PA30AT-7. This 30 watt paging projector features easily selected line power taps at 30, 15, 8, 4, and 1½ watts. Rectangular horn designed for wide dispersion. Frequency response: 250-14,000 Hz. Dispersion: 120° by 90°. E1A sensitivity: 63 db. Sound pressure level: 125 db. 11" x 6½" x 8½"¼ Wt. 7¾ lbs.
88F190. NET **34.50**

Model PA30A. Same as above, without line matching transformer.
88F173. NET **25.50**

Model PA30R. Similar to the PA30A, except that this model features a round spun-aluminum bell, instead of the rectangular horn. Shipping wt. 6½ lbs.
88F194. NET **27.00**

Model 844A. Frequency response: 250-10,000 Hz. Impedance, 8 ohms. Dispersion 90°. Sound pressure level, 123 db. Dimensions, 10" dia. x 7⅝" deep. Shpg. wt. 12½ lbs.
88F156. NET **28.80**

Model 847A. Provides higher articulation over a uniform 120°x 90° area. Low distortion results from the use of two diffraction horns. 25-watt power handling capacity. Frequency response, 250-10,000 Hz. Sound pressure level, 114 db. Impedance, 8 ohms. 11¾"x7¾x10¼". Shpg. wt. 10 lbs.
88F150. NET **42.30**

P.A. TRANSFORMERS

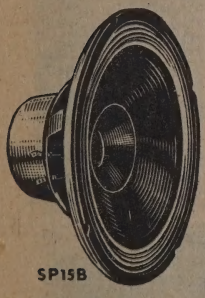
Model TR30-2. 30-Watt 25-Volt Line Transformer. For use with PA30 Series. Shpg. wt., 2 lbs.
88F174. NET **10.65**

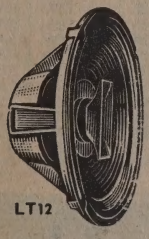
Model TR30-7. 70.7 Volt Transformer. For use with PA 30 Series. Shpg. wt. 2 lbs.
88F175. NET **10.65**

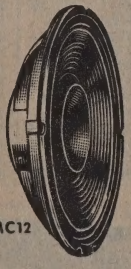
Model TR12-7. Power selectable at 12, 6, 3, 1.5, and ¾ watts for 70 Volt lines. By removing snap-off housing, transformer mounts on rear of PA12.
88F197. NET **4.80**

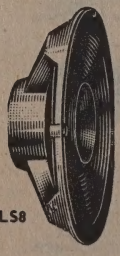
Model TR12-2. Same as TR12-7, except for 25 Volt lines.
88F198. NET **4.80**

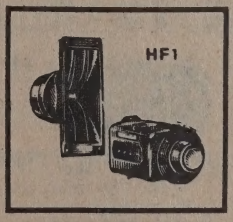
HIGH-FIDELITY LOUDSPEAKERS

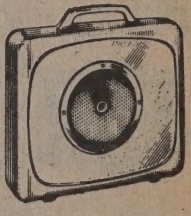

SP15B


LT12


MC12


LS8




Sonocaster I.

Model SP 15B. Radax Fifteen. 15" speaker. Response, 30-15000 Hz. Nom. resonance, 30 Hz. Crossover, 3500 Hz. 60 watts peak. 8 ohms impedance. E1A sens. rtg., 51 db. 15⅛" diam., 13½" baffle opening. 9" depth behind panel. Shpg. wt. 15 lbs.
86F071. NET **59.00**

Model LT12. 12-Inch 3-Way Loudspeaker. Features "deep-dish" cone and HF1 tweeter. Response: 40-18,000 Hz. Nom. resonance, 60 Hz. Crossovers: 2000 Hz. mechanical, 4000 Hz. electrical, 40 watts peak. 8 ohms impedance. E1A sens. rtg. 45 decibels 12⅛" diameter 11" baffle opening, 5¼ depth behind panel. Shpg. wt. 9 lbs.
86F331. NET **49.95**

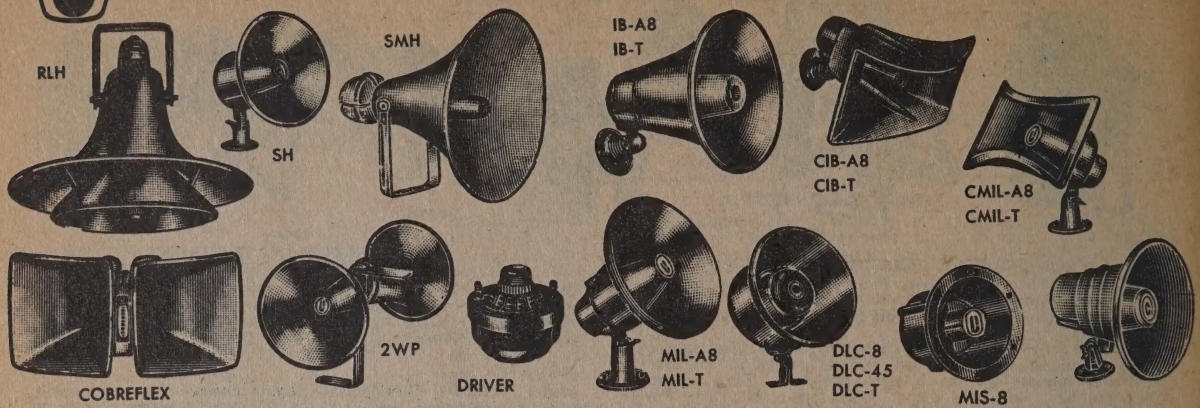
Model MC12. 12-Inch Loudspeaker. Disperses crisp clear highs and powerful bass, yet is shallow enough for wall mounting. Response 40-14,000 Hz. Nom. resonance 60 Hz. 40 watts peak. 8 ohms impedance. E1A sens. rating 46 decibels. 12" diameter. 11" baffle opening. 3½" behind panel. Features heavy die cast frame. Shpg. weight 6 lbs.
86F339. NET **24.50**

Model LS8. 8-inch Loudspeaker. Response, 45-14000 Hz. Nom. resonance 75 Hz. Crossover, 4500 Hz. 40 watts peak power. 8 ohms impedance. E1A sensitivity rating, 43 decibels, 8⅜" diameter, 7⅛" baffle opening. 3½" depth behind panel. Features heavy die cast frame with low silhouette for shallow mounting in tight spots. Shpg. wt. 4 lbs.
86F333. NET **23.95**

Model HF1. High-Frequency Step-Up Kit. Consists of TW35 VHF driver, CR35 crossover-level control. TW35 size: horn 5¼"x2" pot diam. 2¼", depth 2¾. Fits 11 1/16"x4 7/32". Shpg. Wt. 3 lbs.
86F335. NET **34.50**

Sonocaster 1. Auxiliary high fidelity loudspeaker system. For extension or portable use anywhere. Wide range response. Steel-gray moulded housing cannot chip, fade, or peel. Includes convenient carrying handle molded in and accessory hangup bracket for permanent mounting indoors or outdoors. Frequency response: 70 to 13,000 Hz. Impedance: 8 ohms. Power handling capacity: 30 watts peak. Special Radax 8" reproducer specifically designed for this system. Lightweight, rugged, and weatherproof. 16¾" h. x17" w. x 5⅞" d. Shpg. wt. 8 lbs.
86F170. NET **27.95**

UNIVERSITY SOUND Speakers



TRUMPETS, PROJECTORS AND DRIVERS

Reflex Trumpets, Wide-Angle Horn. Weatherproof. Model SMH is directional type. Model SH is high power, compact unit. Cobreflex features high efficiency, wide dispersion.

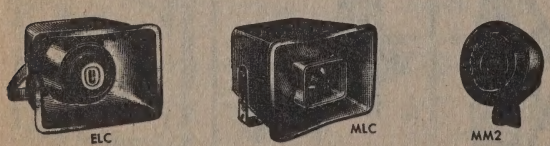
Stk. No.	Type	Cutoff	Bell Dia.	Horn Lgth.	Wt.	Net
88F103	SMH	200 Hz	16¼"	12"	8	26.30
88F075	SH	350 Hz	8¾"	7"	3¼	28.25
84F112	CBFLX	200 Hz	18½x9¼"	10¼"	10¼	31.73

Radial Reflex, Bi-Directional Projectors. RLH has uniform 360° horizontal dispersion; 2WP two 120° areas with one driver.

80W420	RLH	120 Hz	28⅛"	18½"	25	68.28
88F139	2WP	350 Hz	8½"	20½"	4½	48.88

Drivers. For all of above. All have 16 ohm imp. except ID-30T, ID-60T & ID-40T which have multi-impedance line matching transformers built-in. ID-40T matches 45/122/250/500/1000/2000 ohms. ID-60T with 16/80/165/250/500/1000/2000 ohms. ID-30T matches 167/335/500/1000/2000/4000 ohms. Each with 70 V power taps: ID-40T—40/20/10/5/2.5 watts, ID-60T—50/30/20/10/2.5 watts, ID-30T—30/15/10/5/2.5/1.25.

Stock No.	Type	Range Hz	Power Rating	In. Dia.	Wt. Lbs.	Net Each
88F141	ID-20	120-6500	20 watts	3½	2½	18.15
88F142	ID-30	85-7500	30 watts	4⅛	3	23.05
88F136	ID-30T	85-7500	30 watts	4⅛	4	33.63
88F143	ID-40-A	80-12000	40 watts	4½	4¼	28.00
88F144	ID-40T	80-12000	40 watts	5	5¼	39.20
88F145	ID-60	70-12000	60 watts	4 1/16	5¾	40.60
88F146	ID-60T	70-12000	60 watts	6¾	6½	52.92
88F138	ID-75	150-7000	75 watts	4¼	5	40.14



MULTI-DUTY SPEAKERS

Model ELC. Weatherproof hi-fi speaker suited for outdoor use. 150-12,000 Hz. 15 watts. 8 ohms. 120° dispersion. Fiberglass housing measures 12¾x9⅛x10⅝". Wt., 7 lbs.
88F224. NET.....38.36

Model MLC. Similar to ELC, but a 2 speaker system with higher SPL output. 150-15,000 Hz. 15 watts. 8 ohms. 120° dispersion. Size, 12¾x9⅛x10⅝". Wt., 10¾ lbs.
88F135. NET.....49.08

Model MM-2. Rugged speaker immune to salt spray, gases, live steam, fungus and harmful dusts. 350-10,000 Hz 25 watts. 16 ohms. 150° dispersion. 6" o.d., 5" deep. Wt., 5¼ lbs.
88F108. NET.....42.83

LINE-MATCHING TRANSFORMERS

Model 5433 Transformer. 30 watt capacity. Wide selection of impedances and constant voltage power taps. 1 lb.
88F128. NET.....7.80

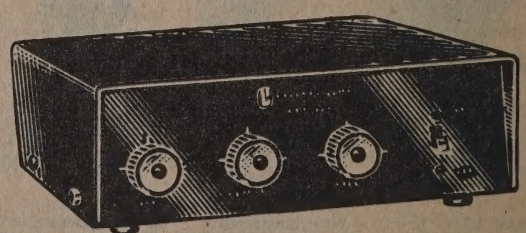
Model 5434 Transformer. 15 watt capacity. ¾ lb.
88F129. NET.....5.60

Model CTR. Weatherproof transformer/junction housing for use with 5433 or 5434.
88F126. NET.....7.26

PAGING/TALKBACK SPEAKERS

Model IB-A8. 105° dispersion angle. With adjustable wall mounting bracket. Wt., 4½ lbs.
Model MIL-A8. Reflex type speaker for low-power use. High efficiency and inelligibility at speech frequencies. Dispersion angle, 120°. Wt. 3¼ lbs.
Model CIB-A8. Wide angle mid-range unit for 3-way systems, paging & intercom use. Dispersion: 120°x60°. Wt., 6 lbs.
Model CMIL-A. Rectangular re-entrant horn for use in moderately noisy areas. Dispersion: 120°x60°. Wt., 6 lbs.
Model MIS-8. Compact, weatherproof low-power reflex speaker. Dispersion: 150°. Wt., 2½ lbs.
Model DLC-8. Low cost reflex speaker for indoor/outdoor paging. Dispersion: 120°. **DLC-45** has 45-ohm voice coil impedance. Wt., 1¾ lbs.
Model FID15-8. Reflex horn speaker. Dispersion: 120°—all planes. Weatherproof, virtually indestructible. Easy installation with Uni-Lok swivel mount. Wide frequency response and unusually low distortion. Shpg. wt. 3¼ lbs.
Model FID15-T. Similar to FID15-8, but includes a built-in 70V and 25V transformer, 6 screwdriver selectable taps. 3¾ lbs.
Unless noted otherwise, all the above units have 8-ohm impedance voice coils. Units listed below with "T" suffix have built-in transformer.

Stk. No.	Type	Response	Mic. Sens.	Power	Size	Net
88F110	IB-A8	250-13K	—20 DBM	30W	10½x9"	27.17
88F079	IB-T	250-13K	—20 DBM	30W	10¼x11 7/16"	37.13
88F111	MIL-A8	350-13K	—23 DBM	10W	7 13/16x6⅞"	22.91
88F080	MIL-T	350-13K	—23 DBM	10W	7 13/16x9⅞"	33.14
84F135	CIB-A8	250-13K	—22 DBM	30W	7⅜x14x12"	32.05
84F136	CIB-T	250-13K	—22 DBM	30W	7⅜x14x16"	44.72
88F218	CMIL-A8	350-13K	—26 DBM	10W	9½x6¼x8½"	26.25
88F219	CMIL-T	350-13K	—26 DBM	10W	9½x6¼x10 7/16"	37.49
88F220	MIS-8	500-13K	—22 DBM	7.5W	5½x4 7/16"	23.63
88F221	DLC-8	400-10K	—30 DBM	7.5W	5⅞x4"	13.97
88F222	DLC-45	400-10K	—30 DBM	7.5W	5⅞x4"	14.51
88F223	DLC-T	400-10K	—30 DBM	7.5W	5⅞x6½"	23.49
88F082	FID15-8	260-14.5K	—28 DBM	30W	9x8¾"	23.40
88F083	FID15-T	260-14.5K	—28 DBM	30W	9x8¾"	32.28



10 watt background music amplifier drives 8-16 ohm, 25 and 70 V outputs

10-WATT SOLID-STATE PA AMPLIFIER

Model UPB-10T. Ideal for small stores, club rooms and offices. Solid-state with OTL output stage. Drives 8-16 ohm loads; 25 and 70.7 V outputs. Inputs: switchable Hi or Lo Z mike, Hi Z program. Response: ±1½ dB, 30-20,000 Hz. Peacock blue case, 9⅛x3x7⅞". For 117 VAC. Wt., 9 lbs.
88F225. NET.....62.25

Recording Tape and Accessories

3M COMPANY

LOW NOISE/DYNARANGE®

Offer highest realism, fidelity and sensitivity. Provides 4 to 6 dB improvement in signal-to-noise ratio compared to tapes with ordinary oxide. Clean, crisp response present across the audio spectrum. This superior oxide coating is placed on rugged, long-lasting polyester base. †Total time in minutes, both directions, at 7½ ips.

Stk. No.	Type	Mils	Reel	Length	Time†	1-11	12-Up
76F779	211-¼-R30	1.5	5″	600′	30	2.29	2.08
76F781	212-¼-R45	1.0	5″	900′	45	3.19	2.89
76F784	214-¼-R90	.5	5″	1800′	90	5.59	5.13
76F780	211-¼-R60	1.5	7″	1200′	60	3.39	3.12
76F782	212-¼-R90	1.0	7″	1800′	90	5.59	5.13
76F783	213-¼-R120	.5	7″	2400′	120	8.39	7.70
76F785	214-¼-R180	.5	7″	3600′	180	9.99	9.21

HIGH OUTPUT/LOW NOISE

Preferred for professional recording. Provides a 50% increase in output over premium low-noise tape, improving dynamic range 3 dB. New Posi-Trak backing offers toughness, scratch resistance and optimum head-to-tape contact.

76F777	206-¼-R60	1.5	7″	1200′	60	5.19	4.70
76F778	207-¼-R90	1.0	7″	1800′	90	6.49	5.93

HIGHLANDER® LOW NOISE

Economical tape for voice and music recording has low-noise oxide coating and tough polyester base.

76F786	228-¼-R60	1.5	7″	1200′	60	2.59	2.38
76F787	229-¼-R90	1.0	7″	1800′	90	4.19	3.85

TYPE 206/207 HIGH OUTPUT/LOW NOISE

Polyester with back treatment. Offers 3 dB more headroom or 3 dB more S/N. Reduced cinching, increased resistance and electrical conductivity. Has "Posi-Trak" backing.

Stk. No.	Type	Mils	Reel	Length	1-11	12-Up
76F250	206-¼-2500R0	1.5	10½″	2500′	9.64	8.42
76F251	207-¼-3600R0	1.0	10½″	3600′	13.52	11.83

TYPE 208/209 LOW PRINT/LOW NOISE

Polyester with back treatment.

Stk. No.	Type	Mils	Reel	Length	1-11	12-Up
13F3365	208-¼-600	1.5	5″	600′	1.87	1.68
13F3366	208-¼-1200	1.5	7″	1200′	3.07	2.76
13F3367	208-¼-2500R0	1.5	10½″	2500′	8.16	7.14
13F3368	209-¼-900	1.0	5″	900′	2.60	2.34
13F3369	209-¼-1800	1.0	7″	1800′	4.47	4.02
13F3370	209-¼-3600R0	1.0	10½″	3600′	11.45	10.02

"LIVING LETTERS"

Tape in plastic mailing container. Polyester, except *acetate. Total time both directions at 7½ ips.

Stk. No.	Type	Mil	Reel	Time	1-11	12-Up
76F732	211-¼-R7-5LL*	1.5	3″	7.5	.79	.73
76F733	200-¼-300LL	.5	3″	15	1.69	1.44
76F788	214-¼-R30LL	.5	3″	30	2.19	2.04

8-TRACK CARTRIDGES

Low Noise Dynarange. Sufficient dynamic range for every recording application. Low rub-off lubrication system.

Stk. No.	Type	Time	1-11	12-Up
76F775	S-8TR-45	45 min.	2.09	1.92
76F776	S-8TR-90	90 min.	2.59	2.35

High Output/Low Noise. Provides 2 dB more signal than other quality cartridges, and cuts background tape hiss 4 dB. Suitable for Q-8 systems.

Stk. No.	Type	Time	1-11	12-Up
13F3375	S-8TR-45HO/LN	45 min.	2.59	2.35
13F3376	S-8TR-90HO/LN	90 min.	3.09	2.84

SCOTCH MAGNETIC TAPE CASSETTES

HIGHLANDER CASSETTE

SCOTCH TAPE CASSETTE

Highlander Low Noise. Good. Offers dependability with absolute economy. Low noise oxide and tough polyester base.

Stk. No.	Type	Length	1-11	12-Up
76F789	H-C-45	22.5 min. each side	1.09	1.00
76F253	H-C-60	30 min. each side	1.19	1.07
76F254	H-C-90	45 min. each side	1.98	1.65
13F3371	H-C-120	60 min. each side	3.29	2.92

Low Noise/High Density. Better. A high quality cassette normally compared with premium quality line of other brands.

76F790	S-C-45	22.5 min. each side	1.79	1.64
76F649	S-C-60	30 min. each side	1.99	1.82
76F743	S-C-90	45 min. each side	2.99	2.74
76F744	S-C-120	60 min. each side	3.99	3.64

High Energy. Best. Superior in every respect, from the special oxide to distinctive backing. Achieves the utmost in performance. Offers widest dynamic range and greatest output.

13F3372	S-C-45HE	22.5 min. each side	2.39	2.12
13F3373	S-C-60HE	30 min. each side	2.59	2.31
13F3374	S-C-90HE	45 min. each side	3.89	3.46

TYPE 156 EXTERNALLY LUBRICATED TAPE

Single coated, with external lubrication on backing side only. High potency oxide coating on 1 mil polyester backing. Available in size ¼″ x 1800′ on 7″ plastic reels. Designed for continuous loop cartridges. Shpg. wt. 11 ½ lbs.

76F728. 1-11.....4.32 12-Up.....3.78

SPLICING TAPE

No. 620 is required for splicing tapes with "Posi-Trak" backing (206, 207). It may also be used to splice all Scotch recording tapes.

Stk. No.	Type	Size	1-11	12-Up
76F652	41-½-66	½″ x 66′	1.27	1.14
76F656	41-7/32-66	7/32″ x 66′	.78	.70
76F334	620-7/32-66	7/32″ x 66′	2.86	2.50
76F335	620-½-66	½″ x 66′	4.29	3.75

NO. 51 ALUMINIZED SENSING TAPE

For recorders with automatic stop and reverse controls.

76F718	51-7/32S	7/32″ x 150″	1.57	1.45

NO. 24 LEADER AND TIMING TAPE

Stk. No.	Type	Color	Size	1-11	12-Up
76F713	24W-¼-100	White	¼″ x 100′	.66	.59

EMPTY SELF-THREADING REEL

Snap tight plastic collar. With label.

Stk. No.	Type	1-11	12-Up
76F730	PRST 7	1.10	.99

EMPTY REELS IN BOXES

Stk. No.	Type	Size	Description	1-11	12-Up
76F661	RB-¼-5	5″	Plastic reel	.48	.42
76F660	RB-¼-7	7″	Plastic reel	.62	.56
13F3377	RB-¼-10½RPL	10½″	Plastic; 3″ NAB hole	3.00	2.70
76F669	RB-¼-10½RPS	10½″	Plastic; 5/16″ EIA hole	3.00	2.70
13F3378	RB-¼-8M	8″	Metal; 3″ NAB; 3-hole	6.00	5.40
76F667	ROB-¼-10½M	10½″	Metal; 3″ NAB; 4-hole	5.96	5.37
13F3379	RB-¼-10½M	10½″	Metal; 3″ NAB; 3-hole	5.96	5.37
76F739	RLL-¼-3	3″	In mailing container	.44	.39

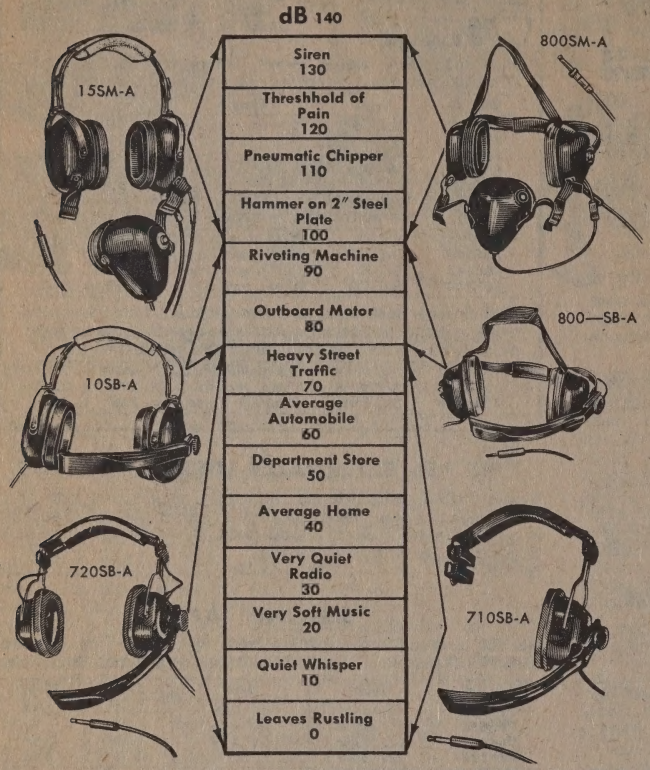
EMPTY BOXES

Stk. No.	Type	Size	Description	1-11	12-Up
13F3380	PB-7	7″	Plastic	1.31	1.18
13F3381	S-CB	.....	Plastic cassette	.28	.25
76F740	LL-¼-3	3″	Mailing container	.33	.29
76F695	B-¼-5	5″	Paper box	.30	.27
76F696	B-¼-7	7″	Paper box	.37	.34
76F698	B-¼-10½	10½″	Paper box	1.07	.96

DAVID CLARK Communication Systems

SOUND-POWERED SYSTEMS

The reliable sound power system has been refined into a most versatile and economical communications system for industry. Features include portability, no necessity for external power, amplifiers and batteries and a two wire hook-up. All the power that is necessary is your own voice to operate these headsets. Used in mines, oil refineries, ship building, sport stadiums, crane operations, manufacturing, pipeline construction, aircraft repair, building construction, etc.



Model 15SM-A. Noise-shielded headset incorporates push-to-talk switch conveniently located on microphone shield. Noise shielding provides for reliable, distinct, clear communications in medium to high noise level areas up to 130 dB. As many as 6 headsets may be connected using only the voice for power. Has two-conductor cord, 30" long with PJ-055 type plug.
35F2402. NET.....120.00

Model 10SB-A. Set backloads a receiver by use of a durable acoustic boom. This principle eliminates the boom mounting of a heavy microphone element. Boom adjusts easily in all planes. Symmetrical design allows headset to be worn with boom on either side of head. Recommended for areas with noise levels up to 100 dB. Two conductor 30" cord, PJ-055 plug.
35F2400. NET.....115.00

Model 720SB-A. Special lightweight headset-microphone with acoustical boom combines low profile with high clarity communications while providing the maximum in long-term wearing comfort. For low-noise areas only—optimum ambient noise levels up to 80 dB. Acoustical boom eliminates need for heavier microphone element, reduces weight, increases comfort. Two-conductor, 30" cord, plug.
35F2414. NET.....66.25

Model 800SM-A. Noise-shielded microphone-headset has all the features of the Model 15SM-A, but in a behind-the-head configuration that allows user to wear safety headgear, without modifications or attachments. Can be used effectively in areas with up to 130 dB noise levels. Push-to-talk switch on microphone shield. 2-conductor, 30" cord with PJ-055 plug.
35F2403. NET.....120.00

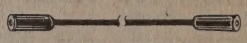
Model 800SB-A. Acoustical boom headset-microphone features behind-the-head configuration of the 10SB-A. No push-to-talk button is required to operate to permit hands-free operation. The acoustical boom adjusts in all planes, and symmetrical design permits boom rotation so it can be worn left or right side. 2-conductor, 30" cord with PJ-055 plug.
35F2401. NET.....115.00

Model 710SB-A. Extremely light weight single-ear sound powered headset is designed for use in low-noise areas with levels up to 70 dB. Lightweight acoustical boom adjusts so unit may be worn over left or right ear, eliminates need for heavy microphone element. 2-conductor, 30" cord with PJ-055 type plug.
35F2415. NET.....41.00

ACCESSORIES FOR SOUND POWERED COMMUNICATIONS GEAR

Model J-2 Jack Plate. Has two jacks with weatherproof covers in standard outlet faceplate.
35F2405. NET.....7.25

Model J-6 Junction Box. 6 weatherproofed jacks in 2x4x2" heavy-duty box.
35F2404. NET.....45.00

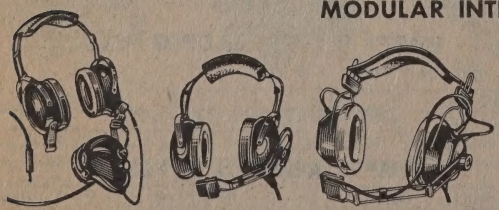


Model SXJ-409 Jumper Cord. Headsets plug directly into #88 jack at each end.
35F2410. 12 feet. NET.....11.15
35F2411. 25 Feet. NET.....15.10

Model SX-334 Extension Cord. Has #88 phone jack one end, PJ-055 plug other.
35F2406. 12 Feet.....11.65
35F2407. 25 Feet.....15.65

FOR THEATER AND STUDIO APPLICATIONS, USE AN AMPLIFIED SYSTEM (SEE BELOW)

MODULAR INTERCOMMUNICATIONS SYSTEM



Model 15BM Model 10BB Model 720HB

Modular intercommunications system provides hands-free headset communications for operation in and out of high noise level environments. Designed for total flexibility, the system can be installed in standard conventional electrical boxes, or may be mounted in equipment panels for easy use.

Model 15BM. Carbon high impedance type features noise-shielded microphone for use in high level noise areas (up to 135 dB). Push-to-talk switch on tear-drop shaped mike. 3-conductor, 30" cord with PJ-051 plug.
22F1050. NET.....115.50

Model 10BB. Headset microphone has boom microphone designed for use in medium noise areas. Two hinge points plus symmetrical mounting permits infinite adjustment of boom. 3-cond., 30" cord with Switchcraft #267 plug.
22F1051. NET.....96.75

Model 720HB. Lightweight headset designed for hours of wearing comfort. Has hinged boom microphone with infinite adjustment. For use in areas with noise levels to 100 dB. 3-conductor, 30" cord with Switchcraft #267 plug.
22F1052. NET.....77.00

ASP-124 Extension Cord. PJ-051 plug and Switchcraft 838 jack. 25 feet.
22F1056. NET.....16.50

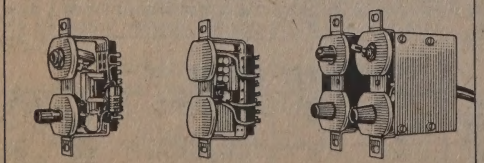
C4016 Push To Talk Assembly. Switchcraft 298 plug and 12B jack.
22F1057. 1 foot coiled, extends to 6 feet. NET.....23.50

Model 3S-V Headset Station. Single-ended talk line with volume control. Terminal strip has access for wiring handset or hand-held microphone.
22F1053. NET.....41.75

Model 2LA-500 Amplifier. Line amplifier for use with from 2-8 headset stations. Input: 1000 ohms. Output: 500 mW. 26 dB voltage gain.
22F1054 NET.....37.00

Model 2PS-24 Power Supply. With on/off switch, pilot light. Input: 110 V, 60 Hz. Output: 24 VDC Current: ⅓ amp. max. Ripple: 0.1%.
22F1055. NET.....98.00

INTERCOM MODULES



Model 3S-V Model 2LA-500 Model 2PS-24

Headsets

BINAURAL HEADPHONE

Fig. A. For live remote broadcasting. Has two channels—one for program monitoring, the other for cueing. Or wire for monaural use. Wide range, dynamic boom mike has non-metallic diaphragm which withstands high humidity, temperature extremes, corrosion and mechanical shocks. Low frequency response for crisp voice transmission, omnidirectional design. Circumaural earcushions screen out ambient noise. Inline "push-to-cough" switch with cord clothing clip is approx. 30" from headset; can be locked in off position. 20' non-terminating cord adapts to your equipment. Made of high-impact plastic and stainless steel. With padded headband. In non-reflective black and grey. Specifications—Impedance: 6000 ohms per side; Sens.: 105 dB at 1kHz; Frequency: 20-20,000 Hz. Microphone—Impedance: matches all low impedance 50-250 ohms; EIA Sensitivity: 155 dB; low output level: −61 dB; Frequency: 70-10 000 Hz. Shpg. wt. 12 oz.

27F1067. Type CS-90 ..... **99.50**

COMMUNICATIONS SERIES

Fig. B. Rugged construction for use in professional and general communications. Adjustable plastic covered stainless steel headbands. Washable vinyl earmuffs. 5 foot cord with standard phone plugs. Freq. range 20-20,000 Hz. Specially designed dynamic drivers. Shpg. wt., 3 lbs.

Type CS-7. Dual 600 ohm phones. No mike.

27F388. NET **29.95**

Type CS-78. With 50 ohm carbon mike and single 600 ohm receiver. 2 plugs.

27F389. NET **35.60**

Type CS-75. As above, but with 150 ohm noise-cancelling dynamic mike.

27F1063. NET **35.60**

Type CS-11. As above, but with no mike. Single 2-circuit plug.

27F1064. NET **21.95**

CARBON MIKE HEADPHONE

Fig. C. Communications headphone with audiometric-type driver elements. Consistent performance under any environment. Carbon boom mike. Imp: 600 Ohms; mike 20-50 Ohms. Sens: 105 ±5 dB at 1 kHz; mike, −18 dB. Freq: 20-20,000 Hz: mike 500-6000 Hz. 5' cord. Shpg. wt. 12 oz.

27 F 1066. Type CS-45 ..... **42.50**

DYNAMIC BOOM MIKE HEADPHONE

Fig. D. Telex audiometric driver elements. Impervious to temperature and humidity. Dynamic noise cancelling boom mike. Imp: 600 ohms; mike, 150 ohms. Sens: 105 ±5 dB at 1 kHz; mike, −67 dB. Freq: 20-20,000 Hz; mike, 100-8000 Hz ±5 dB. 5' cord. 12 oz.

27 F 1065. Type CS-61 ..... **42.50**

EDUCATIONAL HEADSETS

Fig. E. Dynamic microphone cancels noise. Boom rotates 310° on 1210-02, 360°on 2400-22. Response: 20-20,000 Hz. Sens: 107db SPL. 14 oz.

Type 1210-02. No mike, 600 ohm headset.

27F412. NET **24.95**

Type 2400-22. 300 ohm mike, 600 ohm head set.

27F442. NET **36.95**

SERIES 600 EDUCATIONAL HEADSETS

Fig. F. With removable ear cushions. Rugged magnetic elements—high impact plastic construction with standard ¼" molded phone plugs. Shpg. wt., 12 oz.

Type 600-1. Dual phones, 600 ohms, with 300 ohm noise-cancelling dynamic mike.

27F1062. NET **19.95**

Type 610-1. Dual phones, 600 ohm, no mike.

27F426. NET **6.95**

Type 610-2. Dual phones, 2,000 ohm, no mike.

27F427. NET **6.95**

MONAURAL HEADPHONES

Fig. G. Lightweight and attractive. Removable circumaural earcushions for quality listening. Made of high impact plastic with vinyl protected steel headband. High-flex cord, 6'-2 circuit molded plug. Wt., 12 oz.

Model 820-2. Four ohm impedance.

27F443. NET **9.95**

Model 820-4. 600 ohm impedance.

27F444. NET **13.25**

TELESET

Fig. H. General purpose headset. High effective sensitivity due to close ear coupling. Response 50-10,000 Hz with 115 db SPL for 1 mw input. 180° cup rotation. Stainless steel and high impact plastic. Wt., 8 oz.

Type HM-100. 2,000 ohm impedance.

27F402. NET **18.50**

Type HM-500. 500 ohm imped.

27F403. NET **18.50**

TELEX TWINSET

Fig. J. Suitable for many communications uses. Either ear tip may be removed for monitoring. Tough grey tenite with nickel plated metal parts. Cord supplied with standard phone plug. Shpg. wt., 12 oz.

Type HTW-2. 500 ohms.

27F404. NET **15.65**

Type HTX-2. 1000 ohms.

27F406. NET **15.65**

TELEX TELE-FI

Fig. K. Unique 3-D design to give 30% better understanding. Replaceable foam plastic ear cushions. Freq. response 60-6000 Hz. Listening level, 1 mw; max level, 25 mw. With 5 foot cord and phone plug. Shpg. wt., 5 oz.

Stk. No.	Type	Ohms	NET
27F390	HFR-91	15	5.95
27F437	HFV-91	125	
27F375	HFW-91	500	
27F376	HFX-91	1000	
27F391	HFY-91	2000	

TELEX MONOSET

Fig. L. Featherweight under-the-chin headset. Complete with 5' cord with ¼" phone plug. Features adjustable tonearms and removable eartips. 5 oz.

Stk. No.	Type	Ohms	NET
27F373	HMV-2	125	9.75
27F374	HMY-2	2000	

CUSHIONS AND CORDS

Type ACT-2. Cushions for Teleset.

27F385. NET, per pair **1.28**

Type CCT-2. Coiled cord for HM, HF, EM series.

27F386. NET **3.25**

Type CCM-2. Coiled cord for twinsets.

27F387. NET **3.40**

Type CMT-2. Standard cord for HM, HF, EM series.

27F400. NET **2.25**

Type CMM-2. Standard cord for twinsets.

27F410. NET **2.25**

DYNAMIC PILLOW SPEAKERS

(Not illus.) Flat construction makes these speakers less bulky under a pillow. With cord and standard ¼" plug.

Stk. No.	Type	Ohms	Each
27F420	SDN-2A	3.2	8.85
27F411	SDM-7A	10,000 w/vol. cont.	13.80

EARSETS

(Not illus.) Complete with metal earloop, 5 ft. cord and std. phone plug. 4 oz.

Stk. No.	Type	Ohms	NET
27F379	EMR-2	15	6.70
27F380	EMV-2	125	
27F381	EMW-2	500	
27F382	EMX-2	1000	
27F383	EMY-2	2000	

TELEX

SPORTSCASTERS HEADSET

99.50

- Use Indoors or Out
- Boom Mike
- "Push to Cough" Switch

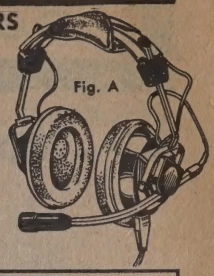


Fig. A

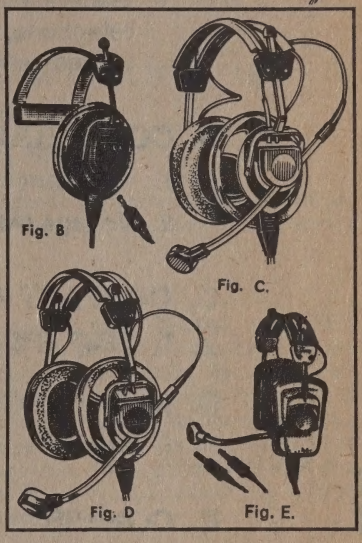


Fig. B

Fig. C.

Fig. D

Fig. E.

Fig. F.

Fig. H.

Fig. G

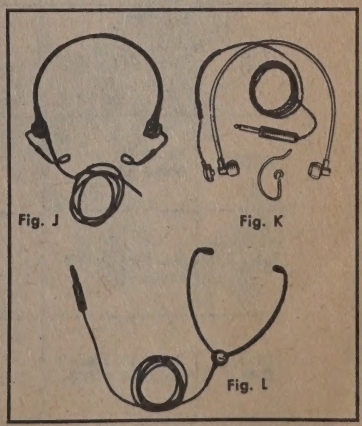


Fig. J

Fig. K

Fig. L

Relay Application Information

Some Important Considerations Are:

A. TYPE

1. General purpose, buzzer, crystal can, impulse, latching, power, telephone, solid state, time delay, voltage, dry reed, mercury wetted contact, etc.

B. COIL REQUIREMENTS

1. Resistance
2. Voltage (AC or DC)
3. Power (AC or DC)
4. Duty (Continuous or intermittant)

C. CONTACT ARRANGEMENT

1. SPST, SPDT, DPDT, 3PDT, 4PDT, etc.

D. MOUNTINGS

1. Stud, bracket, tapped core, etc.

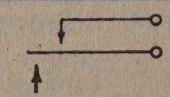
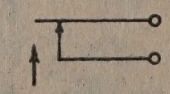
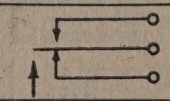
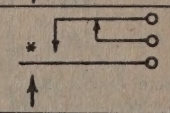
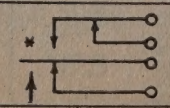
10

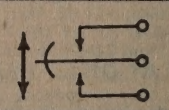
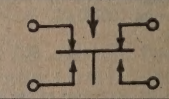
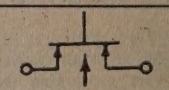
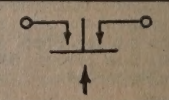
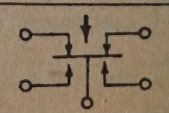
E. COVERS

1. None, metal, plastic, dust, environmental seal, etc.

F. TERMINALS

1. Screw-type, threaded stud, quick connect, pierced or wire solder lug, printed or dip solder circuitry, plug-in, etc.

DESIGN	SEQUENCE	SYMBOL
SPST NO	Make (1)	
SPST NC	Break (1)	
SPDT	Break (1) Make (2)	
SPDT	Make (1) Before Break (2)	
SPDT B-M-B	Break (1) Make 2 Before Break 3	

DESIGN	SEQUENCE	SYMBOL
SPDT NO	Center Off	
SPDT NC-NO DB-DM	Double Break (1) Double Make (2)	
SPST NO DM	Double Make (1)	
SPST NC DB	Double Break (1)	
SPDT NC	Double Break (1) Double Make (2)	

WHEREVER
YOU ARE
LOCATED...

NEWARK ELECTRONICS

can provide fast efficient service for your electronic component requirements.

A LIST OF FACILITIES IS ON PAGE ONE.

Whether you order by mail, phone, or TELEX, you will receive prompt shipment, generally off-the-shelf from our multi-million dollar inventory. Complete mailing addresses, telephone and Telex numbers of all Newark facilities are listed on the first page of this catalog.

OPEN ACCOUNTS FOR INDUSTRIAL CUSTOMERS

Orders are accepted for open account billing from well-rated firms, institutional and achool accounts and government agencies. Firms without a published ra ting may apply for credit by submitting trade and ba nk references. Terms of payment at net, 10th and 25th of the month. Past due accounts are subject to a late payment charge of 1½% per month.

MINIMUM BILLING

Minimum is $10.00 to rated accounts, $25.00 to non-rated accounts. On non-catalog items, minimum billing is $25.00.

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Newark will quote competitively on quantities in excess of the maximum amounts shown in the catalog. Contact your nearest Newark facility for fast, accutate price and delivery information.

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Merchandise not listed in our catalog, if available from our regular suppliers, may be subject to minimum order quantities and/or special handling charges.

RETURNS

Returns made without authorization may be subject to penalty charges. Please refer to Ordering Information on page 628 for damage in transit procedure.

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Our International sales office, located at 500 N. Pulaski Road, Chicago, Illinois, can be reached by telephone (Area 312—638-4411), Telex (25-3218), Cable: NEWELCO.

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Newark is equipped to handle packing, routing and all documents associated with your overseas shipments. Let our experienced International Department relieve you of the details of doing business in the international market.

Ordering and Shipping Information

SEE PAGE 563 FOR OPEN ACCOUNT TERMS AND PRICE INFORMATION

CASH ORDERS

Use your own purchase orders or stationery. Print or type name and full address. Be sure to clearly indicate stock numbers, quantity, manufacturer's type number and description. Remit full amount including the cost of postage and insurance—any excess will be refunded. **Mail orders must be at least $25.00. Non-catalog items—$25.00 minimum.** We ship the most economical way unless otherwise instructed.

HOW TO SEND MONEY

Send remittance by Post Office or Express money order, bank draft or check. Please do not send cash or stamps. Be sure to include sufficient postage for shipment of your order.

APO AND FPO SHIPMENTS

APO and FPO shipments are made by Parcel Post. Maximum weight: 70 lbs. Maximum size: 100 inches (length plus girth). Surface and Air postage is at the applicable Zone rate.

C.O.D. SHIPMENTS

25% deposit required. On parcel post C.O.D. shipments, the Post Office charges a collection fee and a money order fee. Save money by sending full remittance with your order.

IF YOU WRITE US . . .

When writing to us regarding Open Account orders please give your purchase order number and our invoice number. If you are returning a cash order include your original order papers (These are returned to you after your order is shipped) with stock numbers and item descriptions.

METHOD OF SHIPMENT

UNITED PARCEL SERVICE. UPS now serves 34 states. For additional information see below.

REA EXPRESS. Send full amount for merchandise—do not send money to cover Express Charges. Shipping charges are collected on delivery.

AIR SHIPMENT. For rush orders we will ship by Air Freight or Air Express, if you so request. Shipping charges will be collected on delivery.

TRUCK/RAIL. For heavy shipments, freight is most economical. Shipping charges collected on delivery.

SHIPMENT DAMAGE

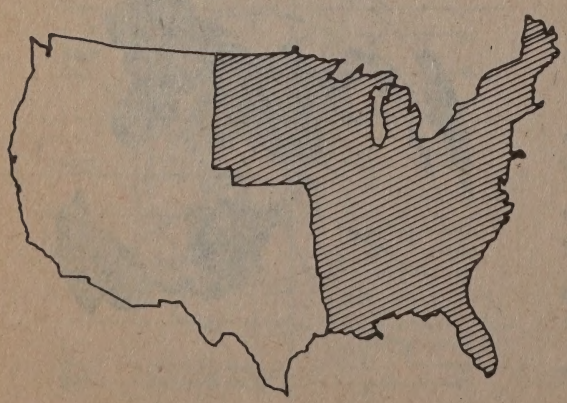
Merchandise we ship is carefully packed or pre-packaged by our suppliers in compliance with carrier requirements. The carrier assumes responsibility for safe delivery upon acceptance of the shipment. Claims for loss or damage in transit must be made with the carrier for Freight or Express shipments. For Parcel Post or UPS shipments you should write to us for instructions on handling the claim.

Concealed Loss or Damage. Does not become apparent until shipment is unpacked. Make a request for inspection by the carrier's agent and file claim with the carrier.

Visible Loss or Damage. Any external evidence of loss or damage must be noted on the freight bill or Express receipt and signed by the carrier's agent. Failure to do this may result in the carrier refusing to honor the claim. Newark is not responsible for damage incurred in transit. The transportation company rates cover insurance and they will settle damage and loss claims. **Any correspondence on loss or damage must be accompanied by a copy of the carrier's report. Returns not authorized will not be accepted.**

UNITED PARCEL SERVICE

United Parcel Service (UPS) from Chicago is available for the entire United States with the exception of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Kansas, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming. Delivery, for states not listed, is made, in most cases, one day after shipment. Packages up to 108" in length and girth combined may be sent. Maximum weight: 50 lbs. To calculate UPS charges use the Parcel Post Zip Code/Zone Chart on the following page to determine your area zone. Then use the chart below.



Weight not to exceed	Up to 150 miles 1-2	150-300 miles 3	300-600 miles 4	600-1000 miles 5	1000-1400 miles 6	1400-1800 miles 7
1 lb.	$ .66	$ .68	$ .70	$ .73	$ .76	$ .80
2 lbs.	.72	.75	.80	.85	.92	1.00
3 lbs.	.78	.83	.90	.98	1.08	1.20
4 lbs.	.84	.90	1.00	1.10	1.24	1.40
5 lbs.	.90	.98	1.10	1.23	1.40	1.60
10 lbs.	1.20	1.35	1.60	1.85	2.20	2.60
15 lbs.	1.50	1.73	2.10	2.48	3.00	3.60
20 lbs.	1.80	2.10	2.60	3.10	3.80	4.60
25 lbs.	2.10	2.48	3.10	3.73	4.60	5.60
30 lbs.	2.40	2.85	3.60	4.35	5.40	6.60
35 lbs.	2.70	3.23	4.10	4.98	6.20	7.60
40 lbs.	3.00	3.60	4.50	5.60	7.00	8.60
45 lbs.	3.30	3.98	5.10	6.23	7.80	9.60
50 lbs.	3.60	4.35	5.60	6.85	8.60	10.60

Ordering and Shipping Information

PARCEL POST

Use Your Zip Code To Find Your Parcel Post Or UPS Zone

Zip Code Prefixes	Zone	Zip Code Prefixes	Zone	Zip Code Prefixes	Zone	Zip Code Prefixes	Zone	Zip Code Prefixes	Zone	Zip Code Prefixes	Zone
006-009	8	*298-299	5	*439	4	*527-539	2	*690-699	5	840-849	6
*010-046	5	*300-303	4	*440-443	3	*540	4	*700-715	5	850-854	7
*047	6	*304	5	*444-447	4	*541-547	3	*716-717	4	855-863	6
*048-098	5	*305-307	4	*448-456	3	*548	4	*718	5	864	7
*100-129	5	*308-329	5	*457	4	*549	3	*719-729	4	865-880	6
*130-132	4	*330-334	6	*458-459	3	*550-558	4	*730-739	5	881	5
*133-139	5	*335-338	5	*460-462	2	*559	3	740-744	4	882-883	6
*140-179	4	*339-349	6	*463-464	1	*560-574	4	745	5	884-889	5
*180-199	5	*350-359	4	*465-469	2	*575-579	5	746	4	890-899	7
*200-215	4	*360-361	5	*470-472	3	*580-581	4	747-748	5	900-933	7
*216	5	*362	4	473	2	*582-589	5	749	4	934	8
*217	4	*363-369	5	*474-478	3	590-591	6	750-778	5	935-938	7
*218-219	5	*370-389	4	*479	2	592-593	5	779-785	6	939-951	8
*220-232	4	*390-396	5	*480-489	3	594-599	6	786-787	5	952-953	7
*233-238	5	*397	4	*490-491	2	*600-605	1	788	6	954-955	8
*239-274	4	*400-406	3	*492	3	*606	Local	789-796	5	956-961	7
*275-279	5	*407-409	4	*493-495	2	*607-609	1	797-799	6	962-969	8
*280-282	4	*410	3	*496-499	3	*610-619	2	800-812	5	970-994	7
*283-285	5	*411-419	4	*500-504	3	*620-636	3	813-819	6	995-999	8
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*296-297	4	*427-438	3	*521-526	3	*680-689	4	835-839	7		

Use the first 3 digits of your Zip Code to determine your Parcel Post Zone. Example: If your Zip Code is 16606, use the first 3 numbers (166), and refer to the chart above for your Zone, which is 4. If an asterisk (*) precedes your Zip Code prefix, your area is served by United Parcel Service (UPS). See UPS chart for rates.

PARCEL POST RATES

Find the weight of your merchandise in the "Weight" column of the chart below. Pay the amount shown for Parcel Post delivery to your zone. A fraction of a pound is charged as a full pound. Packages weighing over 40 pounds are shipped by Truck or Express. See chart below right.

PARCEL POST RATE CHART

Weight 1 lb. and not to exceed	Local Zone	Up to 150 miles 1-2	150 to 300 miles 3	300 to 600 miles 4	600 to 1,000 miles 5	1,000 to 1,400 miles 6	1,400 to 1,800 miles 7	Over 1,800 miles 8
2	$0.67	$0.79	$0.82	$0.91	$1.00	$1.12	$1.23	$1.32
3	.72	.86	.90	1.01	1.13	1.29	1.45	1.58
4	.76	.92	.98	1.11	1.26	1.46	1.66	1.84
5	.81	.99	1.06	1.21	1.39	1.63	1.88	2.10
6	.85	1.05	1.14	1.31	1.52	1.80	2.09	2.36
7	.90	1.12	1.22	1.41	1.65	1.97	2.31	2.62
8	.94	1.18	1.30	1.51	1.78	2.14	2.52	2.88
9	.99	1.25	1.38	1.61	1.91	2.31	2.74	3.14
10	1.03	1.31	1.46	1.71	2.04	2.48	2.95	3.40
11	1.08	1.38	1.54	1.81	2.17	2.65	3.17	3.66
12	1.12	1.44	1.62	1.91	2.30	2.82	3.38	3.92
13	1.17	1.51	1.70	2.01	2.43	2.99	3.60	4.18
14	1.21	1.57	1.78	2.11	2.56	3.16	3.81	4.44
15	1.26	1.64	1.86	2.21	2.69	3.33	4.03	4.70
16	1.30	1.70	1.94	2.31	2.82	3.50	4.24	4.96
17	1.35	1.77	2.02	2.41	2.95	3.67	4.46	5.22
18	1.39	1.83	2.10	2.51	3.08	3.84	4.67	5.48
19	1.44	1.90	2.18	2.61	3.21	4.01	4.89	5.74
20	1.48	1.96	2.26	2.71	3.34	4.18	5.10	6.00

PARCEL POST INSURANCE

To protect you, we insure all Parcel Post shipments with a private insurance company. The fee is minimum, and in the event of loss or damage, adjustments are fast and easy. Be sure to include insurance fee in your remittance at the rates listed below.

Order Amount	Insurance Fee
$5.00 to $15.00	20c
$15.01 to $50.00	30c
$50.01 to $100.00	40c
$100.01 to $150.00	50c
$150.01 to $200.00	60c

AIR PARCEL POST

Orders shipped Air Parcel Post upon request. Maximum weight: 70 lbs. Maximum size: 100" (length plus girth).

10c per ounce, up to 3 ounces

Weight in pounds	Zones 1, 2, 3	4	5	6	7	8
1	$1.25	$1.25	$1.25	$1.30	$1.30	$1.30
1-1½	1.50	1.54	1.60	1.68	1.75	1.82
1½-2	1.75	1.83	1.95	2.06	2.20	2.34
2-2½	1.93	2.03	2.17	2.31	2.48	2.65
2½-3	2.11	2.23	2.39	2.56	2.76	2.96
3-3½	2.29	2.43	2.61	2.81	3.04	3.27
3½-4	2.47	2.63	2.83	3.06	3.32	3.58
4-4½	2.65	2.83	3.05	3.31	3.60	3.89
4½-5	2.83	3.03	3.27	3.56	3.88	4.20
Add per lb.	48c	50c	56c	64c	72c	80c

ESTIMATED MINIMUM TRUCK RATES

LOCAL.....Shipments up to 200 lbs.....$6.50
100 Miles.....Shipments up to 175 lbs.....$9.50
300 Miles.....Shipments up to 135 lbs.....$10.50
500 Miles.....Shipments up to 100 lbs.....$12.00
800 Miles.....Shipments up to 100 lbs.....$13.00
1000 Miles....Shipments up to 100 lbs.....$15.00

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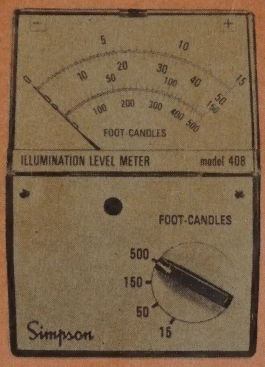

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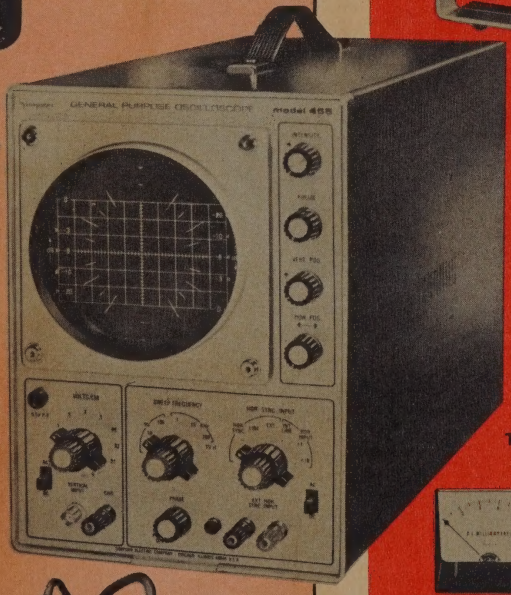

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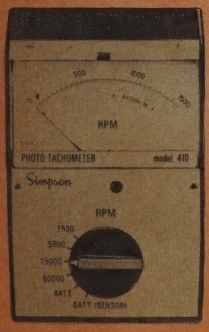

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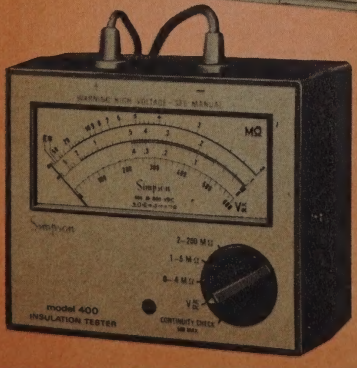

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